**Part I: Project Information**

**GEF ID**
**10385**

**Project Type**
FSP

**Type of Trust Fund**
GET

**CBIT/NGI**
  CBIT **No**
  NGI **No**

**Project Title**
Mainstreaming Natural Capital Values into Planning and Implementation for Sustainable Blue Economic Growth in Indian Coastal Districts

**Countries**
India

**Agency(ies)**
UNEP

**Other Executing Partner(s)**
Ministry of Environment, Forests and Climate Change with support by Wetlands International South Asia

**Executing Partner Type**
Government

**GEF Focal Area**
Biodiversity

**Sector**

**Taxonomy**

Focal Areas, Biodiversity, Mainstreaming, Infrastructure, Fisheries, Tourism, Biomes, Mangroves, Tropical Rain Forests, Wetlands, Rivers, Tropical Dry Forests, Financial and Accounting, Natural Capital Assessment and Accounting, Protected Areas and Landscapes, Coastal and Marine Protected Areas, Terrestrial Protected Areas, Influencing models, Demonstrate innovative approache, Strengthen institutional capacity and decision-making, Stakeholders, Beneficiaries, Gender Equality, Gender Mainstreaming, Capacity, Knowledge and Research, Knowledge Generation, Knowledge Exchange, Innovation

**Rio Markers**
**Climate Change Mitigation**
Significant Objective 1

**Climate Change Adaptation**
No Contribution 0

**Biodiversity**
Significant Objective 1

**Land Degradation**
No Contribution 0

**Submission Date**
3/10/2022

**Expected Implementation Start**
10/1/2022

**Expected Completion Date**
9/30/2027

**Duration**
60In Months

**Agency Fee($)**
289,403.00

**A. FOCAL/NON-FOCAL AREA ELEMENTS**

| Objectives/Programs | Focal Area Outcomes | Trust Fund | GEF Amount($) | Co-Fin Amount($) |
|---|---|---|---|---|
| BD-1-3 | Mainstream biodiversity across sectors as well as landscapes and seascapes through Natural Capital Assessment and Accounting | GET | 3,046,347.00 | 15,585,000.00 |
| | | **Total Project Cost($)** | **3,046,347.00** | **15,585,000.00** |

**B. Project description summary**

**Project Objective**

To enhance biodiversity conservation and environmental sustainability of critical coastal landscapes in India by integrating natural capital and ecosystem services values in District-level blue economy strategy and spatial planning processes, and coastal sector operations

| Project Component | Financing Type | Expected Outcomes | Expected Outputs | Trust Fund | GEF Project Financing($) | Confirmed Co-Financing($) |
|---|---|---|---|---|---|---|

| Project Component | Financing Type | Expected Outcomes | Expected Outputs | Trust Fund | GEF Project Financing($) | Confirmed Co-Financing($) |
|---|---|---|---|---|---|---|
| Comp 1 - National systems support for blue economic growth model incorporating Natural Capital (NC) values | Technical Assistance | **Outcome 1.1**: A national roadmap and governance framework for SEEA based SNA within the NES-GRIDSS endorsed by strengthened government institutions | **Output 1.1.1** Governance framework and roadmap established towards SEEA-based NC accounting and its integration into the System of National Accounts (SNA) and the NES-GRIDSS system. | GET | 632,181.00 | 1,512,000.00 |
| | | **Outcome 1.2:** Nine coastal districts integrate NC-based principles and targets of a sustainable growth path in sector related budgets, fiscal measures and programming indicators | **Output 1.1.2** Policy-analysis and agreement on a position paper on system design towards linking NC accounts and SEEA-based indicators with SDG Reporting available to decision makers | | | |
| | | | **Output 1.2.1** National NES-GRIDSS system adapted to SEEA- EEA for NC -analysis, planning and investments | | | |
| | | | **Output 1.2.2**. Tourism, fisheries and infrastructure sector review report on NC-based interdependencies, business risks and opportunities for Blue Economy | | | |

| Project Component | Financing Type | Expected Outcomes | Expected Outputs | Trust Fund | GEF Project Financing($) | Confirmed Co-Financing($) |
|---|---|---|---|---|---|---|
| Comp 2: Demonstrating integration of NC objectives in coastal landscape and sector scale planning and development | Technical Assistance | **Outcome 2.1**: Enhanced incorporation of the values of NC including BD and ES in two target coastal landscape planning and implementation by government institutions and key stakeholders which trigger investment aligned with NC | **Output 2.1.1**. NES-GRIDSS for 9 Districts for two coastal landscapes spanning 0.56 million ha made SEEA - compliant<br><br>**Output 2.1.2** Preparation of SEEA compliant wetlands NC account using NES-GRIDSS for two states and capacity established towards development of Blue Economy Strategies incorporating NC and BD aspects<br><br>**Output 2.1.3** Two spatial plans developed - targeting 2 coastal-landscapes spanning 0.56 million by integrating NC values and development objectives (with specific focus on flood mitigation in at least one landscape); threat reduction and sustainable development opportunities identified, in support of the Blue Economy | GET | 1,250,057.00 | 10,230,000.00 |

| Project Component | Financing Type | Expected Outcomes | Expected Outputs | Trust Fund | GEF Project Financing($) | Confirmed Co-Financing($) |
|---|---|---|---|---|---|---|
| Comp 3: Project Performance and Knowledge management support for National replication of NC accounting for blue economy growth in India | Technical Assistance | **Outcome 3.1**: Strengthened Public-private partnerships implement NC accounting for national, state and district planning through exchange of lessons learned and data collected by the project M&E system | **Output 3.1.1** A gender sensitive communication and engagement strategy for partnership and adoption of SEEA-based NC accounting developed and implemented | GET | 1,019,045.00 | 3,110,536.00 |
| | | **Outcome 3.2:** Enhanced application of SEEA-based NC accounts, valuation and other applications to spatial planning, budgeting, and integrated natural resources management for sustainable blue economy development | **Output 3.1.2** Knowledge management platform and impact performance M&E developed to support policy makers and practitioners in India in adopting, replicating and mainstreaming NC accounting | | | |
| | | | **Output 3.2.1** Staff training in 12 (9+3 coastal districts in SEEA-based NES-GRIDSS system on application to coastal resources, sectors and Blue Economy development | | | |
| | | | **Output 3.2.2** National replication of NC-based NES- | | | |

| Project Component | Financing Type | Expected Outcomes | Expected Outputs | Trust Fund | GEF Project Financing($) | Confirmed Co-Financing($) |
|---|---|---|---|---|---|---|
| | | | Sub Total ($) | | 2,901,283.00 | 14,852,536.00 |

**Project Management Cost (PMC)**

| | Financing Type | Expected Outcomes | Expected Outputs | Trust Fund | GEF Project Financing($) | Confirmed Co-Financing($) |
|---|---|---|---|---|---|---|
| | GET | | 145,064.00 | | | 732,464.00 |
| | **Sub Total($)** | | **145,064.00** | | | **732,464.00** |
| | **Total Project Cost($)** | | **3,046,347.00** | | | **15,585,000.00** |

**Please provide justification**

**C. Sources of Co-financing for the Project by name and by type**

| Sources of Co-financing | Name of Co-financier | Type of Co-financing | Investment Mobilized | Amount($) |
|---|---|---|---|---|
| Recipient Country Government | Ministry of Environment, Forest and Climate Change (MoEFCC) ? including national budgets for ENVIS and NPCA | In-kind | Recurrent expenditures | 8,991,000.00 |
| Recipient Country Government | Ministry of Environment, Forest and Climate Change (MoEFCC) ? including national budgets for ENVIS including NES-GRIDSS and Green Skill Development Program | Public Investment | Investment mobilized | 5,994,000.00 |
| Private Sector | Confederation of Indian Industry -Indian Business and Biodiversity Initiative (CII-IBBI) | In-kind | Recurrent expenditures | 100,000.00 |
| Recipient Country Government | State Wetland Authority - Kerala | In-kind | Recurrent expenditures | 100,000.00 |
| Civil Society Organization | Wetlands International | In-kind | Recurrent expenditures | 300,000.00 |
| GEF Agency | UN Environment Programme | In-kind | Recurrent expenditures | 100,000.00 |

**Total Co-Financing($)  15,585,000.00**

**Describe how any "Investment Mobilized" was identified**

Investments mobilized was identified internally by the Wetlands Division of the Ministry of Environment, Forest and Climate Change. The identification was made by the Officials at the Ministry, approved by the Joint Secretary to be included as the amount mobilized. Around 40% of the co-finance, worth USD 5,994,000, from the MoEFCC would be is in terms of Grant Investments. This investment will be in the form of Projects, Programs, and Activities of the MoEFCC that will complement and pay for certain costs on the the BluNatCap Project during its implementation.

**D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds**

| Agency | Trust Fund | Country | Focal Area | Programming of Funds | Amount($) | Fee($) | Total($) |
|---|---|---|---|---|---|---|---|
| UNEP | GET | India | Biodiversity | BD STAR Allocation | 3,046,347 | 289,403 | 3,335,750.00 |
| | | | | **Total Grant Resources($)** | **3,046,347.00** | **289,403.00** | **3,335,750.00** |

**E. Non Grant Instrument**

## NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

**F. Project Preparation Grant (PPG)**

PPG Required   **true**

**PPG Amount ($)**

150,000

**PPG Agency Fee ($)**

14,250

| Agency | Trust Fund | Country | Focal Area | Programming of Funds | Amount($) | Fee($) | Total($) |
|---|---|---|---|---|---|---|---|
| UNEP | GET | India | Biodiversity | BD STAR Allocation | 150,000 | 14,250 | **164,250.00** |
| | | | | Total Project Costs($) | **150,000.00** | **14,250.00** | **164,250.00** |

## Core Indicators

**Indicator 1 Terrestrial protected areas created or under improved management**

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|---|---|---|---|
| 0.00 | 171,400.00 | 0.00 | 0.00 |

**Indicator 1.1 Terrestrial Protected Areas Newly created**

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Total Ha (Achieved at MTR) | Total Ha (Achieved at TE) |
|---|---|---|---|
| 0.00 | 10,000.00 | 0.00 | 0.00 |

| Name of the Protected Area | WDPA ID | IUCN Category | Total Ha (Expected at PIF) | Total Ha (Expected at CEO Endorsement) | Total Ha (Achieved at MTR) | Total Ha (Achieved at TE) |
|---|---|---|---|---|---|---|
| **Akula National Park** Expansion of wetland protected areas in Kerala and Karnataka | **12568 9** | **Select**Protected area with sustainable use of natural resources | | 10,000.00 | | ☐ |

**Indicator 1.2 Terrestrial Protected Areas Under improved Management effectiveness**

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Total Ha (Achieved at MTR) | Total Ha (Achieved at TE) |
|---|---|---|---|
| 0.00 | 161,400.00 | 0.00 | 0.00 |

| Name of the Protected Area | WDPA ID | IUCN Category | Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Total Ha (Achieved at MTR) | Total Ha (Achieved at TE) | METT score (Baseline at CEO Endorsement) | METT score (Achieved at MTR) | METT score (Achieved at TE) |
|---|---|---|---|---|---|---|---|---|---|
| **Akula National Park** Aghanashini Estuary | **125689** proposed | **Select**Protected area with sustainable use of natural resources | | 4,800.00 | | | 43.00 | | |
| **Akula National Park** Vembanad Kol | **125689** 900778 | **Select**Protected area with sustainable use of natural resources | | 156,600.00 | | | 58.00 | | |

**Indicator 3 Area of land and ecosystems under restoration**

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 |

**Indicator 3.1 Area of degraded agricultural lands under restoration**

| Disaggregation Type | Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|---|---|---|---|---|
| Select | | | | |

**Indicator 3.2 Area of forest and forest land under restoration**

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
| --- | --- | --- | --- |

**Indicator 3.3 Area of natural grass and woodland under restoration**

| Disaggregation Type | Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
| --- | --- | --- | --- | --- |
| Select | | | | |

**Indicator 3.4 Area of wetlands (including estuaries, mangroves) under restoration**

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
| --- | --- | --- | --- |

**Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)**

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
| --- | --- | --- | --- |
| 566733.00 | 566733.00 | 0.00 | 0.00 |

**Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)**

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
| --- | --- | --- | --- |
| 566,733.00 | 566,733.00 | | |

**Indicator 4.2 Area of landscapes under third-party certification incorporating biodiversity considerations**

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
| --- | --- | --- | --- |

**Type/Name of Third Party Certification**

PPG to set target on ha certified & confirm volumes traded

**Indicator 4.3 Area of landscapes under sustainable land management in production systems**

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
| --- | --- | --- | --- |

**Indicator 4.4 Area of High Conservation Value or other forest loss avoided**

| Disaggregation Type | Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|---|---|---|---|---|

**Select**

**Indicator 4.5 Terrestrial OECMs supported**

| Name of the OECMs | WDPA-ID | Total Ha (Expected at PIF) | Total Ha (Expected at CEO Endorsement) | Total Ha (Achieved at MTR) | Total Ha (Achieved at TE) |
|---|---|---|---|---|---|
| **Akula National Park** Wetland areas brought under management of Urban Local Bodies and village Panchayats in Aghanashini Estuary Landscape | **125689** proposed | | 400.00 | | |
| **Akula National Park** Wetland areas brought under management of Urban Local Bodies and village Panchayats in Vembanad-Kol Landscape | **125689** proposed | | 1,400.00 | | |

## Documents (Please upload document(s) that justifies the HCVF)

| Title | Submitted |
|---|---|

**Indicator 5 Area of marine habitat under improved practices to benefit biodiversity (excluding protected areas)**

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|---|---|---|---|

**Indicator 5.1 Fisheries under third-party certification incorporating biodiversity considerations**

| Number (Expected at PIF) | Number (Expected at CEO Endorsement) | Number (Achieved at MTR) | Number (Achieved at TE) |
|---|---|---|---|

**Type/name of the third-party certification**

**Indicator 5.2 Large Marine Ecosystems with reduced pollution and hypoxia**

| Number (Expected at PIF) | Number (Expected at CEO Endorsement) | Number (achieved at MTR) | Number (achieved at TE) |
|---|---|---|---|
| 0 | 0 | 0 | 0 |

| LME at PIF | LME at CEO Endorsement | LME at MTR | LME at TE |
|---|---|---|---|

**Indicator 5.3 Amount of Marine Litter Avoided**

| Metric Tons (expected at PIF) | Metric Tons (expected at CEO Endorsement) | Metric Tons (Achieved at MTR) | Metric Tons (Achieved at TE) |
|---|---|---|---|

**Indicator 6 Greenhouse Gas Emissions Mitigated**

| Total Target Benefit | (At PIF) | (At CEO Endorsement) | (Achieved at MTR) | (Achieved at TE) |
|---|---|---|---|---|
| Expected metric tons of CO?e (direct) | 0 | 4105589 | 0 | 0 |
| Expected metric tons of CO?e (indirect) | 0 | 0 | 0 | 0 |

**Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector**

| Total Target Benefit | (At PIF) | (At CEO Endorsement) | (Achieved at MTR) | (Achieved at TE) |
|---|---|---|---|---|

| Total Target Benefit | (At PIF) | (At CEO Endorsement) | (Achieved at MTR) | (Achieved at TE) |
|---|---|---|---|---|
| Expected metric tons of CO?e (direct) | | 4,105,589 | | |
| Expected metric tons of CO?e (indirect) | | | | |
| Anticipated start year of accounting | | 2022 | | |
| Duration of accounting | | 20 | | |

**Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector**

| Total Target Benefit | (At PIF) | (At CEO Endorsement) | (Achieved at MTR) | (Achieved at TE) |
|---|---|---|---|---|
| Expected metric tons of CO?e (direct) | | | | |
| Expected metric tons of CO?e (indirect) | | | | |
| Anticipated start year of accounting | | | | |
| Duration of accounting | | | | |

**Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)**

| Total Target Benefit | Energy (MJ) (At PIF) | Energy (MJ) (At CEO Endorsement) | Energy (MJ) (Achieved at MTR) | Energy (MJ) (Achieved at TE) |
|---|---|---|---|---|
| Target Energy Saved (MJ) | | | | |

**Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)**

| Technology | Capacity (MW) (Expected at PIF) | Capacity (MW) (Expected at CEO Endorsement) | Capacity (MW) (Achieved at MTR) | Capacity (MW) (Achieved at TE) |
|---|---|---|---|---|

**Indicator 8 Globally over-exploited fisheries moved to more sustainable levels**

| Metric Tons (Expected at PIF) | Metric Tons (Expected at CEO Endorsement) | Metric Tons (Achieved at MTR) | Metric Tons (Achieved at TE) |
|---|---|---|---|

**Fishery Details**

**Indicator 9 Chemicals of global concern and their waste reduced**

| Metric Tons (Expected at PIF) | Metric Tons (Expected at CEO Endorsement) | Metric Tons (Achieved at MTR) | Metric Tons (Achieved at TE) |
|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 |

**Indicator 9.1 Solid and liquid Persistent Organic Pollutants (POPs) removed or disposed (POPs type)**

| POPs type | Metric Tons (Expected at PIF) | Metric Tons (Expected at CEO Endorsement) | Metric Tons (Achieved at MTR) | Metric Tons (Achieved at TE) |
|---|---|---|---|---|

**Indicator 9.2 Quantity of mercury reduced (metric tons)**

| Metric Tons (Expected at PIF) | Metric Tons (Expected at CEO Endorsement) | Metric Tons (Achieved at MTR) | Metric Tons (Achieved at TE) |
|---|---|---|---|

**Indicator 9.3 Hydrochloroflurocarbons (HCFC) Reduced/Phased out (metric tons)**

| Metric Tons (Expected at PIF) | Metric Tons (Expected at CEO Endorsement) | Metric Tons (Achieved at MTR) | Metric Tons (Achieved at TE) |
|---|---|---|---|

**Indicator 9.4 Number of countries with legislation and policy implemented to control chemicals and waste (Use this sub-indicator in addition to one of the sub-indicators 9.1, 9.2 and 9.3 if applicable)**

| Number (Expected at PIF) | Number (Expected at CEO Endorsement) | Number (Achieved at MTR) | Number (Achieved at TE) |
|---|---|---|---|

**Indicator 9.5 Number of low-chemical/non-chemical systems implemented, particularly in food production, manufacturing and cities (Use this sub-indicator in addition to one of the sub-indicators 9.1, 9.2 and 9.3 if applicable)**

| Number (Expected at PIF) | Number (Expected at CEO Endorsement) | Number (Achieved at MTR) | Number (Achieved at TE) |
|---|---|---|---|

**Indicator 9.6 POPs/Mercury containing materials and products directly avoided**

| Metric Tons (Expected at PIF) | Metric Tons (Expected at CEO Endorsement) | Metric Tons (Achieved at MTR) | Metric Tons (Achieved at TE) |
|---|---|---|---|

**Indicator 9.7 Highly Hazardous Pesticides eliminated**

| Metric Tons (Expected at PIF) | Metric Tons (Expected at CEO Endorsement) | Metric Tons (Achieved at MTR) | Metric Tons (Achieved at TE) |
|---|---|---|---|

**Indicator 9.8 Avoided residual plastic waste**

| Metric Tons (Expected at PIF) | Metric Tons (Expected at CEO Endorsement) | Metric Tons (Achieved at MTR) | Metric Tons (Achieved at TE) |
|---|---|---|---|

**Indicator 10 Persistent organic pollutants to air reduced**

| Grams of toxic equivalent gTEQ (Expected at PIF) | Grams of toxic equivalent gTEQ (Expected at CEO Endorsement) | Grams of toxic equivalent gTEQ (Achieved at MTR) | Grams of toxic equivalent gTEQ (Achieved at TE) |
|---|---|---|---|

**Indicator 10.1 Number of countries with legislation and policy implemented to control emissions of POPs to air (Use this sub-indicator in addition to Core Indicator 10 if applicable)**

| Number (Expected at PIF) | Number (Expected at CEO Endorsement) | Number (Achieved at MTR) | Number (Achieved at TE) |
|---|---|---|---|

**Indicator 10.2 Number of emission control technologies/practices implemented (Use this sub-indicator in addition to Core Indicator 10 if applicable)**

| Number (Expected at PIF) | Number (Expected at CEO Endorsement) | Number (Achieved at MTR) | Number (Achieved at TE) |
|---|---|---|---|

**Indicator 11 People benefiting from GEF-financed investments**

| | Number (Expected at PIF) | Number (Expected at CEO Endorsement) | Number (Achieved at MTR) | Number (Achieved at TE) |
|---|---|---|---|---|
| **Female** | 108 | 100 | | |
| **Male** | 252 | 100 | | |
| **Total** | 360 | 200 | 0 | 0 |

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

Core Indicator 1 The targets of this Core Indicator includes: a) Expansion of the wetlands areas protected by Wetlands (Conservation and Management) Rules, 2017 and other extant regulation in the two states, Kerala and Karnataka. The target comprises of expansion of IUCN Category VI (Protected area with sustainable use of natural resources) area to 10,000 Ha. As per the results framework (Objective level Indicator O1), this expansion will be reflected by number of new coastal wetlands designated to the List of Wetlands of International Importance and Other Effective Area-based Conservation Measures (OECM). b) Terrestrial protected areas under improved management effectiveness. This target comprises the two protected areas: Vembanad-Kol (156,600 Ha) and Aghanashini Estuary (4,800 Ha). Per the Results Framework Objective level Indicator O2), improved management will be reflected in improved METT scores through mainstreaming natural capital, biodiversity and ecosystem values in Government and corporate sector planning and operations. Core Indicator 4 The Core Indicator 4 includes benefits from the integration of Natural Capital, Biodiversity and Ecosystem Services in sector plans and programmes, that will improve management in at least one-third of the Aghanashini river basin and Vembanad-Kol basin. The project will assist in enhanced management of 48,200 Ha of Aghanashini river landscape and 518,233 Ha of the Vembanad-Kol landscape through spatial plans that are able to influence the Blue Economy sector operations. The area of the landscape has been computed through GIS. Core Indicator 6 The project will have an influence on reducing carbon emission through the landuse and landcover management practices for inland wetlands, coastal wetlands and aquaculture and fisheries through the spatial plans to be developed for the two coastal landscapes. Mitigation potential for 5 years project implementation plus 15 capitalization phase (20 years) in total has been estimated using the FAO EX-ACT tool tabs pertaining to the above mentioned sectors along with the flooded rice system under crop management with the following assumptions: For the target landscapes, the project will ensure maintaining the area under the wetland agriculture, 121,600 Ha in the Kuttanad region of the Vembanad-Kol landscape for the 20 years. In 20 years from an initial inland wetlands area of Vembanad-Kol, 48,532 Ha and Aghanashini estuary, 1,459 Ha, the project interventions will prevent any loss of area due to improved management practices as well as expansion of the protected areas. It is also assumed that the rate of extraction and excavation of Mangroves and Tidal marsh in the target areas of 93 Ha and 10,109 ha in the project landscapes, will reduce to 10% and 30% respectively over the project period (implementation and capitalization) as compared to the baseline rate of 50% and 80% respectively. . As a result the area excavated would be 9.3 and 3,032.7 Ha with project compared to 46.3 Ha and 8,087.1 Ha in the baseline scenario. For the inland and coastal aquaculture, in 20 years, the annual production from 22,000 tonne/year in Aghanashini Estuary and 9,300 tonne/year in Kuttanad and Kol lands of the Vembanad-Kol landscape would increase to 22,000 and 9,300 tonne/year respectively with project as compared to 18,000 tonne/year and 7,600 tonne/year without project. The 20 year total carbon emission reduction estimate is -4,105,589 tCO2-e. Core Indicator 11 Number of direct beneficiaries is estimated as 200 individuals (including 50% female) from state governments, knowledge

partners, NGOs, CSOs, corporates and other stakeholders nominated to be trained under the Green Skill Development Programme on Natural Capital Accounting and application to wetlands management.

## Part II. Project Justification

### 1a. Project Description

Whilst there have been no significant changes since the PIF stage to the global environmental and/or adaptation problems, root causes and barriers (Section 1.1 in PIF), further, an in-depth analysis was undertaken during the PPG phase that explored these issues in more depth. This analysis confirmed that the root causes and barriers outlined within the PIF remain the most relevant to achieve the project outcomes. The same has been described in the paragraphs below.

1)     The global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description)

### Background and context

The coast is a vital contributor to India?s economy and ecological security. Extending for approximately 8,000 km along nine coastal states, four Union Territories and the islands of Andaman and Nicobar and Lakshadweep, with an exclusive economic zone (EEZ) of 2.02 million km2 and a continental shelf area of 468,000 km2, the coastline harbours several coastal ecosystems (such as nearshore gulf waters, creeks, tidal flats, mudflats, coastal dunes, mangroves, marshes, seaweed and seagrass beds, deltaic plains, estuaries, lagoons and coral reefs), the biodiversity and ecosystem services of which underpin the food, water and climate security of the coastal region and beyond.  The coastal ecosystems stand embedded within dense economic and physical infrastructure in the form of three global megacities, 15 major global and 46 feeder ports, 230 industrial centres, and over a fifth of the country?s population living within the coastal areas. The economic activities that sustain in these ecosystems contribute 4% to the country?s Gross Domestic Product (GDP). The value of assets along the Indian coastline has been assessed to be US$ 24 trillion, with annual value addition of US$ 2.5 trillion.

The Government of India?s (GoI) 2030 vision[1][1] highlights Blue Economy (BE)[2][2] as one of the ten core dimensions of growth. The BE is mentioned as the sixth dimension of this vision highlighting the need for a coherent policy integrating different sectors to improve the lives of coastal communities and accelerate development and employment. In 2020, the GoI formulated a draft policy framework for India?s BE[3][3] with an overarching aim of enhancing the contribution of BE to India?s Gross Domestic Product (GDP), improving lives of communities, preserving marine biodiversity and maintaining the national security of marine areas and their resources.  It is increasingly realized that sustaining the BE benefits requires addressing at least three dimensions: a) Providing social and economic benefits for current and future generations, by contributing to food security, poverty eradication, livelihoods, income, employment, health, safety, equity, and political stability; b) Restoring, protecting and maintaining the diversity, productivity, resilience, core functions, and intrinsic value of coastal and marine ecosystems ? the natural capital upon which its prosperity depends; and c) Being based on clean technologies, renewable energy, and circular material flows to secure economic and social stability over time while keeping within the limits of one planet.

GoI has articulated a multidimensional and intersectoral blueprint for BE defining it as ?a subset of national economy comprising the entire system of ocean resources and humanmade economic

infrastructure in marine, maritime and onshore coastal zones within India?s legal jurisdiction, which aid in the production of goods and services and have clear linkages with economic growth, environmental sustainability and national security.? Having a national and standardized system in place to collate, assess and analyze natural capital[4][4] (NC), BD and ES values, to enable their mainstreaming in planning and decision making is critical to sustaining BE in India. The BE policy accordingly calls for putting in place a National Accounting Framework for BE and Ocean Governance and Coastal Marine Spatial Planning and Tourism as two of the seven priority areas.

The sustainability dimensions of the BE are further embellished by an emphasis on integrated coastal zone management in the National Environment Policy (NEP) (2006), the inclusion of targets and actions related to coastal ecosystems within the National Biodiversity Action Plan (NBAP) (2014 Addendum to 2008 plan), National Wildlife Action Plan (2017-2031), and allocation to central government schemes such as National Plan for Conservation of Aquatic Ecosystems (NPCA) and Integrated Development of Wildlife Habitats (IDWH). To enable capturing of dependencies of economic development on Natural Capital (NC), Biodiversity (BD) and Ecosystems Services (ES), the Government of India has also made considerable progress in the design and implementation of System of Environmental Economic Accounting (SEEA)-compliant Natural Capital Accounting (NCA)[5][5], the most recent being publication of SEEA for India in 2020 by Ministry of Statistics and Plan Implementation (MoSPI).  An enabling environment for Sustainable BE (SBE) will require permeability of science, policy and practice at district levels which is the fundamental administrative unit wherein economic sector planning and investments decisions are made. The GEF project ?Mainstreaming Natural Capital Values into Planning and Implementation for Sustainable Blue Economic Growth in Indian Coastal Districts? (hereinafter BluNatCap) has therefore been designed with an overall objective of enhancing biodiversity conservation and environmental sustainability of critical coastal landscapes in India by integrating natural capital and ecosystem services values in District-level blue economy strategy and spatial planning processes, and coastal sector operations.

Coastal wetlands of India, ranging from intertidal mudflats to vast expanses of mangroves, coral reefs, lagoons, estuaries and deltas are critical natural capital (NC) for India?s BE while also providing wide-ranging ecosystems services (ES) (such as shoreline stabilization, buffering tropical storms and cyclones, nurturing fisheries, provide critical habitats to numerous lifeforms, carbon sequestration, and others) creating significant interdependencies with economic sectors (such as fisheries, tourism, agriculture, infrastructure development and others). A conservative estimate of the economic value of a select ES has been estimated to be INR 1.9 trillion in 2012-13[6][6], constituting around 2.5% of India?s Net National Product (NNP) that year. Yet, these ecosystems are under tremendous stress due to lopsided developmental planning which does not take into account their full range of values in decision making. Over the last decade, the area under natural coastal wetlands has declined by over 73,961 ha[7][7]. The BluNatCap has the Ministry of Environment, Forest and Climate Change?s (MoEFCC) national flagship programme for wetlands conservation, the National Plan for Conservation of Aquatic Ecosystems (NPCA) with a purpose to ?mainstreaming full range of wetlands biodiversity and ES within developmental plans and programmes at various levels?[8][8] as its first baseline project. The incremental GEF investment will aim at catalysing NC interdependencies in informed planning and investment behaviour from sectors such as Fisheries, Tourism, Infrastructure development and others with an ultimate objective to secure the natural capital stocks and flows in the long run. The application of NCA will also enable the programme to generate alternate financing streams by building convergence with public and private sector BE investments.

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The BluNatCap will also be used to put in place systems, capacities, and mandates for NCA[9][9] - based on the internationally-adopted SEEA framework, for coastal ecosystems and to enable their integration in decision making. The MoEFCC?s ENVIS (Environmental Information System) scheme is the second baseline programme. The ENVIS scheme, implemented by the Economic Division of the MoEFCC, serves as a single-stop web-enabled repository of comprehensive environmental information with collection, collation, storage, retrieval and dissemination of the same through a nationwide network of ENVIS Hubs (hosted by the Environment/ Forest Department of State Governments/ UT Administrations) and ENVIS Resource Partners (RPs) (hosted by environment related governmental and non-governmental organizations/institutes of professional excellence). Under the scheme, the Indian State Level Basic Environmental Information Database (ISBEID) provides state level information for planning and decision-making. It is now proposed to enhance the resolution of this information through National Environment Survey (NES-GRIDSS) - a Grid-based Resource Information and Decision Support System (GRIDSS) for sustainable management of natural resources (piloted in select states, and a full-fledged funding proposal in advanced consideration of the MoEFCC for budgetary support). In doing this the project will build upon the ongoing NCA efforts, significant being led by the MoSPI programmes related to environmental economic accounting.

The BluNatCap aims to demonstrate the application of SEEA compliant NCA in two coastal landscapes to enable consideration of sectoral interdependencies (particularly infrastructure development, agriculture, fisheries, and tourism) in plans, programmes and investments. The focus on two coastal landscapes provides the opportunity to instigate beneficial and practical outcomes through the explicit embedding NC, BD and ES values at a district scale, whilst also providing a robust empirical knowledge and learning resource for upscaling to the national level. The two landscapes to be taken up under the project are the catchments and the coastal zone of Aghanashini Estuary and its basin in Karnataka (spanning 135,000 ha within the districts of Uttara Kannada and Shimoga) and Vembanad-Kol, an estuary-floodplain complex in Kerala (spanning 1,555,400 ha within the districts of Allapuzha, Idukki, Ernakulam, and parts of Kottayam, Thrissur, Palakkad and Pathanamthitta).

*Aghanashini Estuary.* Located in the Uttara Kannada District, Aghanashini Estuary is formed by the coalesce of the Aghanashini River into the tidal waters of the Arabian Sea at Uppinpatan village in Kumta (Map 1). At Mirjan, the River flattens into a wider estuary and also has a few small islands mainly Aigalkurve (inhabited) and Masurkurve (uninhabited). The estuary and its floodplains are aligned parallel to the sea coast, leaving a narrow strip of land 1-1.5 km wide constituted of sand and alluvium, between the Arabian Sea and the estuary. This strip of land with several villages is a densely populated tract. A substantial portion of the population is traditionally engaged in fishing, bivalve collection, fish and shrimp culturing, salinity tolerant rice cultivation in gajni rice fields, salt making etc. In recent decades mining sand and bivalve shells have emerged as major activities too. The estuary spans 4,940 ha of which 2,800 ha is under high salinity in the pre-monsoon times, 1900 ha under medium salinity, and the rest, towards the narrower part upstream, merging with the freshwater portion within the bounds of Uppinpatan village, experiences low salinity (<10 ppt). This last segment, mostly bound by low hills and plateaus covered with indurated laterite, sloping towards the river, contributes hardly any silt-laden water to the river, as the runoff water during rains, from this inner coastal zone is clear, unless the hills are dug exposing the clayey soil beneath. This low (5-10 ppt) and medium (10-20 ppt) salinity portions, where the flow of water, both of rains and tides, is faster due to the narrowness of the river, has been allotted for sand mining. Between the villages Gokarna in the north and Aghanashini in the south the estuary turns to the west towards the Tadri fishery port is situated towards the north bank of the river mouth bordering Gokarna village.

The Aghanashini river traverses through the forested, agricultural landscape and covers a total river basin of about 135,000 hectares (with large parts situated in the forested Western Ghats ? an area of global significance related to its unique ecosystems and biodiversity). The River Aghanashini, also known as the Tadri River flows for 181 km and is one of the few unregulated rivers of the country. The river originates as Bakurhole at Manjuguni near Sirsi in the Western Ghats of Uttara Kannada district.

Another source, closer to Sirsi is Donihalla. The Western Ghats of India (along with the west coast obviously, as the Ghats intrude into the Arabian Sea in many places), one of the 34 Global Biodiversity Hotspots along with Sri Lanka, constitute an important ecological region.

The streams Bakurhole and Donihalla meet near Mutthalli about 16 km south of Sirsi, whereafter, winding its westerly way, the river flows through the Western Ghats, leaps down at Unchalli as Lushington Falls, and Burde Jog. The river nurtures the relics of an ancient forest that has survived millions of years. The swamps of the Myristicaceae family (*Gymnacranthera canarica* and *Myristica fatua*) help maintain the river?s perennial stream, by retaining monsoon water like sponges, releasing it during the hotter seasons. The forested catchments of Aghanashini are home to a rich diversity of animals and birds, the most significant being the primate the lion-tailed macaque. With a very exceptionally low birthrate and habitat destruction, the future of these rare primates was once uncertain, however, the creation of Lion Tailed Macaque Conservation Reserve gives this species hope for survival.

The diverse habitats enable the estuary to support equally diverse species, including 13 species of true mangroves and 45 mangroves associated[10][10] , 6 bivalves[11][11], 33 crabs[12][12], 77 fishes[13][13] and 108 birds[14][14].  The edible bivalves *Meretrix meretrix, M. casta, Paphia malabarica, Perna viridis* and *Crassostera* spp. *Katelsya opima* and *Tegillaria granosa* occur in high to medium salinity conditions and *Villorita cyprinoides* in medium to low salinity conditions, and with 22,000 tons production, generating an annual economy of Rs.58 million for over two thousand people.

The resources of the estuary support livelihoods of about 10,000 native fisherfolk, from different communities, the key being Ambiga, Harikantra and Dalji. Their resource management practices are evolved around a rich traditional knowledge of fishing grounds and species migration behaviour. During monsoon, the declining salinity provides perfect conditions to grow a salt-tolerant rice variety called Kagga, growing here for over 3,500 years and requiring a boat to harvest. The place where Kagga grows in the tidal wetlands of Kumta is called ?Ghajini.? Nestled on top of a mountain and surrounded by thick evergreen forests, another unique rice variety famous for its aroma grows called Sanna Akki. Salt making, water transport, sand and shell mining, mat and basket weaving, boat making, are other livelihood options in the estuary.

The estuarine ecosystem is also an embodiment of strong cultural values. A small uninhabited island amidst the estuary is considered the abode of ?Babrudevaru?, the guardian deity of the estuary, worshipped by people from all the estuarine villages. Numerous birds, both migratory (during winter) and resident ones are associated with the sacred mangroves forest. The estuary and its environs are a major cultural and historical heritage of the west coast. It was known as a rice bowl in historical times and rice surplus was transported through watercraft to other regions. The Mirjan fort on the bank of the estuary built by Bijapur Sultans and the ruins of Aghanashini fort on a hill towards the river mouth gives a commanding view of the sea, the estuary and the Western Ghats are testimonials for the historical and cultural importance of the region. Spices grown in the hinterlands of Western Ghats were traded through the estuary during the European period and earlier to it. Gokarna on its shores has been, from time immemorial, a great place of pilgrimage. Before the road networks came the estuary was a major route for the transportation of pilgrims. The beaches dotting the coastline of Gokarna are today well-known places of tourism. The picturesque estuary with flourishing mangrove vegetation, its rich birdlife, and the traditional way of life of the people need to be protected as a cultural heritage and draw for tourism.

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There has been evidence of a decline of NC, BD and ES values of the estuary. Focus on export-oriented shrimp production farms since the late seventies incentivized conversion of rice fields and mangroves into aquaculture farms, with the untreated effluents being released into the estuary. The estuary has been subjected to severe exploitation of molluscan shells for industrial purposes, aiming at meeting growing demands from urban centres, especially the demand from Goa, where the bivalve production had collapsed in recent years. The bivalves especially are important for several bird species inhabiting the estuary, such as the Near Threatened *Sterna aurantia, Haematopus ostralegus, Caladris ferruginea, Numenius arquata, Limosa lapponica, L. limosa* and *Threskiornis melanocephalus* and Vulnerable category *Leptoptilos javanicus*. Pressure from sand mining on the estuary has been mounting over the last several years.

Traditionally the local farmers used to plant mangroves alongside the earthen embankments of their *gazni* rice field cum fish farming areas. These mangroves helped in stabilizing the bunds from erosion due to tides and waves and torrential rains of the region. Government support for embankments has reduced individual effort into mangrove restoration. Nevertheless, the Forest Department, during the last decade raised mangroves in large areas of the estuary.

Awareness programmes on mangroves for the coastal communities were initiated in the 1980s by the Centre for Ecological Sciences of the Indian Institute of Science and by especially an NGO, Snehakunja, based in Honavar, of Uttara Kannada District. Through voluntary efforts, some mangroves were also raised in the estuary. The NGO efforts were important in forming local-level Village Forest Committees to take care of mangroves. Yet, admittedly, none of the voluntary efforts had any continuity. The Indian Institute of Science (IISc) (ENVIS Center ? Energy and Wetlands Research Group) has built up credible science on various ecological and socioeconomic dimensions of the estuary, including the basis for designation as a Ramsar Site. This proposal was under active consideration by the Forest Department at the time of drafting this proposal.

In 2020, the Office of District Commissioner has published the District Environment Plan[15][15] for Uttara Kannada District, specifying specific actions for handling air, water and municipal pollution from various sources including mining. The Karnataka Coastal Zone Management Authority has published draft coastal regulation zone maps, demarcating various coastal regulation zones. The Zilla Panchayat Uttara Kannada also has development plans for different sectors[16][16]. In 2019-2020, the District Disaster Management Plan, which includes Standard Operating Procedures (SoPs) for handling meteorological disasters[17][17] amongst others.

The coastal landscape is one of the key investment locations under the national Sagarmala project which has the ambition to bring about a step-change in India?s logistics sector performance, by unlocking the full potential of India?s coastline and waterways. A proposal to develop a multipurpose all-weather port at Tadadi, near Gokarna in Uttara Kannada, by the Karnataka State Small Industries Development Corporation (KSSIDC) is a major threat to the estuarine ecosystem, however, has recently been removed from the list of active proposals. A proposal for the Hubbali-Ankola Railway Line (part of the East Coast Economic Corridor) is also under consideration. Recently, there has been increasing emphasis on boosting infrastructure developmental projects by the Government of Karnataka, including the Karwar-Ankola Coastal Economic Zone (north of this site), an improved transport network and connectivity. A study undertaken between 2016 and 2018 along 187 km of infrastructure related to the expansion of the National Highway 66 (NH 66) from Karwar (north-west of the GEF site) to Kundapura (south-east of the estuary) concluded that the impact on the ecology and the lives and livelihoods of families of the coastal area of Uttara Kannada would be significantly

greater than the impacts estimated through traditional environmental impact assessments (EIAs). There is increasing concern that ongoing economic development in this coastal landscape/watershed, including indirectly from the Karwar-Ankola Coastal Economic Zone, will affect key ecological services, which not only support globally significant BD but also maintain resilience to increased occurrence of floods and drought.

Aghanshini Estuary remains under consideration for designation as a Wetland of International Importance under Ramsar Convention; which builds upon the previous recommendation by The Centre for Ecological Sciences of IISc to the Karnataka State Biodiversity Board to declare the globally significant mudflats near Aghanashini village and the mangroves near Kaggal and Masur villages as ?Biodiversity Heritage Sites?, under the Biological Diversity Act of 2002. The NC accounting and blue economy development planning approach proposed through the GEF project will provide the basis of a balanced and sustainable developmental path for the region, highlighting the interconnectivity of the linked human and natural systems and particularly ensuring that the values of the estuary are not compromised for current and future generations by upstream anthropogenic impacts in the wider river basin. The Aghanashini estuary landscape remains exposed to several developmental investments which will fundamentally alter NC, BD and ES. Proposals for linking Bedti-Aghanashini-Varada rivers[18][18] in Karnataka have also been prepared, which will considerably change the hydrology of Aghansahini. There were also proposals for pumped hydropower projects and inland waterways projects in the Aghanashini landscape
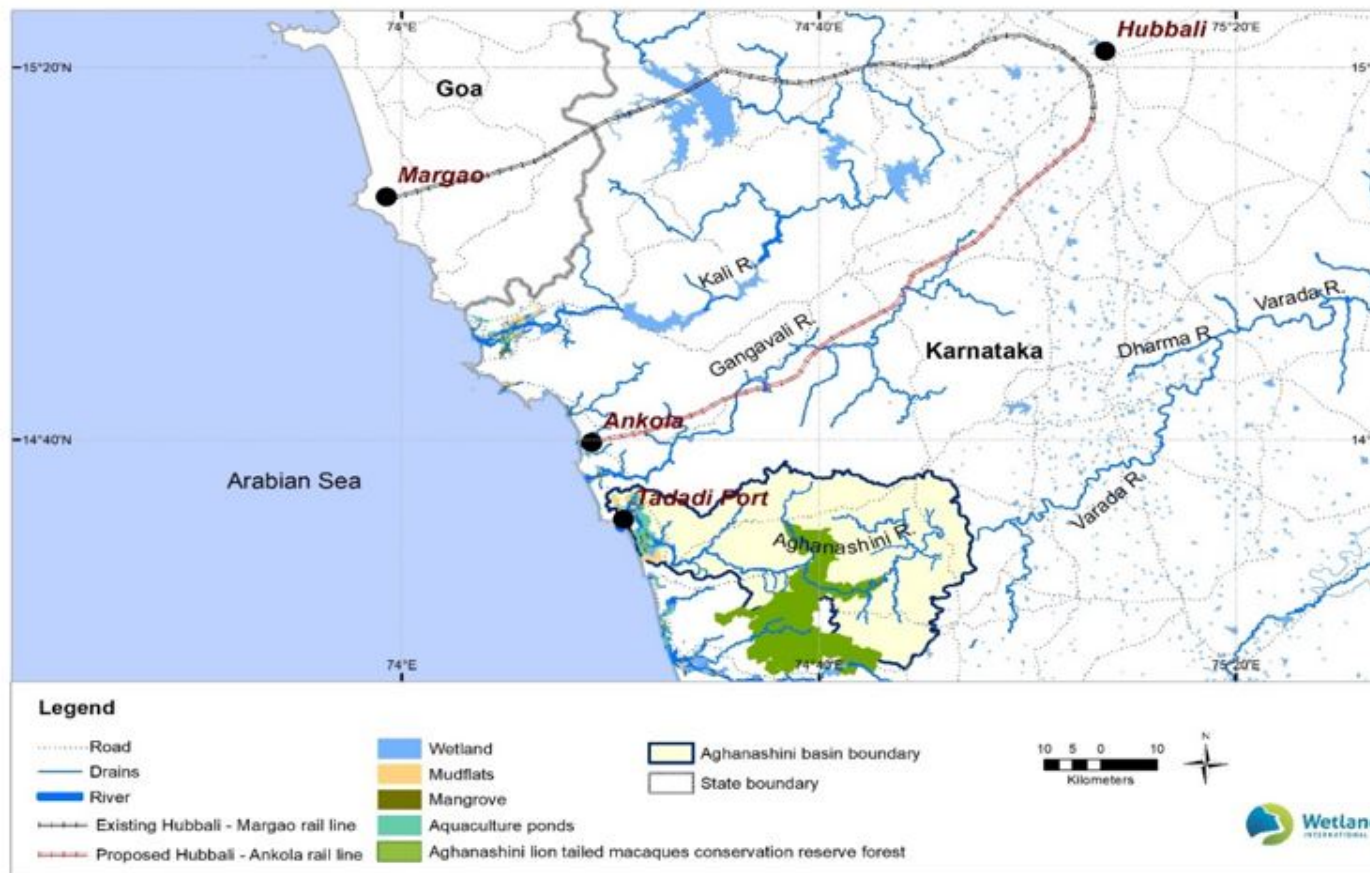
## MAP 1: AGHANASHINI ESTUARY AND ITS RIVER BASIN

**Vembanad-Kol** in Kerala State is the largest brackish, coastal wetland complex in southwest India. Spanning an area of 156,600 hectares, the complex comprises Vembanad estuary flanked by river floodplains of Kuttanad and Kol, interspersed by estuaries and mangroves interconnected by an intricate network of natural and human-made channels (Map 2). Spanning around 145 km along the coastline of Alleppey, Ernakulam and Thrissur Districts, Vembanad-Kol wetlands form a part of the extensive chain of backwaters which are characteristic features of the state. The rich diversity supported by these wetlands is indicated by the recorded presence of 258 plankton, 338 plants, 150 fish, and 225 bird species. Each year during winters, Vembanad-Kol is known to harbour one of the highest populations of migratory waterbirds in the Central Asian Flyway within India.

The wetland sustains the livelihoods of nearly 0.2 million households through backwater tourism, inland navigation, and provision of a range of resources such as clams, shellfish and finfish.  In addition to over 0.2 million households deriving livelihood sustenance from the wetland complex, the area is also home to an indigenous farming system that cultivates a salt-resistant variety of rice called Pokkali, which has been accorded Geographical Indication status as a sign that it has a specific geographic origin and properties. Coconut husk retting is an important income-generating activity carried out in the Vembanad region. Mainly conducted by womenfolk, this activity provides income to 18,000 households living around the wetland. Located at the apex of the basin, Vembanad-Kol also regulates hydrological regimes, in particular providing flood protection to large settlements such as Cochin and Ernakulam as well as water for agriculture in the Kuttanad region ? the Rice Bowl of

Kerala. Vembanad Estuary and Kole Lands have also been identified as Important Bird Areas of Kerala State. Mangalavanam, located on the eastern fringes of the wetland and a site of a large waterbird congregation was declared as a Bird Sanctuary[19][19] under the Wildlife Protection Act in 2004.

Cochin, an all-weather natural port, is located strategically close to the busiest international sea routes from the Gulf to Singapore and Europe to the Far East circuits and is the fastest growing maritime gateway to peninsular India. Vembanad backwaters form a part of the West Coast Canal System extending to an overall length of 546 kilometres, 209 kilometres of which has been declared as a National Waterway 3 by the Government of Kerala. The waterways formed by backwaters, estuaries, lagoons and canals, spreading over 196 kilometres in north-south and 29 kilometres in east-west directions are an important mode of transport for the communities living in and around the wetland. The Kottapuram ? Chettuva waterway supports the inland navigation through the heart of Kol lands. Inland navigation through Vembanad presently supports the livelihoods of more than 50 boat and 200 houseboat owners. The Vembanad-Kol wetlands receive inflows of ten rivers[20][20] that originate in the Western Ghats, with a cumulative drainage basin of 1.56 million ha area spanning seven districts of Kerala[21][21]. The drainage basin forms the natural landscape unit, wherein mainstreaming coastal NC, BD and ES values is essential to ensure that the development plans, programmes and investments do not compromise the ecological character of the coastal ecosystems.

Vembanad-Kol was designated as a Wetland of International Importance (Ramsar Site) under the Ramsar Convention by the Ministry of Environment and Forests, Government of India in 2002. The site qualifies under four criteria. The Ramsar site is home to the vulnerable species Spot-billed pelican *Pelicanus philippensis*, supports a waterfowl population in excess of 20,000 and serves as a feeding, spawning and nursery habitat for a variety of finfish and shellfish. Over 90 species of resident birds and over 50 species of migratory birds regularly use the estuary.

Vembanad-Kol is under severe stress from lopsided development which has traditionally failed to take into account coastal ecosystems NC, BD and ES values. The wetland complex is located in an intensively developed landscape, which includes the Cochin port (the maritime gateway to peninsular India), *Kumarakom* (centre for backwater tourism located within Kottayam district) and *Kuttanad* (an agrarian region famed for below sea-level agriculture spanning Alappuzha, Kottayam and Pathanamthitta districts, and also called as the ?Rice Bowl? of Kerala). The wetland is fringed by several large urban settlements such as Cochin and Ernakulam, as well as the state?s industrial belt, Udyogmandal. Reclamation of shallower wetland areas and marshes in the Kuttanad and Kol region has resulted in the creation of polders, locally called padashekharam, utilized for agriculture. A number of spillways, regulators and locks were constructed on the inflowing rivers for regulating inflows and preventing salinity intrusion. In 1976, Thannermukkom Barrier was constructed across Vembanad to prevent saline water intrusion into Kuttanad and control tidal action within its polders. The period since the 1990s has witnessed a rapid increase in the number of houseboats to cater for increased tourist demand, and presently over one thousand houseboats ply in the wetland, most concentrated near Alleppey. The natural banks of the wetland, once covered with thick mangrove forests, have been extensively cleared for the development of tourism facilities. Lack of consideration of wetland functioning within developmental programming has resulted in a reduction and transformation of the wetland. Despite a variety of management interventions, agricultural productivity, as well as production in Kuttanad, has declined over the years, converting it from the coveted ?rice bowl of Kerala? to the ?den of distress?.

Several indicators of NC, BD and ES in Vembanad-Kol are in decline. Altered sediment dynamics and morphology[22][22], encroachment and reclamation of the backwaters[23][23], presence of

microplastics[24][24] in sediments presenting a high risk of food-web contamination, high concentration of pollutants especially heavy metals[25][25], declining primary productivity and harvestable resources such as fish and clams[26][26], high rates of clam extraction[27][27], changes in black clam distribution in response to hydrological alteration[28][28], and water hyacinth invasion in the channels of Kuttanad[29][29] are significant indicators of adverse changes, ultimately undermining the ecological and economic security of the entire region.

The anthropogenic changes are being amplified by a changing climate. Recent extreme events, particularly the Kerala floods of 2018 (which affected 5.4 million people and claimed over 400 lives) and most recently of 2021, have exposed the vulnerability of the Kerala coast to disasters. Climate change modelling indicates that the propensity to extreme events is only likely to increase[30][30], exposing a rainfall abundant landscape to the risks of floods and droughts. An immediate consequence is for the management of Thanneermukkom Barrier, which is currently operated as per cropping calendar[31][31], but with changing frequency of extreme events, may need to be managed with more flexibility[32][32]. Post-2018 floods, the Government established the Rebuild Kerala Initiative (RKI) - which functions as a major baseline program under the GEF project, to ?bring about a perceptible change in the lives and livelihoods of its citizens by adopting higher standards of infrastructure for recovery and reconstruction, and to build ecological and technical safeguards so that the restructured assets could better withstand floods in the future?. The first phase of the initiative was provided with an assistance of USD 250 million, and subsequently USD 125 the second phase, under the Programme-for-Results financing scheme, for specific development projects approved by independent evaluators. The focus of investment is on Pamba Basin, wherein proactive planning for risk reduction and preparedness and response is envisaged to be achieved through the development and implementation of Master Plans for cities and towns and local level DRM plans for all the 263 Local Self-Government Institutions (LSGIs) in the Pamba River Basin districts[33][33]. Under the initiative, IIT Madras has been provided with a research grant to develop flood risk mitigation measures.

Management of Vembanad-Kol is vested with the State Wetlands Authority Kerala, which is hosted within the Directorate of Environment and Climate Change of the GoK. The Authority has been constituted as per the provisions of the Wetlands (Conservation and Management) Rules 2017 with the Chief Minister as the Chairman, Chief Secretary to Government as the Vice-Chairperson and Director of Environment & Climate Change as the Member Secretary. It is a statutory authority meant to function as the State?s nodal agency to implement the task of policy development, regulatory frameworks, integrated management, planning, implementation of action plans, capacity building, research, networking, communication, awareness, creation and raising of funds for wetland management. The Authority approved a management framework for Vembanad-Kol, formulated by Wetlands International South Asia in 2017. In January 2022, the Authority commissioned detailed management planning for the Ramsar Site and entrusted the task to Wetlands International South Asia and the Center for Water Resources Development and Management (CWRDM). CWRDM is also

designing an automated wetlands monitoring system (in line with the management framework), with support from KelTRON.

Multiple district level planning processes and programmes exist with a bearing on NC, BD and ES. The Kerala Coastal Zone Management Authority has published Coastal Zone Management Maps of 10 districts of Kerala (including Allepey, Eranakulam and Thrissur) with each map spatially demarcating the coastal regulation zones (and four categories). Permission for any developmental activity is subject to the consideration of the different coastal zone regulation provisions of the management plan, with decisions entrusted to the Authority chaired by the Additional Chief Secretary of the Environment Department.  As per the framework provided by the Central Pollution Control Board, the District Environment Plans enlist actions for regulating and managing all forms of waste, air pollution, noise pollution, mining and water quality monitoring. Implementation of the plan at the state level is done by the Kerala State Pollution Control Board, with implementation being taken up by various departments and agencies.

The Kerala State Action Plan on Climate Change (prepared by the Department of Environment, and Climate Change in 2014) includes conservation of coastal wetlands within actions related to the water sector, fisheries and coastal resources, and tourism sustainability. However, the plan largely treats ecosystems from a reactive perspective and does not include measures for including coastal ecosystems conservation for enhancing climate resilience.  The Kerala State Disaster Management Authority is a statutory body constituted under the Disaster Management Act, 2005 (Central Act 53 of 2005) and headed by the Chief Minister. The Kerala State Disaster Management Plan of 2016 identifies floods as a key hazard, and actions such as flood monitoring, strengthening embankments, and desilting canals and drains are included. The plan however does not consider the role healthy ecosystems such as wetlands play in buffering and reducing disaster risks. The Local Self Government Department of Kerala supports inclusionary District level development planning processes. These plans guide development programme implementation at the district level, and in the formulation process include watershed management as a working group.

Agrarian stress in Kuttanad has been an important policy focus for the State of Kerala. Based on the recommendations of a committee headed by Prof. M.S.Swaminathan, the first Kuttanad package was announced in 2008 with the Centre sanctioning Rs 2,139.8 crore to revive agriculture in the region, restore ecology and abate floods. Implementation of the first package was however highly inefficient, with the core problems of floods and farm distress persisting. The current government has announced the second Kuttanad package in September 2020, to be implemented jointly ? over the next decade, by the State Planning Board, Kerala Infrastructure Investment Fund Board, respective government departments and the Rebuild Kerala Initiative. The eco-restoration of the Vembanad-Kol wetland ecosystem, farming, development and flood mitigation have been given thrust in this package. Flood mitigation measures such as implementing the ?Room for the River? model have been proposed, along with widening and deepening of the leading channel of the Thottappally Spillway, installation of three regulators in Pampa and completion of second and third phases of the Alappuzha- Changanassery canal. It is also proposed to declare Kuttanad as a special agriculture zone, and farmers provided assistance in the form of quality seeds, submersible pumps along with making the agriculture calendar mandatory. With an aim to produce Kuttanad brand rice, an integrated rice park is proposed to be set up. In the Animal Husbandry sector, elevated cattle sheds are to be constructed in all gram panchayats. Insurance for duck farmers and the setting up of a research institute to promote duck farming have been proposed.

The Vembanad-Kol landscape is also subject to several planned projects which will have a bearing on NC,BD and ES. The Kerala government is planning an ambitious railway project that will cut across the north and south ends of the state including the related coastal watershed as well as the wetlands. The Nammal Namukk?yi Programme , under the Rebuild Kerala Initiative, includes investments in five themes namely: Land Management, Water Management, Forest Management, Community & Resilience and  Transport Communications & Technology to reduce the risk of floods. The programme is currently being shaped up and will provide substantive opportunities for integrating NC values in planning and implementation for sustainable blue economic growth in Indian coastal districts in Kerala

Kerala also has a vibrant civil society group that acts in various ways to support the conservation of coastal ecosystems. The Kottayam Nature Society has been conducting bird counts for over two decades now. The Kerala Sastra Sahitya Parishad, a people?s science movement, has been raising different issues related to Vembanad-Kol at different levels. In Kol lands, farmer?s collectives such as Zilla Kole Karshaka Samithi, have been working to protect the Kole lands, and ensure that rice paddies are not converted. The Kottapuram Integrated Development Society (KIDS) has honed the skill of converting water hyacinth into handicrafts and commercially viable products. ATREE and WWF-India have also been maintaining active programmes around Vembanad Kol.

The NC, BD and ES of Vembanad-Kol feed into various sectors - however, there is no unified view of how the coastal ecosystems are considered, or the interdependencies factored in decision-making. For example, the DDMP does not take into account the role of wetlands in buffering extreme events such as floods, the Climate Action Plan does not take into account the role of healthy coastal ecosystems in building climate resilience. With limited NC internalization in planning and programming, externalities are generated, and the coastline is put under stress through encroachment, pollution and numerous other stresses. The BluNatCap will build on the Government of Kerala State Scheme support to Environment and Climate Change Directorate and scheme for State Wetlands Authority Kerala and Kerala Coastal Zone Management Authority. Through NES-GRIDSS enabled NCA, the role of ecosystems in the landscape will be brought out in terms comparable with other private and public sector investment streams. Landscape-scale scenarios, factoring in climate risks will be developed and consequences reflected in the NC and ES flows. This information will be filtered into sector-specific and district-specific actions, which will be subsequently embedded into these plans through the existing institutional structures.

The project is closely aligned with GEF 7- BD Objective 1-3 on ?Mainstream biodiversity across sectors as well as landscapes and seascapes through NC Assessment and Accounting?, with its strong focus on enabling a sustainable blue economic development in coastal districts, by integrating NC values in spatial planning, coastal and marine sectors operations and decision support system. The information provided by the SEEA-based NC accounting system and a strengthened NES-GRIDSS network, established through the project will be utilized in improving spatial and economic planning, and investment decisions in two selected coastal and marine sectors (tourism and infrastructure development), contributing to the achievement of the selected blue economy strategies.

**MAP 2: THE VEMBANAD KOL WETLAND COMPLEX**

**Global significance**

The remarkably varied and diverse rock, sediment and coral-based landforms of India?s eastern and western coast and islands, differences in geomorphology, climate and coastal processes underpin the

high diversity of coastal landscapes and their ecosystems[34][35] (Map 3). The 100-130 km wide eastern coastal plain, placed between the Eastern Ghats and the Bay of Bengal, has wide and extensive delta formations of the major east flowing rivers and has seaboards comprising long stretches of sandy beaches backed by coastal dunes. The Sunderbans tidal delta spans over 10,000 km2, is fed by sediments and water from Ganges and Brahmaputra Rivers and has the world?s largest contiguous mangroves situated within a maze of creeks, sinuous tidal channels and inlets, dune complexes, estuaries, beaches and islands. The complex delta of Mahanadi and Baitarani have complex-spit with a number of hooks, prominent being Hukitola Bay and Jatadhar Muhan, estuaries formed by the rivers Devi, the Mahanadi, the Brahmani, the Baitarani, and the Rushikulya; mangroves dominated tidal swamps of Bhitarkanika, and a sizeable brackish lagoon, Chilika. Predominant wetlands along the ~ 300 km long Andhra coastline include the Godavari-Krishna delta complexes and prominent sand spit enclosing Kakinada Bay. Within the Coromandal coast, the Gulf of Mannar region has a diverse wetlands regime, notably mangroves, coral reefs and seagrass beds (ENVIS, 2015). Pulicat Lagoon, the swamps of Vedaranyam, coastal dunes along with Mahabalipuram, and the Kaveri Delta are some significant coastal wetlands in this stretch.
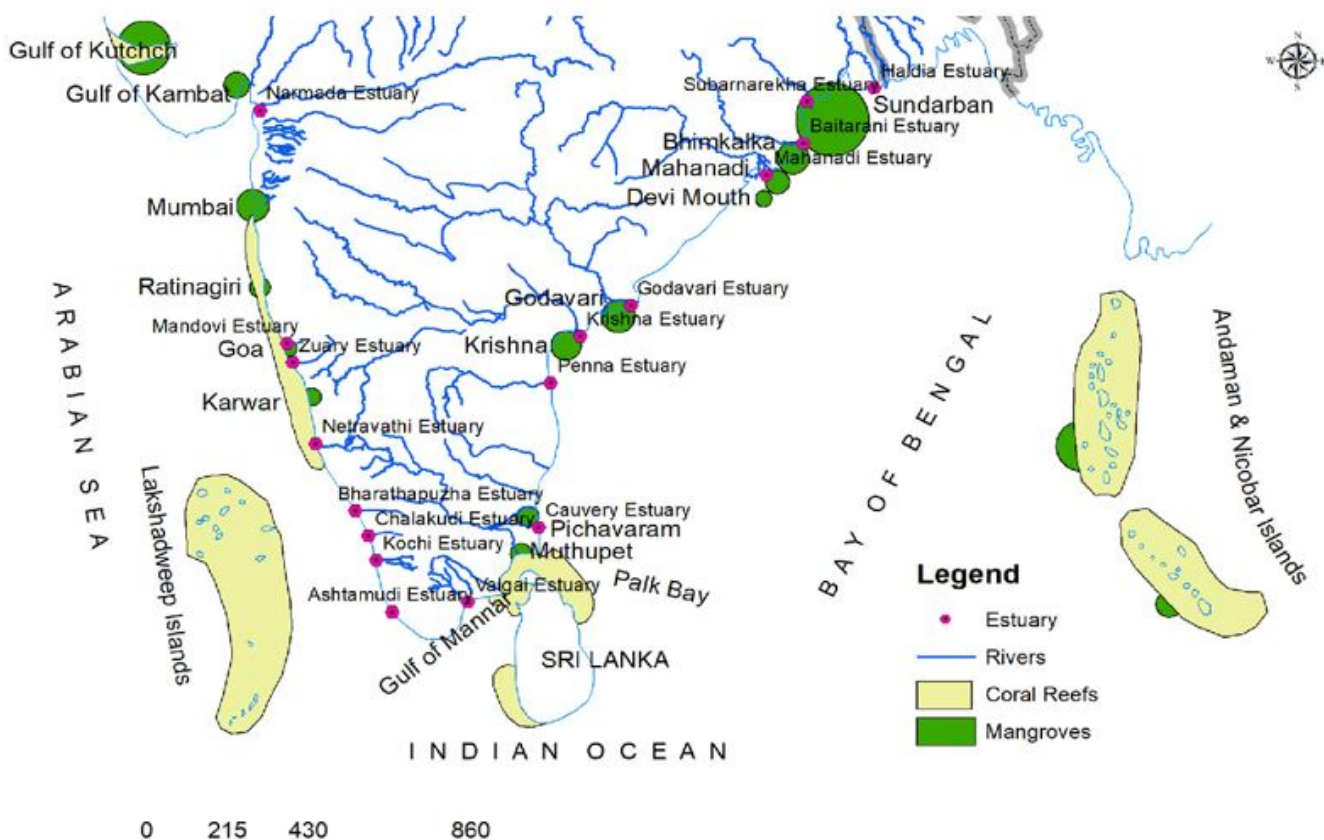


**MAP 3: COASTAL ECOSYSTEMS OF INDIA (FROM VINCENT AND OWEN 2021).**

The west coast is narrower than the east, 50-100 km wide sandwiched between the Western Ghats and the Arabian Sea, fed by short and swiftly flowing rivers with hardly any delta formation, and is more indented with rocky headlands, pocket beaches and many estuaries. The saline flats of the Rann of Kuchchh in northwest India are the most extensive wetlands regime along the Gujarat coast. The Gulf

of Kuchchh and Khambhat (Gujarat) have extensive mangroves, with the presence of coral reefs around the former. The rocky Konkan coastline has intertidal mudflats, with patches of mangroves along Thane Creek and Malvan coast (Maharashtra). The Malvan coast (in Maharashtra) also has a well-developed patch of corals. The coastline of Goa has bays and headlands with estuaries of Mandovi and Zuari Rivers. Kerala?s Malabar Coast in the southwest of India has a series of backwaters and floodplain complexes aligned parallel to the coast, of which particularly Vembanad-Kuttanad-Kol complex and Ashtamudi Estuary being significant wetlands regimes. Andaman & Nicobar, Lakshadweep Islands, Gulf of Mannar and Gulf of Kachchh have coral reef formations embracing all the three major reef types, i.e. atoll, fringing, and barrier. See Map 3 for approximate locations and main types of coastal ecosystems.

The coastal ecosystems in India harbour rich biological diversity, several components of which are critical for the maintenance of global biological diversity. A compilation of species richness in coastal and marine ecosystems has indicated the presence of at least 14 species of seagrasses, 69 species of mangroves (including associates), over 200 species of diatoms, 512 species of porifera, 1042 species of cnidaria, 55,525 species of molluscs, 2,394 species of crustaceans, 2,629 species of pisces, 37 species of reptiles, 243 species of birds and 24 mammalian species[36][36]. As many as 925 floristic and 4,107 faunistic species are known to be inhabiting Indian mangroves[37][37] . Scleractinia corals of India have richer diversity as compared to other tropical reefs with at least 478 species thriving in significant reef areas of the country[38][38] . Several coastal wetlands due to their particular hydro-geomorphological settings support a unique assemblage of marine, freshwater and brackish biodiversity such as Chilika, which is an abode to at least 1247 faunistic species[39][39] . Similarly, the mangrove swamps of Sunderbans biosphere reserve serve as a habitat for as many as 2,626 faunistic species[40][40]. A total of 885 faunistic species belonging to six different phyla (porifera, coelenterata, athropoda, mollusca, echinodermata, fishes, reptiles and mammals) have been accorded protection under the Wildlife (Protection) Act, 1972 due to increasing threats and high endemism[41][41] .

Several coastal ecosystems support charismatic species such as Royal Bengal Tiger *Panthera tigris tigris* in the Sundarbans, Irrawaddy dolphin *Orcaella brevirostris* in Chilika (largest resident population), a large rookery of Olive Ridley turtles and estuarine crocodiles *Crocodylus porosus* in Bhitarkanika, dugongs *Dugong dugon* in Gulf of Mannar, Leatherback sea turtle *Dermochelys coriacea* in Andaman and Nicobar Islands and large breeding population of Lesser Flamingos *Phoeniconaias minor* in the Rann of Kachchh.

Hundreds of thousands of birds migrating along the Central Asian Flyway descend upon the coastal wetlands of India in search of food and refuge annually flying nearly 18,000 km[42][42] . The Indian coastal wetlands are known to serve as habitats for at least 243 taxa of birds including 90 trans-continental migrants and 37 resident migrants[43][43] . Chilika, Point Calimere, Gulf of Mannar and Pulicat on the east coast and Vembanad-Kol, Kadalundy estuary and Great Rann of Kachchh on the west coast support large congregations of waterbirds. The wetlands of Andaman and Nicobar Islands provide feeding and resting sites for many migratory shorebirds[44][44].

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The rich biological and habitat diversity of coastal ecosystems enables these to provide a range of ecosystem services such as food and fibre, shoreline stabilisation and sediment accretion, water retention and provision, habitat for wildlife, carbon sequestration, a buffer for extreme events and cultural and recreational avenues. Several studies have brought out quantitative estimates of the benefits societies derive from coastal ecosystems. The contribution of mangroves to fish production in Indian coastal states has been estimated to be worth 23% of commercial marine fisheries output in 2011[45][45] . The annual flow of benefits from Chilika through fisheries, aquatic vegetation, inland navigation and tourism were assessed to be Rs. 4.8 billion at 2014 prices[46][46]. The benefits from fisheries, husk retting, inland navigation, recreation, and carbon sequestration services of Ashtamudi estuary have been assessed to be worth INR 1,924 million[47][47] . The Vembanad ? Kol backwaters - one of the key targeted sea-/landscapes in Kerala State under the GEF project, provide sustenance to 0.2 million households through backwater tourism, inland navigation, clams, shellfish and finfish, besides buffering urban settlements of Cochin and Ernakulum from floods[48][48]. The bivalve-based economy of Aghnashini Estuary - the second project site in Karnataka State, was estimated to have an annual turnover of Rs. 57.8 million per year, generating direct employment for about two thousand people, and nutritional security of millions more along the Karnataka coast and also in neighbouring states[49][49] . The values of ecosystem services emanating from the coral reefs of the Gulf of Kachchh including fisheries, recreation, protection of coastal aquifers from salinity ingress, erosion control and biodiversity were estimated to be equivalent to INR 2200.24 million based on 2007 prices[50][50]. The annual recreational value derived from Indian Sundarbans has been estimated to be worth US$ 377,000[51][51].

Mangroves and salt marshes have high value for coastal hazard mitigation and climate change adaptation. Storm surges can be slowed down by vast mangrove tracts, rates of surge height reduction have been recorded at between 4 and 48 cm per km of passage through the mangrove. Bhitarkanika mangroves form the base of resilience and sustainability of the local economy, contributing nearly 14.5% of the total household income[52][52]. A study of 2009 estimated the opportunity cost of saving a life by retaining mangroves in Bhitarkanika to be INR 11.7 million per life saved[53][53]. A study on ecosystem degradation and biodiversity loss in Indian Sunderbans assessed the damage to be worth INR 6.2 billion annually at 2009 prices, equivalent to 4.8 per cent of the region?s Gross Domestic Product[54][54].

**Threats, root causes and barrier analysis**

The rich BD of the Indian coastline coexists with a high concentration of human population, economic activities and infrastructure. With as many as the one-fifth population living in the coastal areas, three global megacities, 15 major global and 46 feeder ports, and over 230 industrial centres (including major fertilizers, petroleum, natural gas and chemical industries), the pressure on NC and ES is tremendous. Unsurprisingly, the state of NC underpinning the Blue Economy is in a continuous decline in recent years. The 2018 EnviStats indicated that while the average growth rate of the gross state

domestic product during 2005-15 for almost all the states was around 7-8 per cent, 11 states registered a decline in their NC, including the coastal states of Karnataka, Kerala and Tamil Nadu. Even whilst a net positive increment was observed in the asset account in some cases such as change of fallow land to farmland, increases in forest cover, growing carbon stock and new findings of resources of minerals, these changes are not outweighing the overall loss of ecosystem functionality and BD observed in Indian coastal areas.

**Threats:** Some of the major threats to the NC of coastal ecosystems, and their BD and ES, which ultimately undermine the BE growth are as follows:

*Physical modification of natural habitats:* Encroachment and landscape alteration for agriculture and aquaculture, settlements, ports, industries, infrastructure has fragmented coastal landscapes resulting in loss of ecological character. Extensive encroachments for agriculture, especially rice cultivation, is observed in the Kuttanad region of Vembanad- Kol wetlands. Changes in land use and encroachment into the mangroves, to construct aquaculture ponds has been reported in Sundarbans[55][55],[56][56?][57][57]. The annual cost of environmental damage to Sundarbans has been estimated to be INR 6.7 billion[58][58]. The eastward expansion of Kolkata City has been through the conversion of extensive salt marshes on the city?s periphery[59][59]. The Space-Based Observation of Indian Wetlands published in 2022 has indicated that during 2006-2018, the area under natural coastal wetlands has declined by over 73,961 ha[60][60]. With a growing population in the deltaic region spurred on by the construction of ports, trade and shipping, investments in dams and dykes have also been made for flood control, prevention of salinization and expansion of agriculture[61][61].

*Fragmentation and modification of natural hydrological regimes:* With the rapid intensification of water use in the upstream stretches, there has been a significant reduction in water and sediment availability to the coastal wetlands leading to several adverse changes in their structure and functioning. In the last four decades, the sediment flux of ten large Indian peninsular rivers declined by over 75%, impeding the delta building processes as well as destabilizing sandy beaches due to imbalances in the so-called ?sand-balance?.[62][62]. Environmental flow analysis for Pichavaram mangroves (Tamil Nadu) indicated that the minimum freshwater flow required for maintaining healthy mangroves was available only 12% of the period during 1977 ? 2008, resulting in loss of species diversity and ecosystem degradation[63][63]. In Sundarbans, alterations in salinity due to a reduction in freshwater flows into mangroves have impacted the aboveground biomass of the endangered and steoecious mangrove species *Heritiera fomes* (commonly known as Sundari)[64][64]. In Ashtamudi Estuary, over 50% decline in freshwater inflows from Thenmala Dam has been observed to be one of the causative factors for increasing salinity and reduction in the habitat of freshwater fish species[65][65].

*Invasive* Species. Invasive species are a significant threat to the native diversity and ecosystem processes of coastal wetlands. Modelling of plant invasion hotspots in India delineated through the intersection of ecoregions, multi-species ecological niche model consensus, and anthropogenic biomes

have indicated west coast, Sundarbans and Coromandal coast to be one of the high invasion risk areas[66]. *Kappaphycus alvarezii,* a commercially important red alga and a source of worldwide kappa carrageenan believed to have been introduced in Gulf of Mannar in the 1990s, and its subsequent escape from culture areas paved the way for invasion. Eradication efforts thus far have had limited success[67]. Eighteen species of exotic animals and plants have been documented along the Indian coasts which have been introduced through ballast water and may be potentially invasive[68]. Island diversity is particularly vulnerable to species invasion[69]. The occurrence of invasive snowflake coral (*Carijoa riisei)* in the reef systems of India has raised significant concerns regarding its impacts on the indigenous biota[70]. Discharge of ballast water from the hulls of ships has been one of the main sources of the introduction of invasive marine species into the environment posing threat to the world?s oceans. In India, during the period 1998-2010, nearly 80 algal blooms have been reported, of which 31 blooms were formed by dinoflagellates, 27 by cyanobacteria and 18 by diatoms. In India, eighteen species of alien animals and plants have been documented along the coast, which may have been possibly introduced through ballast water and maybe potentially invasive. Some of the invasive species such as Caulerpa, Cladophora, etc. are causing extensive damage to the ecosystem and affecting aquatic biodiversity adversely.

*Pollution.* Coastal ecosystems and seas end up being receptacles of pollution from inland and densely populated coastal stretches. With over 250 million people living in India within the 50 km of the coastline, as many as 130 cities, and the sewage treatment infrastructure having the capacity to treat less than half of the greywater it is evident that the coastal wetlands become sinks to a large amount of untreated effluents. Water quality index (WQI) for 11 locations of 24 monitored locations along the Indian coast were found to be ?poor? in condition under the Seawater Quality Monitoring (SWQM) programme of the Ministry of Earth Sciences [71]. Nutrients showed an increase in most of the locations during the monitoring period of 1990 - 2015 with a dominance of ammonia and phosphate indicating release of untreated sewage into the coastal waters. Marine litter has emerged as a major threat in coastal areas[72]. Land-based plastic waste finds its way into wetlands and the sea through river channels and other sources. Plastic inputs range from 2000 to 20,000 tonnes/year along with major urban locations along the coasts[73]. Low-density polyethylene has been identified as the dominant type of polymer component of microplastics in Vembanad[74]. As clams and fishes are the major source of protein to the local population, the presence of Microplastics in the lake poses a severe threat of contaminating the food web. As recorded the world?s largest naturally-formed shallow hypoxic zone lies along India?s west coast extending from the coast of Pakistan to south of Goa in the Arabian sea. This zone has become more intense and seasonal oxygen deficiency along eastern India is also more severe as a result of human activities. Hypoxia/ anoxia has developed in several Indian estuaries, bays and ports[75]. Coastal wetlands have become eutrophic and/or hypoxic due to pollution by the discharge of heavy metals and organic wastes.

While the population living around the coastline has increased, the rate of development of treatment facilities has not kept pace with sewage generation and urban growth. Unsafe sanitation technologies were used in settlements around estuaries and lakes. With Swachh Bharat Rural and Urban Missions

while the containment of faecal sludge is largely managed but its safe treatment and disposal continue to remain a problem. As per the latest national inventory on Sewage Treatment Plants (STPs) published by the Central Pollution Control Board (CPCB) in 2021 the sewage treatment capacity is less than half (44 %) of the 72,368 MLD (Million Litres Per Day) sewage generated in the country. The actual utilized capacity is even lower at 20,235 MLD. Coastal states of Maharashtra, Karnataka, Gujarat are among the top five states which have installed significant sewage treatment facilities contributing to 60.5 % of the total installed treatment capacity of the country however this is not the case with the rest of the coastal States. There is no proper environmentally sound management of land-based municipal solid waste. As per CPCB major metropolitan cities recycle only 60% of the plastic waste and the rest is not accounted for.

The aforementioned threats are amplified by overexploitation of natural resources along the coast of India and its marine waters, which has been recognised for decades. Substantial increases in fishing effort, efficiency and hours spent fishing period after the mid-2000s has been reported for marine fishing[76][76]. The challenges faced by traditional fishing communities as a result of large-scale commercial fishing fleets have been reported since the early 1990s[77][77]. Deep-sea fishing has become a norm and the fishers do not restrict their operation to the areas and depths allocated to them; encroachment by larger vessels in the coastal waters continues. Analysis conducted elsewhere in India has identified the different environmental challenges faced by coastal ecosystems including the overexploitation of living marine resources such as fish stocks, and the degradation and loss of critical habitats such as mangroves and reefs[78][78].

*Climate Change impacts.* Climate change projections for India indicate an increase in atmospheric temperature, sea-surface temperature, intensifying rainfall, and increasing extreme events. Coastal ecosystems are vulnerable to all these changes through impacts on ecosystem structure, function and processes. Coastal wetlands have a role in the stabilization of $CO_2$, $CH_4$, $N_2O$ and other GHG concentrations through their influence on two pathways namely, preventing climate and land use mediated release of GHGs and increasing the capacity to actively remove $CO_2$ from the atmosphere and sequester carbon for a long time. For several coastal wetland types, the bulk of sequestered carbon is in the soils as compared with plant communities, due to limitations on decomposition imposed by water saturation and lack of oxygen. The coastal blue carbon soaked by mangroves, salt marshes and seagrasses via photosynthesis and stored in wet anaerobic soils has received considerable attention recently in the context of climate change. However, several coastal wetlands can also be a net source of GHGs and emissions are further elevated by anthropogenic disturbances and alterations to these ecosystems.

*The* northern Indian Ocean is identified as one of the 17 climate change hotspots (areas that will warm faster than 90% of the oceans). Long-term climate change is likely to impact coastal ecosystems and their capacity to sustain fish stocks, exacerbating stress on fish stocks thereby affecting the fisher communities along the Indian coastline. Increased sensitivity to climatic fluctuations has been observed in several overfished species such as Bombay duck, tuna, pomfret, various shrimp and catfish[79][79].[80][80]. Coral reefs of the Indian ocean had experienced as many as 29 widespread bleaching events with intense bleaching around 2002 when observed sea surface temperature was higher than the summer maxima forcing dependent communities to search for other food and breeding sites. During the third global coral bleaching event between 2014 and 2017, corals in the Gulf of Mannar faced high mortality with a reduction of live corals to only one-fifth area, fast-growing coral forms including Acropora, Montipora and Pocillopora being the most affected not only by bleaching but also by severe mortality. Future sea surface temperature changes are also likely to induce adverse

impacts on populations of several endangered species such as female skewed sex ratios at many rookeries of sea turtles[81][81]. This risk is superimposed on the adverse trends in the loss of available nesting sites and flooding of turtle nests.

***Sea level rise.*** The Indian coastline is globally one of the most vulnerable to sea-level rise[82][82]. Major cities are likely to face a sea-level rise of 0.1 metres to 0.3 metres in the next two to three decades due to global warming, which has a very high likelihood of submergence in vast low-lying areas and impacting economic infrastructure and ecosystems alike. In major parts of the coast, there is a high likelihood of saltwater intrusions can be contaminating fresh water aquifers, many of which sustain municipal and agricultural water supplies and natural ecosystems.

A key determinant of the vulnerability of coastal ecosystems is whether their surface elevation can keep pace with rising sea levels. Salt marshes and mangrove swamps are known to accumulate soils vertically mainly through three synergistic processes: a) below ground growth adding volume to the soil and the above-ground portion helping trap inorganic sediments of tidal waters, b) increasing soil volume resulting in raised surface elevation of the wetland enabling it to roughly track sea-level rise, and c) increase in elevation accompanied by lateral expansion over tidal flats in the lower intertidal zone and inland over adjacent terrestrial ecosystems. Areas surrounded by urbanised wetlands are expected to lead to a coastal squeeze in the face of sea-level rise ultimately leading to wetland loss.

With the rapid intensification of water use in the upstream stretches, there has been a significant reduction in water and sediment availability to the coastal ecosystems. Intensive coastal infrastructure built up in major parts of the Indian coastline may thus, deprive coastal wetlands of the much-needed accommodation space. For lagoons, rising sea-level along with a reduction in freshwater flows may tend the system to marine processes domination and reduced ecological productivity as compared with brackish water state as observed in Ashtamudi.

***Extreme events and disaster risks.*** Assessments on extreme weather events for India indicate a trend of enhanced cyclogenesis and increasing extreme rainfall events exposing the coast to the risk of floods, storm surges, tsunamis and tropical cyclones. Impacts of extreme events on coastal wetlands are known to range from changes in hydrological characteristics in lagoons (such as prolonged freshwater conditions in Chilika after cyclone Phailin[83][83] to extensive physical damage (mangrove destruction during great Indian tsunami. On the contrary, coastal wetlands as mangroves have buffered communities against the impacts of tropical cyclones. Careful stewardship of sediments and reduction in human-induced land subsidence is critical to reducing the vulnerability of coastal areas to flooding[84][84].

The analysis presented in this section as well as institutional, sectoral and policy context (Section 2.4), indicate a disconnect between BE plans, programmes and investments and efforts for conserving and sustainable use of NC, BD and ES of coastal, near-shore and marine ecosystems. The aforementioned threats are underpinned by the following **Root Causes**:

***Root Cause 1: Sectoral approaches which overlook NC, BD and ES interdependencies in policies, plans and investments.*** There is an impetus on driving economic growth in the coastal region by harnessing the power of the country's BE. However, the interdependencies of NC, BD and ES in sustaining the sectoral outcomes is rarely factored within the plans, programmes and investments. For example, in Vembanad-Kol landscape investments planned for railway corridor cutting across wetlands may accentuate floods by impeding hydrological connectivity within wetlands. Similarly, investments in coastal and marine tourism development without putting in place necessary safeguards for pollution

abatement and preserving habitats will render the whole investment unsustainable in the long run. The increasing intensification of economic activities in the landscape will have commensurate impacts on upstream land and water use, thereby adversely affecting water-sediment ad nutrient flows required to sustain the coastal ecosystem. For example, several estuaries on the Indian coastline are progressing towards hypersaline conditions and reduced ecological productivity affecting livelihoods of dependent communities, especially the vulnerable sections.

***Root cause 2: Low compliance with extant regulatory frameworks.*** In several parts of the Indian coastline, the Coastal Regulation Zone (CRZ) maps and plans remain in draft stages. Regulations regarding pollution abatement of air and water are blatantly violated resulting in the coast and marine areas becoming cesspools of waste including hazardous waste including pharmacological residues and others. Concerns have been raised relating to the inadequacy of the EIAs conducted for infrastructure development which fails to assess fully the impacts of coastal erosion, seabed dredging, as well as a disturbance in the ocean current caused by the construction of breakwaters on the livelihoods of traditional small fisher communities as there are significant social and environmental costs associated with unsustainable infrastructure development, industrialization and natural resource extraction. Despite a significant improvement in the understanding and awareness of coastal ecosystem NC and ES, there remains a systematic failure to recognise and comprehensively integrate these values in planning and decision-making. Often each of the development projects is seen in isolation, rather than their cumulative impacts on their entire landscape. Weak enforcement of fisheries policy has led to the continued prevalence of unsustainable fishing techniques. FAO has recommended the formulation of a Global Code of Conduct for Responsible Fisheries (CCRF) which establishes the principles and recommendations applicable to conservation, management and development of all fisheries[85][85]. This is also echoed in the National Fisheries Policy, 2020. However, in the Indian scenario, several factors constrain the implementation of the sustainability code. These range from the varied nature of resources involving different ecosystems that require different regimes for their management; to the prevalence of artisanal and small-scale fisherman operating from thousands of landing centres dispersed along the coast for their livelihoods and lack of proper monitoring/control system to ensure compliance with the restrictions on fishing operations such as mess size of gear and fishing area.

***Root Cause 3: Limited availability of genuine progress indicators for Blue Economy which reflect economy- ecosystem interactions***

Much of the conventional economic indicators used to assess economic progress do not capture the contribution of NC in economic activities, nor the impact economic activities have on NC. Even the national system of SDG indicators which are meant to be multi-dimensional do not sufficiently capture coastal NC and ES, leaving quite some room for improvement. The status of economic activities and ecosystems are all captured at different scales, with different degrees of completeness, and not brought together, especially at state and district levels, so that investments (public and private) could be accordingly influenced. A lack of genuine progress indicators also leads to limited efforts to link these to investments, such as ecological fiscal transfer mechanisms between central and state governments[86][86]. Even the current NIF for measuring progress towards SDGs leaves much room for improvement, as the NC is only partially captured and in very few indicators (Table 1).

*Table 1: Inclusion of Natural Capital within the National SDG Indicator System*

| SDGs | Indicators | |
|---|---|---|
| | **Natural Capital Indicator** | **Natural Capital Change Indicator** |

| SDG 6: Clean water and sanitation | Percentage of ground water withdrawal against availability | |
| --- | --- | --- |
| | Percentage of blocks/mandals/taluka over-exploited | |
| SDG 13: Climate Action | Percentage of renewable energy out of total installed generating capacity (including allocated shares) | Number of human lives lost, sex-disaggregated, due to extreme weather events |
| SDG 14: Life below water | Mean shore zone coastal water quality-Biochemical Oxygen Demand (BOD) | Percentage increase in area under mangroves |
| | Mean shore zone coastal water quality-Total Nitrogen (TN) | Percentage of the available potential area developed under coastal aquaculture |
| | Average marine acidity measured at representative sampling stations in the shore zone | |
| SDG 15: Life on Land | Forest + Tree Cover as a percentage of total geographical area | Percentage increase in area under mangroves |
| | Forest cover as a percentage of total geographical area | |
| | Tree cover as a percentage of total geographical area | |
| | Percentage of degraded land over a total land area | |

***Root Cause 4: Lack of continuity of Coastal conservation programmes.*** Major coastal conservation programmes have been traditionally sporadic and project-based with very limited landscape scale and development programme integration. NGOs and CBOs have been instrumental in promoting participatory approaches to coastal ecosystem conservation (for example, Joint Mangrove Management) however, the roles have mostly been restricted to project periods and post-project sustainability of results has been limited. This is despite the sustenance of coastal ecosystems being critical to sustaining economic activities such as fisheries and tourism.

***Root cause 5. Reliance on public funds for the conservation of coastal ecosystems.*** Much of conservation efforts are financed through public funds. This is despite that the drivers of coastal ecosystem degradation are rooted within the plans and programmes of different sectors and the fact that healthy coastal ecosystems provide a range of benefits that accrue to all sectors and stakeholders. Investment by the private sector is also limited to regulatory compliance (for example, investment of parts of profits under corporate social responsibility), in absence of clear business case for investment into coastal ecosystem conservation, or altering plans, programmes and investment to address prevent and reduce risks to coastal ecosystems.

*Barriers*

It is apparent that sustainable BE development, investment portfolio and policy frameworks need to be underpinned by conservation and sustainable use of NC, BD and ES of coastal, near-shore and marine ecosystems. The threats and root causes discussed above are symptomatic of the ineffective

mainstreaming[87][87] of coastal NC and ES in economic development planning and implementation. The BluNatCap focuses on mitigating the following barriers which limit consideration of coastal and near-shore marine NC, BD and ES in development planning and implementation:

***Barrier 1. Limited integration of NC and adoption of SEEA standard framework into India?s national and state policy, budgets and institutional mechanisms***

Despite the existence of the policy and programmatic mandates, the level of integration of NC considerations into India?s national and state policy and budgeting processes remains low, and existing institutional mechanisms do not fully support such efforts. While substantial progress has been made in monitoring the extent and conditions of coastal ecosystems, the coherent transfer of such data and information into monitoring NC and its contribution to key economic sectors, particularly through a System of National Accounts (SNA) that can integrate economy-ecosystem interactions remains elusive. There is a strong need for closer coordination and collaboration among key agencies which generate monitoring and accounting data on one hand, and those responsible for designing and implementing sector plans and programmes for maintaining and enhancing NC, BD and ES. This is needed to overcome the challenges faced by previous BD and ES valuation and accounting initiatives in translating the results into policy and programme specific action. The proposed project is designed to address these key remaining challenges, by building on earlier NC accounting initiatives in India, while maintaining a strong focus on the application of NC accounts into informing BE sector plans and programmes and achieving affirmative change in favour of internalizing externalities generated by lack of incorporation of NC, BD and ES values in plans, programmes and operations.


While there has been a major improvement in access to environmental data at different spatial scales, the availability of disaggregated district-level data at an accessible platform and amenability for supporting NCA remains a challenge. NES-GRIDSS offers a promising framework to provide disaggregated environmental data at the district level (as has been demonstrated through pilots in Karnataka, wherein environmental information for Western ghats has been put together by ENVIS RP),  it still needs adaptation to the SEEA-EEA framework to be able to reflect the status of NC and to undertake analysis for improving spatial and economic planning and influencing decisions on NC. Furthermore, currently, the status of NC is poorly understood, scarcely monitored, and there is an urgent need to quantify and map the values of ecosystem services and incorporate them into the decision-making process ? specifically towards following a blue economic development path. ***In order to address this challenge, integrating NC information to NES-GRIDSS through adapting the SEEA-EA framework is essential.***

***Barrier 2. Lack of capacity in integrating NC values in development scenario analysis, planning and operations***

There is limited use of joined-up planning systems and tools which account for NC and ES sector interdependencies at landscape and sector scales. Conservation of coastal ecosystems is targeted through projects that aim to address the direct drivers of adverse change (such as activities leading to physical modification, pollution, unsustainable harvest of species), and largely limit their action within the ecosystem boundaries (such as the boundaries of the estuary, or mangrove patch. The adverse drivers of change, however, are mostly linked with developmental activities taking place within the wider landscape (such as the river basin wherefrom water, sediments and nutrients are received into the coastal systems) and coastal zone ( through processes such as littoral drift) and economic sectors (such as infrastructure development, fisheries, tourism and others)  which do not factor in the NC and ES interdependencies across the landscape and sectors, and therefore end up targeting developmental outcomes, at the cost of degrading the underpinning NC, BD and ES. With limited and patchy accounting of NC, BD and ES stocks and flows in the State Environment Plans, the existing District Environmental Planning framework is geared more towards addressing environmental problems, rather

than providing opportunities for incentivizing NC and ES conservation[88][88].  There is hardly any joined-up planning at the landscape scale which can bring together environment and economy interactions at a single administrative level (for example, a district).  *There is a clear need for practical demonstration of NC accounts informed landscape planning that can provide for convergence of NC, BD and ES into district and state sector plans and investments along with systems for assessing efficiency through monitoring systems capable of tracking changes in NC, BD and ES. Application of SEEA-EEA based NC accounts to wetlands conservation is a significant opportunity to inform and influence policies and programmes for conserving and improving the effectiveness of national plans and programmes for this most rapidly degrading ecosystem which has a significant bearing on achieving the SBE pathway.*

A second major challenge faced relates to limited knowledge, capacity and practical approaches that can be applied to support the integration of NC considerations into development planning and operations of key economic sectors. There has been a predominant focus on the description and evaluation of BD and ES, and their valuation in economic terms, however, there are very limited examples of the valuation studies being used to develop NC accounts that can reflect changes in stocks and flows in response to development pathways. Within the valuation studies on coastal ecosystems NC and ES, there is limited effort placed on regulatory services, such as shoreline stabilization, buffering extreme events, micro-climate moderation, carbon sequestration, all of which have the potential to alter new ways of looking at coastal ecosystems as nature-based solutions. A recent review of ecosystem valuation studies (since 2000) demonstrated that ES of coastal ecosystems have received lesser emphasis (only 13% of the total studies reviewed), and within those, provisioning services were the ones most emphasized [89][89]. Similarly, assessments of supporting services (which can be troublesome for some economic monetary valuation techniques because of concerns regarding ?double counting?) such as water cycling, biomass production and primary productivity were poorly represented. *An increased effort towards capacity development for SEEA and SEEA-EEA based NC accounts is called for to address this capacity barrier.*

The complexity of risks in the coastal landscapes, due to ongoing and deepening anthropogenic threats, made complex by climate change-induced increase in frequency and intensity of extreme events put a limit on the extent to which existing management plans, built around reference ecosystem conditions defined from the past monitoring, will remain relevant. *There is an urgent need to consider scenario-based approaches, including building scenarios based on climate change projections while planning for maintaining conservation and development aspects in the landscape.*

The private and financial sectors in India have developed their approaches to incorporate biodiversity and ecosystem protection measures into their operations and risk analysis processes; however, these are driven mainly by their reporting and CSR obligations, with only a secondary focus on incorporating the concept of NC and ecosystem services-based approaches in core operations. As a result, the extent of mainstreaming NC considerations into infrastructure development, as well as corporate or financial institutions in India remains limited. Transforming the operations of these stakeholders to minimize potential negative impacts of their operations on NC will require a broader and more comprehensive approach to fully integrate NC values and considerations into risk analysis frameworks, core business models and investment decisions. Insufficient awareness of the linkages and dependencies of production and service sectors on NC, NC-associated investment risks, as well as limited (narrow) understanding within industry sectors of the concept of biodiversity and ecosystem services and their valuation (especially non-market values) is another key challenge that needs to be addressed. Furthermore, the limited focus placed on national-level management of ecosystem services and biodiversity, as well as the general lack of appropriate structures or incentives that support and promote the NC-based approaches into market-based finance mechanisms, and integrating the values of biodiversity is another key barrier to be addressed in India. *There is a clear need to promote multiple-*

*scale adoption of sustainable development and/or best practices that efficiently and effectively incorporate NC considerations ? specifically in the targeted coastal wetlands/watersheds/landscapes.*

A further challenge is in the limited availability of policy-focused ecosystem assessments and valuation studies, supported by scenario analysis. Furthermore, there is a considerable gap when it comes to applying scenario-based approaches to understand the tradeoffs which developmental projects pose to the NC, BD and ES (also in the context of climate risks which are projected to significantly alter coastal ecosystem extent, and thereby NC, BD and ES. Efforts, such as TEEB India did undertake undertook policy-oriented economic valuation studies, but the assessment scale was modest and limited to demonstration sites. *In this regard, targeted capacity building and technical support are required to enable practitioners in India to undertake and utilize NCA and apply a wide range of decision support tools such as integrated ecosystem services-based assessments and modelling to map and values ecosystem services and conduct scenario analysis to assist policy, spatial and economic planning processes.*

*Barrier 3. Lack of partnerships, awareness and acceptance of NC among key stakeholders to enable an SBE growth model*

Despite advancements in building scientific knowledge and information in India on NC, BD and ES exist, there is a dearth of efforts to disseminate such knowledge and information among policy and decision-makers and practitioners at various levels. *There is a clear need to establish a knowledge learning network that can foster partnerships and facilitate networking among policy and decision-makers and practitioners, and enable globally-recognized best practices can be integrated into sectoral planning processes for sustainable BE outcomes.*

There is no national monitoring system in place ? based on SEEA-indicators, to track implementation of NC-based planning and financing within public and private sector entities, as well as their impacts on the NC, BD and ES. *It is also imperative to establish a system to monitor - with objectively verifiable data, the successful incorporation and benefits generated to NC including biodiversity through sector transformation and pathways in line with SBE.*

The absence of a national incentive mechanism and national platforms to build trust as well as to improve security for both providers and beneficiaries of NC stock, flows and values, results in limited engagement with key stakeholders, especially the private sector. There is a clear need for an operational mechanism where all these stakeholders can participate, have access and benefit from dissemination and KM services to enable up-scaling of the enhanced integration of NC&BD objectives in sector operations and landscape planning and operations. Furthermore, there is limited practical experience with partnerships and collaborative efforts between universities, NGOs, local communities and the private sector to stimulate investments for informal and formal research, and sustainable utilization of resources. Besides, at the local level, limited involvement and knowledge on policies and procedures among stakeholders have prevented their mutually beneficial engagement in research, the protection and utilization of NC biological resources. Particularly limited is practical experience at the local level in formulating partnerships between communities who are local stewards of biodiversity resources and institutions that are involved in investigating and identifying efforts that are guided by local operational procedures on an SBE.

2)      Baseline scenario and associated baseline projects

The baseline scenario and associated baseline projects (Section 1.2 in PIF) has been updated since the PIF stage to ensure it is fully up to date with relevant new initiatives, including new government programmes. The baseline has also been updated significantly to be more specific to relevant actions at priority locations and as a result of the more extensive information that was gathered on these during consultation organized with the stakeholders during the PPG phase. The updated baseline analysis is presented in the paragraph below.

With the substantive policy and investment push, it is apparent that BE will shape the ecology as well as the economic development of the Indian coastline. For BE to be sustainable, it is essential that the development trajectories adopted under BE integrate NC and ES values within policy, implementation and investments. The absence of a national incentive mechanism and national platforms to build trust as well as to improve security for both providers and beneficiaries of NC stock, flows and values, results in limited engagement with key stakeholders, especially the private sector. There is a clear need for an operational mechanism where all these stakeholders can participate, have access and benefit from dissemination and KM services to enable up-scaling of the enhanced integration of NC&BD objectives in sector operations and landscape planning and operations. Furthermore, there is limited practical experience with partnerships and collaborative efforts between universities, NGOs, local communities and the private sector to stimulate investments for informal and formal research, and sustainable utilization of resources. Besides, at the local level, limited involvement and knowledge on policies and procedures among stakeholders have prevented their mutually beneficial engagement in research, the protection and utilization of NC biological resources. Particularly limited is practical experience at the local level in formulating partnerships between communities who are local stewards of biodiversity resources and institutions that are involved in investigating and identifying efforts that are guided by local operational procedures on a sustainable blue economy.

The current policy and institutional environment provide several hooks for conservation of coastal ecosystems, and consideration of NC and ES into different aspects of science, policy and practice at various levels; yet are rendered insufficient due to barriers discussed in section 2.3. The BluNatCap seeks to align with relevant initiatives of central and state governments to add value through complementary activities and create an enabling environment for successful project outcomes to be scaled through subsequent government policies and programmes. The government programmes that have been identified during the PPG phase with objectives compatible with the project and on which the project can build are detailed in Table 3.

Table 2: Baselines Programme

| Name of the baseline programme | Scope of the current programme | Opportunity for GEF-7 |
| --- | --- | --- |

| Name of the baseline programme | Scope of the current programme | Opportunity for GEF-7 |
|---|---|---|
| National Programme for Conservation of Aquatic Ecosystems (NPCA) | The NPCA has an objective of ?mainstreaming full range of biodiversity and ecosystem service values of wetlands in developmental planning?. Through this national programme, SGs and UTs can access central government support for implementing integrated management plans for priority wetlands. A four-pronged strategy for replication and upscaling wetlands rejuvenation has been developed based on experiences of implementation in 130 wetlands. The national programme also supports the implementation of India?s commitments under the Ramsar Convention for wetlands wise use and designation of sites to the List of Wetlands of International Importance. By designation of 49 wetlands to the Ramsar List, India has established the largest network of Ramsar Sites in South Asia. | The GEF-7 investment will support enhanced coverage of coastal wetlands, with due consideration of their NC, BD and ES values within the landscape. In particular, the project will support embedding wetlands conservation within district-level planning and programming, thus furthering the mainstreaming agenda at the lower rungs of administration. Through influencing public and private sector investments, using evidence generated from SEEA compliant NCA, the GEF-7 investment will be used to generate NC, BD and ES conservation financing strategies which are alternate to current high dependence on public finance sources. Application of NCA at the state level will enable systematic prioritization of wetlands, with due consideration of interdependencies with economic sectors such as fisheries, tourism, infrastructure development and others. In alignment with the National BE strategy, the GEF investment will support conservation of wetlands as nature-based solutions for addressing water-related and climate risks, such as increasing intensity of extreme events, and flood and drought moderation. |

| Name of the baseline programme | Scope of the current programme | Opportunity for GEF-7 |
|---|---|---|
| Integrated Development of Wildlife Habitats | Under this Centrally Sponsored Scheme, SGs and UTs receive financial resources for a) Support to Protected Areas (National Parks, Wildlife Sanctuaries, Conservation Reserves and Community Reserves); b) Protection of Wildlife outside Protected Areas; and c) Recovery programmes for saving critically endangered species and habitats. Activities supported under the scheme include a) Management planning and capacity building; b) Anti-poaching and infrastructure development; c) Restoration of habitats; and d) Ecodevelopment and community-oriented activities. All protected areas within the two project landscapes are covered under the programme. | The GEF -7 investment will be used to link conservation of upstream landscapes NC and ES flows, and biodiversity corridors with the maintenance of NC, BD and ES of the coastal ecosystems, as a part of the connected landscape plan. By strengthening the management of coastal landscapes of high ornithological value, the GEF investment will also directly contribute to the implementation of actions listed under the National Action Plan for Conservation of Migratory Species under Central Asian Flyway, and the National Wildlife Action Plan. |
| ENVIS ? ISBEID Programme | Established in 1982, the ENVIS is a plan scheme of MoEFCC to collect, collate and disseminate environmental data and information for decision-making at various levels. The scheme is being implemented through a network of 60 ENVIS Hubs and Resource Partners. The Indian State Level Basic Environmental Information Database (ISBEID) provides state level information on environmental information at the state level. After the XII plan period, the scope of ENVIS has been expanded to include NES-GRIDSS, which would provide grid-level environmental data sets at the district level. | The GEF-7 investment would be used to adapt NES-GRIDSS as an information hub for SEAA compliant NCA. The adapted NES-GRIDSS will also be used to include additional SDG indicators aligned with BE, so that the expanded indicator suite serves as a cue for national and state governments to take targeted action for the conservation of coastal ecosystem NC, BD and ES. |

| Name of the baseline programme | Scope of the current programme | Opportunity for GEF-7 |
|---|---|---|
| Green Skill Development Programme (GSDP) | Launched in 2018 by the MoEFCC, the GSDP aims to create skills within the current workforce for gainful employment from skillsets supporting ecosystem conservation and restoration of environmental quality for a sustainable future. As of date, 25 courses are on offer under the programme, implemented by a network of ENVIS partners and resource centres. The GSDP operates in line with the Skill India Mission, which was launched in 2015 to provide vocational training and certification to youth for better livelihoods and respect in society. | The GSDP is an important vehicle for creating soft skill sets amongst the current workforce for gainful employment in the conservation sector. The GEF-7 investment is proposed to be used for building capacity on NCA and application to conservation programmes, especially conservation of coastal ecosystems. |

| Name of the baseline programme | Scope of the current programme | Opportunity for GEF-7 |
|---|---|---|
| Government of Kerala State Scheme support to Environment and Climate Change Directorate ? scheme for State Wetlands Authority Kerala and Kerala Coastal Zone Management Authority<br><br>(Rs. 185 lakhs for the financial year 2021-22) | The Government of Kerala has constituted the State Wetlands Authority Kerala (SWAK) in 2017 as the statutory authority for implementing the task of policy development, regulatory frameworks, integrated management, planning, implementation of action plans, capacity building, research, networking, communication, awareness, creation and raising of funds for wetland management in the state. Vembanad-Kol is a priority wetland under the scheme for management planning, and in 2022, a revision of the existing management plan has been initiated with the technical support of Wetlands International South Asia and the Center for Water Resources Development and Management.<br><br>The Kerala Coastal Zone Management Authority is a regulatory organization of the Government of Kerala, mandated for enforcing the provisions of the Coastal Regulation Zone notification. In 2022, in order to support the implementation of Integrated Coastal Zone Management in the state, Kerala Center for Integrated Coastal Zone Management is proposed to be set up under the aegis of the Directorate of Environment and Climate Change. Implementation will involve promotion of Integrated Coastal Zone Management in Kerala including preparation of vision document coastal strategy, and development of accompanying institutional arrangements and good governance platform. | The GEF-7 investment will strengthen conservation of coastal ecosystems NC, BD and ES by enabling decision-making informed by SEEA-compliant NCA, and application of monitoring tools and processes. Specific focus on integrating NC, BD and ES values in district-level planning for sectors, so that externalities are addressed and internalized in planning and operations. |

| Name of the baseline programme | Scope of the current programme | Opportunity for GEF-7 |
|---|---|---|
| Rebuild Kerala Initiative | The Government established the Rebuild Kerala Initiative (RKI) to ?bring about a perceptible change in the lives and livelihoods of its citizens by adopting higher standards of infrastructure for recovery and reconstruction, and to build ecological and technical safeguards so that the restructured assets could better withstand floods in the future?. The RKI?s mandate is to develop, coordinate, facilitate and monitor the Rebuild Kerala Development Programme (RKDP) through a participatory and inclusive process. The RKDP encompasses cross-cutting and sector-based policy, regulatory and institutional actions as well as priority investment programs that are critical for resilient and sustainable recovery and rebuilding of the State. | The GEF-7 investment will strengthen consideration of NC, BD and ES interdependencies in the design and implementation of flood mitigation infrastructure development interventions, and also promote investment into conservation and wise use of wetlands as a nature-based solution. |
| Sagarmala Programme ? Port Development | Sagarmala has invested in the design of an all-weather multipurpose port development project at Gokarna within Aghanashini Estuary. The project has been delisted currently in absence of Forest Clearance to be submitted by Karnataka State Small Industries Development Corporation (KSSIDC). | GEF-7 investment shall bring to fore the ways in which investments such as Tadadi can create risks for NC, BD and ES and propose alternate pathways for infrastructure risk reduction. |

BluNatCap will ensure effective linkages with a range of GEF and non-GEF interventions to benefit from concepts, approaches and lessons relevant to mainstreaming NC values into planning and implementation for sustainable blue economic growth (Reference section 2.7 of the ProDoc).

The following ongoing GEF projects being implemented by the MoEFCC, bear high relevance for BluNatCap implementation:

GEF ID 10204 Transforming agricultural systems and strengthening local economies in high biodiversity areas of India through sustainable landscape management and public-private finance GEF-7 2019: The project aims at reducing land degradation and conserving biodiversity in agricultural landscapes in the states of Andhra Pradesh and Karnataka, by promoting sustainable agricultural

production, supply chains and public-private finance.  The project is relevant for building upon the agriculture sector NC based interdependencies, business risks and opportunities.

GEF ID 9148: Securing Livelihood in the Himalayas is a part of the ?Global Partnership on Wildlife Conservation and Crime Prevention for Sustainable Development? (Global Wildlife Program). The programme includes the valuation of select Himalayan landscapes. The landscape-scale valuation used in the project will be relevant for the BluNatCap.

GEF ID 5132 Integrated Management of Wetland Biodiversity and Ecosystems Services (IMWBES) (GEF-5 2013): The project supports the incorporation of wetland BD and ES values in management planning, and will complement the landscape scale plans being developed under the BluNatCap. The capacity building interventions under Component 2 of the project and inventory and assessment tools under Component 1 are synergistic with the NCA being developed under BluNatCap.

GEF ID 10213 Economic instruments and tools to support the conservation of biodiversity, the payment of ecosystem services and  sustainable development, Chile, UNDP. The project aims at improving national financing of biodiversity through the design, implementation and optimization of market-based economic instruments (IECB), that reinforce public financing and facilitate the economic contribution of the private sector to maintaining Chile?s natural capital. The tools and methodologies used in the project will be relevant for BluNatCap.

GEF ID 10552 Natural Capital Values of Coastal and Marine Ecosystems in Sri Lanka Integrated into Sustainable Development Planning, Sri Lanka, IUCN. The project aims at strengthening biodiversity mainstreaming in planning and decision making and improved resource targeting for biodiversity conservation using Natural Capital Assessment and Accounting and Management Effectiveness Tracking.  NCA and METT methodologies used in the project will be relevant for BluNatCap.

The BluNatCap project will additionally build on the results and experiences of the following non-GEF funded projects completed in the recent
past:

Natural Capital Accounting and Valuation of Ecosystem Services (NCAVES) - implemented by MoSPI with EU support, the project has focused on compiling ecosystem extent, ecosystem condition and ecosystem services account for selected ecosystem services. The NCAVES implementation, especially in the preparation of ecosystem accounts has brought to fore the following lessons relevant for BluNatCap: a) taking landscape as a unit for accounting with a focus on sub-national level wherein policies and programme implementation could be benefitted from implementation; b) using spatially continuous information, by making the best use of remote sensing and GIS analysis tools; c) application of adequate technical capacity for NC analyses and accounting preparation, and d) using a scenario approach to assess consequences of adopting alternate pathways.

MoEFCC and GIZ supported TEEB India Initiative - the project supported economic valuation and tradeoff assessments for 12 coastal and inland wetlands. The recommendations of the wetlands

synthesis summarized in Chapter 5 of the report ?Natural Capital of Wetlands[90][90]? enlist several steps that can be taken to integrate natural capital values in planning and decision making.

World Bank-supported Integrated Coastal Zone Management Project (Phase I), implemented in Gujarat, Odisha and West Bengal: led to the establishment of the National Center for Sustainable Coastal Management at Anna University, and knowledge products such as baseline mapping of sediment shell, shoreline change maps, and preparation of Integrated Coastal Zone Management Plans on a pilot basis. The project also included a synthesis of lessons learnt from the implementation of Integrated Coastal Zone Management, and a set of recommendations for furthering ICZM in support of Blue Economy: of which recommendations pertaining to the development and implementation of a governance model for sustainable coastal and marine resources management; leveraging public and private financing in support of ICZM, and framework for learning and adaptation bear direct relevance for BluNatCap.

Coastal and Marine Protected Areas Project of GIZ[91][91] ? supported by BMU, which has an established training programme and modules on coastal ecosystem management relevant for the BluNatCap

The following ongoing non-GEF projects bear complementarity with the BluNatCap:

Biofin India Project[92][92] - Implemented in India by MoEFCC with support of UNDP, the project in its first phase provided an assessment of biodiversity finance gap, strategies for improving cost-effectiveness through mainstreaming of biodiversity in national development and sectoral planning, and for developing resource mobilization strategies.  A key outcome of Phase I implementation has been the adoption of a Biodiversity Finance Plan to implement the NBAP in convergence with relevant national policies and missions. For enhancing public finance towards biodiversity conservation, about 116 schemes of 24 central ministries with relevance to biodiversity, have been mapped, with the Ministry of Agriculture emerging as an important stakeholder contributing to biodiversity finance. The ongoing extended Phase II of the project is engaging with the agriculture sector to implement recommendations of the first phase. The BluNatCap will build on the results of the BioFIN, especially the resource mapping methodology, and integrated it with the NES-GRIDSS system. The recommendation on EFT is also proposed to be implemented.

World Bank-supported Enhancing Coastal and Ocean Resource Efficiency Project: Building on the implementation of the World Bank-supported Integrated Coastal Zone Management Project, the ENCORE project aims at supporting states and Union Territories better manage their coastal zones and build their capacity in integrating scientific information in the decision-making process. It will help states prepare state-level Integrated Coastal Zone Management Plans; provide long-term support to the Government of India (GOI) in meeting national coastal and marine spatial planning needs; and develop and protect more intangible ?blue? resources such as carbon sequestration, coastal resilience, waste

management and coastal tourism in order to help vulnerable coasts to mitigate the effects of poverty and climate change. In Phase 1, the project shall cover eight coastal states (Andhra Pradesh, Gujarat, Goa, Karnataka, Kerala, Odisha, Tamil Nadu, and West Bengal) and three coastal Union Territories (Daman and Diu, Lakshadweep, and Puducherry). The project will build on the ICZM planning processes and other collaterals while preparing the landscape plans.

International Climate Initiative funded Wetlands Management for Biodiversity and Climate Protection Project - provides tools for ecosystem services assessment of wetlands for supporting management planning, and also assessing climate risks. These tools will be integrated into the scenario planning for the two landscapes. Wetlands International South Asia is a collaborator of the GIZ-India Biodiversity Programme on this project.

UNEP and EU-EcoDev funded ? Ecosystem-based Disaster Risk Reduction project. In its phase 2 (Wetlands International South Asia leading implementation in India), the project is developing different models for demonstrating large-scale implementation of Eco-DRR, which advance implementation of the Sendai Framework for Disaster Risk Reduction and the Sustainable Development Agenda.

TEEB for Agriculture and Food, EU (Foreign Policy Investment) (2019-2022): The project's purpose is to stimulate biodiversity conservation and ecosystem services flow in agricultural landscapes by demonstrating total costs and benefits, including the less visible and tangible ones. The project is taking place in seven counties, including India. TEEB has developed an Evaluation Framework that provides a comprehensive and universal approach to capture the positive and negative impacts and externalities across the entire agri-food value chain. The framework will be relevant for supporting the assessment of NC interdependencies in the agriculture sector in the two pilot landscapes.

World Bank: Wealth Accounting and Valuation of Ecosystem Services project: WAVES is a World Bank-led global partnership that aims to promote sustainable development by ensuring that natural resources are mainstreamed in development planning and national economic accounts. WAVES is now part of the broader World Bank umbrella initiative, the Global Program for Sustainability (GPS). Experiences of development of sector accounts such as agriculture and fisheries in WAVES partner countries and their integration BE will be highly relevant for the BluNatCap.

Green Climate Fund (GCF) funded and MoEFCC-UNDP implemented (2018-2025): Protecting and restoring the natural ecosystems of India?s coastal zone to strengthen the climate resilience of coastal communities. This project aims at strengthening the climate resilience of coastal communities by protecting and restoring India?s natural ecosystems such as mangroves and seagrass, which are essential for buffering against storm surges. The project also supports climate-adaptive livelihoods and value chains to increase the climate resilience of these coastal communities. The project is being implemented in 24 target ecosystems in 12 coastal districts across the states of Andhra Pradesh, Maharashtra, and Odisha

Global Mangrove Watch: The Global mangrove Watch (GMW) was established in 2011 under the Japan Aerospace Exploration Agency?s (JAXA) Kyoto & Carbon Initiative by Aberystwyth University, solo Earth Observation and the International Water Management Institute, with the aim to

provide open access geospatial information about mangrove extent and changes to the Ramsar Convention on Wetlands. In collaboration with Wetlands International and with support from DOB Ecology, the first GMW baseline maps were released in 2018 at the Ramsar COP13. The GMW maps also constitute the official mangrove datasets used by UNEP for reporting on Sustainable Development Goal 6.6.1 (change in the extent of water-related ecosystems over time). The BluNatCap, with due approval of the state governments and MoEFCC engage with GMW and develop a mechanism for information exchange on coastal ecosystems conservation and sustainable use.

3)    The proposed alternative scenario with a brief description of expected outcomes and components of the project

No significant changes have been made with respect to the proposed alternative scenario and overall project structure (Section 1.3 in PIF), however, the outcomes and expected outputs have been realigned and/or rephrased to ensure consistency which is presented in the table under 1.3 below. The detailed description of the outputs of each outcome is included in section 3.3. of the ProDoc.

The alternative scenario under GEF7 will see an enhanced integration of NC, BD and ES values in district levels BE plans, programmes, spatial planning processes and coastal sector operations. This will be achieved through three major intervention strategies a) building national system support for BE growth model incorporating NC values; b) demonstrating the integration of NC objectives in coastal landscape and sector planning and development; and c) capacity development and knowledge management support for national replication of NC accounting for BE growth in India.

With India making a strong push for BE led growth, it is critical that the interdependencies of BE sectors with coastal ecosystem NC, BD and ES are appropriately factored in sector plans, programmes and investments. NC accounts serve as an important compass to monitor the pressure that can be exerted by the economy on the environment by capturing the abstraction of natural resources and emissions, changes in ecosystem condition, and the ways in which the economy responds in terms of expenditure on conservation and management of critical natural resources. Due to its integrated approach, the SEEA is well-positioned to support India?s progress towards its development agendas as reflected in the National Indicator Framework (NIF) for SDGs, commitments under international conventions and agreements and national policies and programmes. The substantive progress made in ecosystem monitoring and experiences in preparing ecosystem accounts and valuation of ES provides a robust basis for developing an NCA system that can guide BE development towards sustainability pathways. The GEF incremental investment is therefore directed at building national system and capacities and policy agreements in support of NCA which can ultimately lead to mainstreaming of NC values into planning and implementation of SBE growth. The project provides a critical bridge to translate national and state-level policies and programmatic direction to district level BE operations within various conservation and development sectors.

A major part of the project will focus on demonstrating the integration of NC, BD and ES values in landscape and sector planning processes within two pilot landscapes (Aghanashini estuary and Vembanad-Kol landscapes), with a view that the results will provide a basis for influencing sector investments in tourism, fisheries and infrastructure developments and promote consideration of coastal

ecosystem as nature-based solutions for meeting developmental challenges, such as increased risks of floods and extreme events due to climate change. The project will also provide a basis for adapting NES-GRIDSS so that it becomes a data hub for various BE sector decision making as well as formulation of NC accounts. The partnerships and sector integration approaches and interventions will result in new models of financing conservation of coastal ecosystems beyond the predominant dependence on public sector funds. The focus on coastal wetlands will address one of the most rapidly degrading coastal ecosystems due to anthropogenic threats rooted in BE sector programmes which fail to account for the full range of NC, BD and ES values that these ecosystems provide.

The project?s intervention logic stems from the barriers and threats identified in the baseline analysis and the need to comprehensively mainstream NC values within coastal economic development and planning by addressing knowledge, institutional capacity, as well as resourcing inefficiencies and limitations. The project components reflect the need to understand the issues regarding the integration of NC values for BE growth in the national context; the importance to develop understanding, knowledge and NC-based systems at the district and landscape-scale as proof of concept; and the importance of providing the strategic frameworks and knowledge exchange programmes to facilitate future upscaling at a national context.

There is a clear need to understand the national institutional context, and how this is manifested at state, district and local levels within coastal landscapes, in order to develop institutional support for BE growth that integrates NC values. Understanding the practical challenges of integrating NC values within BE growth in coastal landscapes, and subsequently demonstrating approaches, methods and protocols to overcome these challenges, is essential to migrate from the hypothetical and theoretical to the pragmatic and realistic. Understanding the specific challenges within nine districts across two coastal landscapes will be essential to facilitate knowledge development and solution creation that is grounded in the reality of the Indian coastal zone. The development of NCA and adapted spatial plans, at both the district and landscape levels, provides the opportunity to develop focal demonstration sites. Through a strengthening of partnerships, a national NCA roadmap, and a robust community of practice and knowledge management system, capacity building will target the essential needs of specific audiences and organizations to ensure that upscaling beyond the two project landscapes can be achieved. The development of bespoke training programmes and integration within existing skill development programmes will deliver knowledge exchange based on the key lessons learned and will contribute significant progress towards targeted intellectual and practical knowledge exchange.

The project?s intervention logic recognizes the need to address barriers to developing and delivering on a BE growth path at the district through to the national level. Gaps in the limited knowledge of the diversity of NC values derived from coastal landscapes will be addressed through demonstration of these values through the development of a National Roadmap for SEEA-based NCA, policy analysis, updating of the national NES-GRIDSS, targeted strategies for specific development sectors, development of SDG indicators and the rollout of knowledge exchange and capacity building programmes. Information on the extent and condition of coastal wetlands, as well as demonstrating linkages among their ES and societal beneficiaries, will be critical to raising awareness and providing an opportunity to achieve joined-up planning and decision-making across sectoral interests. Understanding the institutional frameworks, relationships and support necessary to achieve the potential NC synergies will be critical to upscaling beyond the project sites and to achieve wider BE growth. Similarly, by working with existing frameworks and initiatives, such as improving the NES-GRIDSS to more fully integrate NC values or building on the outcomes of the NCAVES analysis, provides a robust foundation for acceptance and upscaling and will assist in the development of national protocols and indicators. Recognition of the knowledge and resource gaps in private and public institutions and organizations will be critical to developing targeted and successful capacity building and knowledge exchange programmes. The cooperation of targeted learning institutions will be vital for the development of bespoke training programmes and ensuring a sustainable future integration of NC values in BE planning and development.

The project is organized in the following three components:

Component 1: National systems support for BE growth model incorporating NC values

Component 2: Demonstrating integration of NC objectives in coastal landscape and sector scale planning and development

Component 3: Project Performance and Knowledge management support for National replication of NC accounting for BE growth in India

Components 1 and 3 will be developed and delivered at the national scale, whereas Component 2 will be explored and delivered at the scale of two landscapes: a) Vemaband-Kol landscape in Kerala and b) Aghanashini landscape in Karnataka.

**Component 1: National systems support for the blue economic growth model incorporating NC values**.

Currently, the integration of NC values into India?s national and state-level planning and operations is limited. Existing institutional structures and mechanisms do not fully embrace or support such integration. To incorporate NC values in Government and private sector planning and operation will require the development of institutional support across a range of governmental levels and within a variety of organizations. At a national level, the key targets are the integration of NC values within the existing SEEA-EA framework and the NES-GRIDSS. This will require the development of a roadmap and governance framework to set out the approach to integrating NC values within a SEEA-based SNA within the NES-GRIDSS. The roadmap and governance framework will clarify the mandates of institutions and stakeholders and enhance inter-agency coordination for NC accounting and valuation and build upon the draft NCA roadmap put in place as an outcome of national consultations under the NCAVES project of MoSPI. It is intended that the final roadmap is adopted by MoEFCC to provide a national approach to integrating NC values within a BE and providing more robust reporting on the SDG indicators.

*Outcome 1.1: A national roadmap and governance framework for SEEA based SNA within the NES-GRIDSS endorsed by strengthened government institutions*

This outcome will enhance the institutional capacity towards integrating NC values in government procedures and the SNA to support BE growth. A principal focus will be on partnership working with key institutions, including the Economic Division of MoEFCC, and MoSPI, through both the NSO and CSO. Partnership working will highlight institutional capacity issues and clarify governance mandates resulting in the development of a draft national roadmap that integrates NC values within SEEA. Through the ongoing development of robust partnerships, a national roadmap and governance framework for SEAA based SNA within the NES-GRIDSS will be developed, established and endorsed through formal notification by MoEFCC and MoSPI.

*Outcome targets*:

? A national roadmap for SEEA-based NCA and adaptation of NES-GRIDSS to serve as the underlying data-hub for district/project landscapes? NA
? Gender disaggregated SDG indicator suite for coastal ecosystems linked with NCA

**Output 1.1.1** Governance framework and roadmap established towards SEEA-based NC accounting and its integration into the System of National Accounts (SNA) and the NES-GRIDSS.

This output will be targeted at establishing an inter-agency NC accounting National Working Group (NWG) to consultatively develop a coherent and consistent national roadmap for NC accounting. This roadmap will guide the agreement and assist the development of methodology for upgrading and expanding the functionality of the national network of the NES-GRIDSS system in compliance with the SEEA framework? specifically catering for coastal NC and related BE sectors; as well as the integration of NC information into the System of National Accounts (SNA). The roadmap will also include a roadmap for the first phase implementation of the national framework for NC accounting including clarifying mandates and roles of participating agencies, as well as assessing options for financing implementation of the national roadmap for NC accounting.

Activities:

1.1.1A   Constitute an inter-agency NC accounting working group for the development of the national roadmap
1.1.1B   Commission a drafting team for the development of the national NCA roadmap
1.1.1C   Conduct NCA strategy write-shops for the drafting national NCA roadmap
1.1.1D   Organise stakeholder consultations for review and recommendations on draft NCA roadmap


Output Lead: LTSP in coordination with Economics Division of MoEFCC and MoSPI



**Output 1.1.2** Policy-analysis and agreement on a position paper on system design towards linking NC accounts and SEEA-based indicators with SDG Reporting available to decision-makers

Due to their integrated nature, ecosystem accounts prepared using the SEEA framework provide the underpinning information for several SGD indicators, enabling consistent use of definitions and concepts and allowing for harmonization of environmental data from multiple sources bringing coherence and consistencies across disparate statistics. The UN Statistical Commission has thereby recognized SEEA as a useful framework for measuring the SDGs related to the environment-economy nexus. Under the NCAVES project, a mapping of the SEEA framework with India?s SDG National Indicator Framework (NIF) indicated that 43 indicators were aligned with SEEA (39 fully aligned and 4 partially aligned). The project also demonstrated the application of SEEA accounts to estimate SGD indicator 15.1.1 (Forest area as a proportion of total land area), 6.6.1 (Change in the extent of water-related ecosystems over time), 15.3.1 (proportion of land that is degraded over a total land area), 11.3.1 (Ratio of land consumption rate to population growth rate).

Building on the implementation of NCAVES project, the BluNatCap will include policy analysis and preparation of a position paper on system design linking SEEA based NC accounts with SDG reporting. The policy paper will be finalized on the basis of a multi-institutional and consultative stakeholder review. The analysis will include recommending a SGD indicators suite (from the NIF) that can be computed on the basis of SEEA based NC accounts. A subset of these indicators linked with BE will be computed and made available to MoEFCC, MoSPI and NITI Aayog for review and adoption. An important component of indicator suite development will be building gender-disaggregated datasets and indicators. Arrangements will also be secured with an ENVIS node to ensure that these indicators continue to be estimated and published on a long-term basis in the states of Kerala and Karnataka.

Activities

1.1.2A   Constitute a multi-institutional working group for drafting policy analysis and position paper

1.1.2B   Prepare draft policy analysis and position paper on system design linking SEEA based NC accounts with SDG reporting

1.1.2C   Conduct a stakeholder consultation for review and recommendations towards the finalisation of the policy analysis and position paper.

1.1.2D   Develop a suite of SDG indicators linked with NC accounts and relevant to Blue Economy

1.1.2E   Prepare a draft of thematic coastal ecosystems SDG report incorporating results from activity 1.1.2 D

1.1.2F   Conduct a stakeholder review of draft coastal SDG report  for recommendations to be incorporated

1.1.2G   Finalise and publish the coastal SDG report incorporating SDG indicators suite linked with NC accounts

Output Lead: LTSP


Partners involved: Knowledge partners (National)*Outcome 1.2: Nine coastal districts integrate NC-based principles and targets of a sustainable  growth path in sector related budgets, fiscal measures and programming indicators*

This outcome will investigate and evaluate the NES-GRIDSS within the context of the two coastal landscapes and adapt it to enable planning, investment and budgeting for BE growth in coastal districts across India through NC-based assessments and valuation of coastal wetlands? ES. A draft national data framework for adapting NES-GRIDSS, which assesses and describes the data requirements, availability, acquisition and analysis, would be produced and pilot tested in the two project coastal landscapes. Following the pilot testing, the revised NES-GRIDSS framework would be reviewed, adapted and made available to influence and target NC analysis, planning and investment within a national context.

Despite a significant improvement in the understanding and awareness of the NC and ES within and from the coastal ecosystem, there remains a systematic failure to recognize and comprehensively integrate these values in planning and decision-making. This outcome will pursue a realignment of cross-sectoral issues, such as infrastructure design, improved flood risk management or water supply, to maintain ecosystem functions and health including BD and mitigate against unnecessary impacts to important wetland systems. Gender dimensions will also be taken into account while assessing business risks related with NC, BD and ES and include appropriate risk reduction measures. The project will, working in partnership with NITI Aayog, the National Coastal Mission of the MoEFCC and state wetland authorities (partnership to be firmed up during project inception) also support development of a draft EFT framework linked with coastal wetlands for possible application and devolution of funds for wetlands conservation from central pool of resources as well as enhancing development convergence. The EFT framework may include scoping up funding from central pool of resources such as CAMPA or even propose new models of financing for wetlands conservation, moving away from the current practice of complete dependence on central government schemes.

*Outcome targets*:

?      NC based assessments and valuation of coastal wetlands BD and ES generated through adapted NES-GRIDSS in nine Districts

?      Increased recognition of NC based interdependencies, business risks and opportunities for BE development through sector roundtables in at least nine Districts

?      Increase in NC-supportive budgets by 20% in nine coastal Districts

?      Availability of indicators for monitoring BE growth formalized through agreements with ENVIS


**Output 1.2.1** National NES-GRIDSS system adapted to SEEA- EA for NC -analysis, planning and investments

The BluNatCap will provide technical advisory services and institutional support to modify and expand the NES-GRIDSS system to meet the SEEA-Experimental Ecosystem Accounting framework and to enable its data systems, mapping and analytical modules to conduct (spatial & economic) scenario analysis. The adaptation will take into account the results of pilots conducted under ENVIS in Karnataka to produce SEEA compliant accounts for agriculture and forestry. The adapted NES-GRIDSS will be used to support landscape planning in the two pilot landscapes (Component 2, output 2.1.2), form an integral part of the national NCA strategy (Component 1 Output 1.1.1), produce NC Accounts (Component 2, Output 2.2.1), and as input to capacity-building efforts under component 3 (Output 3.2.1 and 3.2.2)

Activities:
1.2.1A   Prepare a data framework for SEEA adapted NES-GRIDSS describing data requirement, data acquisition and data analysis mechanism
1.2.1B   Conduct a methods workshop for reviewing and revising the framework for SEEA an adapted NES-GRIDSS
1.2.1C   Pilot test the application of SEEA adapted NES-GRIDSS in 2 districts for NC analysis, planning and investments
1.2.1D   Review and adapt the data framework incorporating pilot testing outcomes
1.2.1E   Publish the final data framework for SEEA adapted NES-GRIDSS to make it available for NC analysis, planning and investments
1.2.1F   Organise workshops for the active dissemination of the framework among the relevant stakeholders


Output Lead: ENVIS with support of LTSP and Consultants

Partners involved: Knowledge partners (National) and ENVIS centres

**Output 1.2.2** Tourism, fisheries and infrastructure sector review report on NC-based interdependencies, business risks and opportunities for Blue Economy development endorsed by relevant national and state decision-makers through sector roundtables ? in nine coastal districts

BluNatCap shall support sector roundtables with the public, corporate and finance representatives of the three targeted BE sectors (tourism, fisheries and infrastructure) at the state or district level to discuss and agree on the outcomes of NC assessment and valuation studies regarding inter-dependencies and NC-based business risks including specifically, highlighting the adverse environmental implications and potential consequences of policy failures in; but also importantly identifying opportunities to move towards SBE in the targeted landscapes ( component 2). The sector analysis will look into the risks as well as opportunities related to COVID19, especially how the integration of NC in sector planning, investments and operations can contribute to a green recovery approach in the project landscapes. The sector roundtables will include assessment of the feasibility of NC-aligned market-based instruments, credit-seed funding & loan facilities, and explore partnerships for financing these instruments towards the realization of SBE. The sector analysis will result in a sector strategy report to demonstrate the cross-sectoral interdependencies and how alignment to achieve BE growth can be delivered at the district level and in involvement with the public as well as the

private sector. Sector analysis will also take into account gender dimensions while assessing business risks related to NC, BD and ES and include appropriate risk reduction measures.

Activities:

1.2.2A   Prepare draft sector reports for tourism, infrastructure and  fisheries identifying NC based interdependencies, business risks and opportunities

1.2.2B    Organise sector round table meeting to discuss and agree on the outcomes of NC assessment

1.2.2C    Make available the draft sector strategy paper after incorporating the recommendations of representatives of the three BE sectors for the review

1.2.2D   Conduct a stakeholder review workshop for recommendations from all relevant stakeholders

1.2.2F    Finalise the sector strategy paper for tourism, infrastructure and fisheries for dissemination

1.2.2G   Organise a workshop for the dissemination of the sector strategy paper

1.2.2H   Support the district level decision-makers for the formulation of district Blue Economy Strategy through handholding workshops

Output Lead: LTSP and SWAs

Partners involved: Knowledge partners (National) and ENVIS centres

**Output 1.2.3** New NC-supportive budget, fiscal measures and indicators agreed for the development and monitoring of Blue Economy growth in the nine coastal districts, enabled through adapted NES-GRIDSS system and results of BioFIN.

This output will be focused on identifying State and District-level government budgeting and fiscal measure in support of a BE Growth path through maintaining, restoring and protecting NC. The work done under BioFIN Phase 1 will be an important input to this work. Under the Biodiversity Finance Plan, four solutions namely, corporate social responsibility, mainstreaming biodiversity in public programmes and schemes, access and benefit-sharing, and FinTech for biodiversity conservation have been prioritized for implementation. A mapping of these instruments with their ability to support NC and enable development and monitoring of BE growth will be carried out.. The project will apply a select set of budgeting and fiscal measures in the two pilot landscapes with an objective of enhancing green budgets.

This output will also include capacity development towards enhanced government support for green budget allocations, a key intervention being providing support to establishment of a high level forum on green investment for sustainable BE.

A draft Ecological Fiscal Transfer (EFT) framework will be developed to enhance availability of resources for conservation of coastal wetlands. This framework will be co-developed by the MoEFCC within the framework of National Coastal Mission, working with NITI Aayog and the Ministry of Finance for future application at the national level through the devolution of funds from central sources. BluNatCap shall also support the integration and application of select fiscal measures in the two target landscapes (Component 2).

Additionally, the analysis will be conducted towards recommending a set of indicators that can enable monitoring BE growth. These indicators will be subsequently applied in the nine districts of the pilot

landscapes as a part of landscape plans (Output 2.1.3). Arrangements will also be secured with ENVIS nodes in the two landscapes to ensure that these indicators continue to be estimated and published on a long term basis. The development of NC-supportive indicators, monitoring protocols, budgets, and fiscal measures will demonstrate at the district level (linked with component 2) a comprehensive approach to tackling the biodiversity finance gaps identified under the BioFIN project and the potential for application at a national level.

Furthermore, the expanded SEEA-based functionality of the NES-GRIDSS (Output 1.2.1), including NC-specific indicators will be used for performance monitoring of Green Growth in the nine districts of the two demonstration landscapes linked with landscape planning (Output 2.1.3). The results from this output will feed into capacity development interventions planned under component 3(Output 3.2.1 and 3.2.2).

Activities

1.2.3A   Develop a draft suite of indicators for monitoring Blue Economy growth at the district level

1.2.3B   Roll out the draft suite of indicators in 9 coastal districts

1.2.3C   Support the human and technical capacity within identified ENVIS nodes for populating indicators for continuous application and reporting on NC indicators

1.2.3D   Prepare a synthesis report incorporating indicators, data acquisition and analysis mechanism and institutional embedding proposals

1.2.3E   Organise a workshop for the dissemination of synthesis report on the application of NC indicators for development and monitoring of BE growth

1.2.3F   Convene a round table meeting with MoEFCC, Ministry of Finance, NITI Aayog, NCSCM and other relevant institutions on establishment of a high level forum on green investments for sustainable BE

1.2.3G   Prepare a draft blueprint for green investments for sustainable BE based on outcomes of round table meeting (1.2.3F) and follow-up consultations with concerned central government ministries and knowledge partners

1.2.3H   Prepare a draft EFT framework for coastal wetlands (as a part of draft blueprint for green investments) in consultation with MoEFCC, Ministry of Finance, NITI Aayog, NCSCM and other relevant institutions for possible application in the devolution of funds from the central pool of resources and within the overall framework of NPCA. The EFT framework will incorporate SEAA based NC indicators (developed at 1.2.3D)

1.2.3I   Piloting application of EFT in atleast two districts

1.2.3J   Capturing lessons from EFT piloting for updation of the green investment blueprint


Output Lead: MoEFCC with support of Ministry of Finance, NITI Aayog and NCSCM

Partners involved: State Wetland Authorities, Knowledge Partners

**Component 2: Demonstrating integration of NC objectives in coastal landscape and sector scale planning and development**.

This component will focus on the two coastal landscapes in Karnataka and Kerala states to develop outcomes and outputs that can be used to demonstrate approaches to the integration of NC values into a BE growth path through both governments as well as corporate sector partnerships. The objective will be to develop layers of understanding regarding the challenges and obstacles to incorporating NC values into coastal landscape planning, investment and operation and to define and develop accounting and reporting systems and protocols that will enable future SEEA and NC compliant decision-making to be realized. An essential element to the demonstration of the integration of NC values will be the engagement with key stakeholders from the government and private sectors and the delivery of plans, protocols and partnerships that can act as demonstrable templates for scaling up and wider uptake.

***Outcome 2.1: Enhanced incorporation of the values of NC including BD and ES in two target coastal landscape planning and implementation by government institutions and key stakeholders which trigger investment aligned with NC***

The coastal landscapes of the Aghanashini Estuary and Vembanad-Kol extend over more than half a million hectares and incorporate nine Districts. Numerous public, private and civil society organizations represent both stakeholders with an interest in NC values and knowledge holders with regards to the different NC values. Currently, there are limitations to the consideration of NC values in development and investment planning within the two target coastal landscapes. The Vembanad Kol wetlands do not have an integrated management planning framework that integrates ES, BD and economic growth sector interdependencies. Similarly, whilst some initiatives exist such as the draft coastal regulation zone plan, the consideration of NC values and landscape-scale interactions lacks integration within the planning, development and management of the Aghanashini landscape. Under the alternative scenario, the recognition of landscape with sectors? interdependencies and their embedding in coastal landscape plans will address these shortcomings in order to trigger a demonstrable uplift in NC-aligned investment at the two target coastal landscapes.

To deliver on the uplift in NC-aligned investment, the component will use the adapted NES-GRIDSS which will be used to produce NC accounts for the two coastal landscapes which will demonstrate how NC values can be integrated into district-level plans and programmes. The outcome will also include the development of SEEA-EA compliant NC accounts for wetlands for the states of Karnataka and Kerala using the following steps: a) ecosystem extent accounts- using land use and land cover information on the different ecosystem types within the landscape and change with respect to an agreed baseline year; b)ecosystem condition account- measuring the quality of each ecosystem asset using a set of indicators depicting the state or functioning of the ecosystem and its potential to supply ES; c) ecosystem services accounts- measuring the supply of ES as well as their corresponding users and beneficiaries (with specific focus gender and social inclusion dimensions); d) monetary asset account- recording the monetary value of opening and closing stocks of all ecosystem assets within the two landscapes and additions and reductions to these stocks. These NC accounts will assist and inform decision-making and prioritization of actions for the wise use of NC, BD and ES in wetland ecosystems across the two states. Wetland management plans for the two landscapes would be reviewed, updated and approved by the SWA and MoEFCC to embed SEEA-compliant NC information in management activities at a site level. It is expected that the enhanced understanding of BD, ES and NC values will result in necessary updates to information on existing wetlands designated as sites of international importance and the proposal for the designation of a new Ramsar site.

Through an integration of NC accounts developed for the nine districts and the modifications to the NES-GRIDSS, landscape spatial plans will be developed for the two project areas which comprehensively integrate NC, BD and ES values with development objectives, threat reduction strategies and the long-term sustainable development of a BE. The landscape plans will also use a scenario-based approach, including factoring in climate risks to assess the impacts of development on NC, BD and ES. Scenario development will also incorporate planned sector investments in the two landscapes (identified in section 2.1 of ProDoc and section 1 of CEO-ER) with the representatives of the respective departments and agencies involved in scenario planning workshops. Methodology development will also consider application of tools such as InVEST (developed under NatCap project ) and linkages with relevant projects listed at section 2.7 of ProDoc. Through further round tables and

stakeholder engagement, the landscape-scale plans will be used to ensure alignment of the plans at the district level, as well as support the development of public-private partnerships to trigger green investments which can secure NC, BD and ES.

*Outcome targets*:

? SEAA-compliant NCA, including stocks and flows of NC, physical and monetary accounts, developed for two coastal landscapes housed with the State Wetlands Authorities of Kerala and Karnataka.

? Two coastal landscape plans - spanning 0.56 million ha, integrating NC values and development objectives, with a specific focus on flood mitigation using nature-based solutions in one landscape, and climate change scenarios developed as a guide to district-level BE planning and investments.

? District plans enhanced in nine coastal Districts through embedding agreed actions from the two landscape plans regarding both public and private BE sectors as a basis for investments to secure current and future NC, BD and ES values.

? At least nine District Environment Plans to include and consider wetland ecosystems and their values.

? Management plan implementation of Vembanad and Aghanashini Estuary integrates NC capital interdependencies with sectoral development and identifies measures for influencing sectoral investment plans.

? In two states, public investments into conserving coastal wetlands NC, BD and ES increase by 20% above the baseline level

? An integrated monitoring system for wetland NC, BD and ES is established and linked with NES-GRIDSS.

? In eight public and private sector projects, plans and investments are modified to mitigate the impact of NC externalities.

? At least two corporate partners incorporate NC information into corporate funding protocols and processes.

? Corporate ?blue? investments benefitting wetland NC is increased by at least 25% above baseline.

**Output 2.1.1** NES-GRIDSS for nine Districts for two coastal landscapes spanning 0.56 million ha made SEEA - compliant

Work under this output will build upon the adaptation of NES-GRIDSS to SEEA-EEA for NC analysis, planning and investments done under component 1 (Output 1.2.1). The SEEA-adapted NES-GRIDSS will be populated with data for nine districts (2 in Aghanashini Estuary and 7 in Vembanad-Kol

landscape) by the ENVIS Resource Partners (RP). These populated data hubs will be used to generate landscape-scale NC accounts using the following steps: a) ecosystem extent accounts- using land use and land cover information on the different ecosystem types within the landscape and change with respect to an agreed baseline year; b)ecosystem condition account- measuring the quality of each ecosystem asset using a set of indicators depicting the state or functioning of the ecosystem and its potential to supply ES; c) ecosystem services accounts- measuring the supply of ES as well as their corresponding users and beneficiaries (with specific focus gender and social inclusion dimensions); d) monetary asset account- recording the monetary value of opening and closing stocks of all ecosystem assets within the two landscapes and additions and reductions to these stocks. The draft NC accounts will be presented to the landscape stakeholders for review and consideration of implications of NC, BD and ES change on BE sectors.

Activities:

2.1.1A    Compile data required to generate NCA in adapted NES-GRIDSS (capacity development on development and use of NCA under Component 3, Output 3.1.1. and 3.1.2)

2.1.1B    Prepare draft NC accounts for 2 coastal landscapes to enable integration of NC, BD and ES values in district level plans and programmes

2.1.1C    Conduct workshops and consultation to incorporate reviews and recommendations to finalise the NC accounts


*Output Lead*: SIU and LTSP

*Partners involved*: ENVIS centres and Knowledge Partners

**Output 2.1.2** Preparation of SEEA compliant wetlands NC account using NES-GRIDSS for two states and capacity established towards development of Blue Economy Strategies incorporating NC and BD aspects

Implementation of this output will entail application of SEEA-EA to wetlands for Karnataka and Kerala states. The broad steps to be used for accounting will include a) wetlands extent accounts- in terms of area; b) wetlands condition account- capturing the condition of the wetlands through indicators (such as those used in wetlands health cards) and describing the functioning of wetlands in terms of its naturalness as well as potential to supply ES; c) ecosystem services accounts- measuring the supply of ES as well as their corresponding users and beneficiaries classified by broad national accounting categories or other economic units; d) monetary asset account- recording the opening and closing account for all ES within the state and additions and reductions related to these stocks. The data for preparing wetlands NC accounts will be derived from adapted NES-GRIDSS (Output 2.1.1). The draft wetlands NC accounts will be presented to the SWAs for their feedback and also incorporation into policies and plans (for example, prioritization of wetlands for management interventions, identification for BE sector convergence opportunities and others). Process documentation of preparation of wetlands NC accounts will also be done as a part of this output to enable replication in other states through NPCA or other government schemes and programmes. The work will build on the outcomes of NCA and analysis done under NCAVES project.

This output will also support the Ramsar site designation process for Aghanashini Estuary and any other wetland identified for Ramsar site designation in the two states. In doing this the project will actively collaborate with IMWBES. The project will also provide for the updation of wetland management plans (building linkages with landscape plans developed under Output 2.1.3), especially incorporation of wetlands NC, BD and ES values and identification of BE sector convergence opportunities.

Activities:

2.1.2A    Draft a framework for wetlands NC accounts in the two states to support prioritization of actions for conservation of NC, BD and ES

2.1.2B    Populate NES-GRIDSS to be used for preparation of SEEA compliant wetlands NC accounts

2.1.2C    Support to preparation of wetlands health cards as an input to ecosystem extent and condition accounts

2.1.2D    Prepare draft wetlands NC accounts using NES-GRIDSS for 2 states

2.1.2E    Organise stakeholder consultations for review and consideration on draft wetlands NC accounts

2.1.2F    Publish the final wetlands NC accounts incorporating recommendations from stakeholders

2.1.2G    Update wetland management plans embedding SEEA compliant wetlands NC account

2.1.2H    Review of wetland management plans by SWAs and approval by the MoEFCC for implementation

2.1.2I    Provide support to SWA in the process of designation of wetlands as Ramsar sites as well as in the updation of RIS of existing coastal Ramsar sites

*Output Lead*: LTSP in coordination MoEFCC, MoSPI and SWA

*Partners involved*: Knowledge Partners such as Centre for Ecological Sciences, Indian Institute of Science (IISC) for Technical Assistance

**Output 2.1.3** Two landscape spatial plans developed - targeting 2 coastal-landscapes spanning 0.56 million by integrating NC values and development objectives (with specific focus on flood mitigation in at least one landscape); threat reduction and sustainable development opportunities identified, in support of the Blue Economy

BluNatCap will deliver two landscape spatial plans for Vembanad-Kol and Aghanashini estuary landscapes aimed at securing NC, BD and ES values while providing for SBE development opportunities. Within the second semester of year-1, the project shall commission a detailed methodology for landscape planning incorporating NC, BD and ES values and internalizing NCA (developed as Output 2.1.2) which will be firmed up by organizing a roundtable with organisations and subject matter experts. Methodology development will also consider application of tools such as InVEST (developed under NatCap project[93][93]) and linkages with relevant projects listed at section 2.7.A detailed work breakdown structure for this output will also be developed at this stage.

The first step will involve landscape social-ecological system characterization in terms of specific layers developed using NES-GRIDSS. A preliminary listing of the landscape social-ecological system layers, indicators and data sources is presented in Table 5 below.

Table 6: The landscape social-ecological system layers, indicators and data sources

| Layer | Indicator | Data-source |
|---|---|---|
| **Land use and Land Cover** | Land use and land cover types (glacier / snow cover, forests, agriculture, fallow, wetlands, built-up areas, linear infrastructure areas) | Sentinel Satellite Images (2020-21) <br><br> LULC maps |
| **Physical** | Soil types / Rocks | Geological Survey of India |
| | Drainage patterns | Digital Elevation Model |
| | Slope | Digital Elevation Model |
| | Soil-erodibility | LULC maps and GIS modeling |
| | Climate patterns | NASA Power satellite based grided climate data |
| **Ecological** | Species richness/occupancy patterns | Literature, People Biodiversity Register, GBIF, eBird, India Biodiversity Portal |
| | Occupancy patterns of species of high conservation value | Literature, People Biodiversity Register, GBIF, eBird, India Biodiversity Portal |
| | Migration corridors | Literature, People Biodiversity Register, GBIF, eBird, India Biodiversity Portal |
| **Socio-economic** | Demographic indicators | Census data 2011 |
| | Access to social infrastructure (Education, WASH, DRR and others) | District Disaster Management Plan, Rural Development Plan, Literature |
| | Access to economic infrastructure (roads, markets, banking, and others) | District government records <br><br> Key stakeholder interviews |
| | Social networks (related to BD & ES) | |
| | Local and indigenous knowledge systems related to BD & ES | Key stakeholder interviews |
| | Landscape units of cultural and religious significance | Key stakeholder interviews <br><br> Literature |
| **Institutions** | Sectoral planning (spatial coverage and implementation density) <br> Jurisdiction of formal rules and regulation <br> Jurisdiction of informal rules and regulation | Departmental Annual Plans <br> Major departmental projects <br> State Policies and Regulations |

The next step seeks to assess the status and trend of ES in the landscape, with the purpose of identifying (direct and indirect) drivers of adverse change. The sectors and their governance arrangements related to these drivers would be of interest in the subsequent parts of the project, wherein policy synergies and trade-offs are assessed.

The landscape status and trends would be assessed using land use and landcover as a proxy. Two scenarios are proposed a) **Business - as - usual (BAU)-**This scenario would assume a continuation of current land and water use management systems and b) **Climate impacted-** Climate Change-based modelling will be used to understand how interactions between the landscape, changing climatic patterns as well as governance regimes lead to different LULC patterns.

Scenario development will also incorporate planned sector investments in the two landscapes (identified in section 2.1) with the representatives of the respective departments and agencies involved in scenario planning workshops.

Further, an ecosystem services potential scaling matrix will be generated. A spatial localization approach for considering the potential of different landscape units to deliver ES will be followed[94][94]. In this step, the land use and land cover maps prepared for the landscape in previous steps will be used. The LULC map will be converted into spatial polygons in ESRI ArcMap polygon shapefile format. This makes the landscape units spatially explicit, enabling joining the spatial data with ecosystem services valuation matrices in related attribute tables. Based on the ecosystem services lists, provided by de Groot (2006)[95][95], MEA (2005)[96][96] and Constanza et al., (1997) and the list of ecological integrity components described by Muller and Burkhard (2007), a general set of ecosystem services will be derived. The ecosystem services scaling will also take a gendered perspective to take into account the differences gender relationships bear with ecosystem services.

A generic listing of ecosystem services and their potential indicators for their quantification is presented in Table 7.

Table 7: List of Ecosystem services with definitions and potential indicators

| Ecosystem service | Definition | Potential indicators | Data source |
|---|---|---|---|
| **Ecosystem integrity** | | | |
| Landscape Heterogeneity | Provision for suitable habitat for different species | Number/area of habitats | Land use land cover maps |
| Biodiversity | Presence or absence of species, functional groups of species, or species composition | Representative indicator species | Biodiversity registers/ surveys |
| Provisioning services | | | |
| Fodder | Cultivation and harvest of fodder plants | Biomass/ha | Field study or secondary data |
| Medicinal plants | Harvest | Plant biomass/ha | Field study or secondary data |
| Freshwater | Presence of freshwater | L/m3 per ha | Modelling |
| **Regulating services** | | | |
| Global climate regulation | Landscapes play an important role in climate by either sequestering or emitting GHGs | Source-sink of GHGs | Field study or Secondary data and Modelling |
| Flood protection | Natural elements dampening extreme flood events | No. of floods causing damages | Secondary data |
| Groundwater recharge | Timing and magnitude of runoff, flooding and aquifer recharge can be strongly influenced by land cover, including in particular, alterations that change the water storage potential of the system | Groundwater recharge rates | Secondary data/modelling |
| Nutrient Regulation | The capacity of ecosystems to carry out cycling of nutrients such as Nitrogen and Phosphorus | N and P turnover rates | Field study or secondary sources |
| Erosion regulation | Vegetation cover plays an important role in soil retention and prevention of landslides | Vegetation cover | Remote sensing based LULC maps |
| **Cultural services** | | | |
| Recreation and aesthetic values | Refers especially to landscape and visual qualities | No. of visitors or facilities | Secondary data from concerned departments |
| Intrinsic value of biodiversity | Value of nature and species themselves, beyond economic and/ or human benefits | Number of endangered, protected, rare species or habitats | Secondary information from Government departments (Wildlife and/or Forest Department) |

To assess the different LULC types capacities to provide ecosystem services, a matrix will be created. On the y-axis of this matrix, the different LULC types will be placed whereas on the x-axis, the selected ecosystem services are placed. At the intersections different land use land cover types? capacities to provide the individual service will be assessed on a scale consisting of:

0 = no relevant capacity, 1 = low relevant capacity, 2 = relevant capacity, 3 = medium relevant capacity, 4 = relevant capacity and 5 = very high relevant capacity.

The initial assignments of capacities will be based on expert and stakeholder consultations and these will be tested in further pilot sites with data from measurements, modelling or additional expert consultations. The matrix would highlight the areas/ecosystems within the landscape of high capacities to provide broad range of ecosystems and will also reveal higher capacities in the near-natural areas of the landscape which can further provide support to ecological integrity.

The ecosystem services matrix developed in previous step will be coupled with GIS to provide a spatial display of ES distribution in maps. Maps of the landscape capacities will provide ES with aid in identifying potentials, possible conflicts and limits in environmental management.

? Using a combination of qualitative and quantitative data obtained (either through field visits, secondary literature and/or expert consultations) on the selected indicators for each ES identified, specific ES will be modelled in GIS environment following Schroter et al., (2014) and Schirpke et al., (2013)

? Landscape pattern, vegetation distribution and topographic characteristics will be mapped using 10 m X 10 m resolution data

? Different GIS-based modelling approaches will be used for each service, for example, flood mitigation potential within the landscape will be analysed using following steps:

- o Developing flood zone maps of the landscape using rainfall-runoff information and DEM models

- o Developing metrics of flood mitigation potential for each landuse land cover type and correlating with flood inundation

- o Determining change in flood inundation in alternate landuse and landcover change scenario

? Finally, a multiple ecosystem services map will be obtained for the landscape by the sum of all ecosystem services using 0-100 scaled values.

? Impacts of land-use change will also be visualized by creating map of ecosystem service change with respect to to the base year.

? To understand trade-offs and synergies between different ecosystem services, a principal component analysis (PCA) will be performed in ArcGIS for past and future scenarios.

o Ecosystem service maps of services evaluated will be used as input raster layers

o Eigen vectors, eigen values, a covariance matrix and a correlation matrix will be calculated and maps of the components will be generated to analyse the differences across time, among different land use/cover categories and future scenarios on a landscape scale.

In the next step, the dependence of BE sectors (public as well as private) on landscape NC, BD and ES will be evaluated. All economic sectors depend on NC, BD and ES; however, the degree of dependence varies. Specific steps for evaluation include:

? Enlisting direct and indirect stakeholders for each of the ecosystem services identified.

? Enlisting public sector schemes (building on the schemes identified in section 2.1) that depend on BDES of the landscape, and / or impact the BDES positively / adversely

? Enlisting private sectors that depend on NC, BD and ES of the landscape, and / or impact the NC, BD and ES positively / adversely

? Assessing the degree of recognition of ES and landscape feature dependence by public and private sectors (through interviews and surveys)

? Developing an ES-land use- sector interaction matrix as indicated in Figure 2 The assessment of synergies will be based on the evaluation of whether the particular public sector programme (scheme) or private sector production process or services offered tend to adversely impact ES (bundles) or landscape.
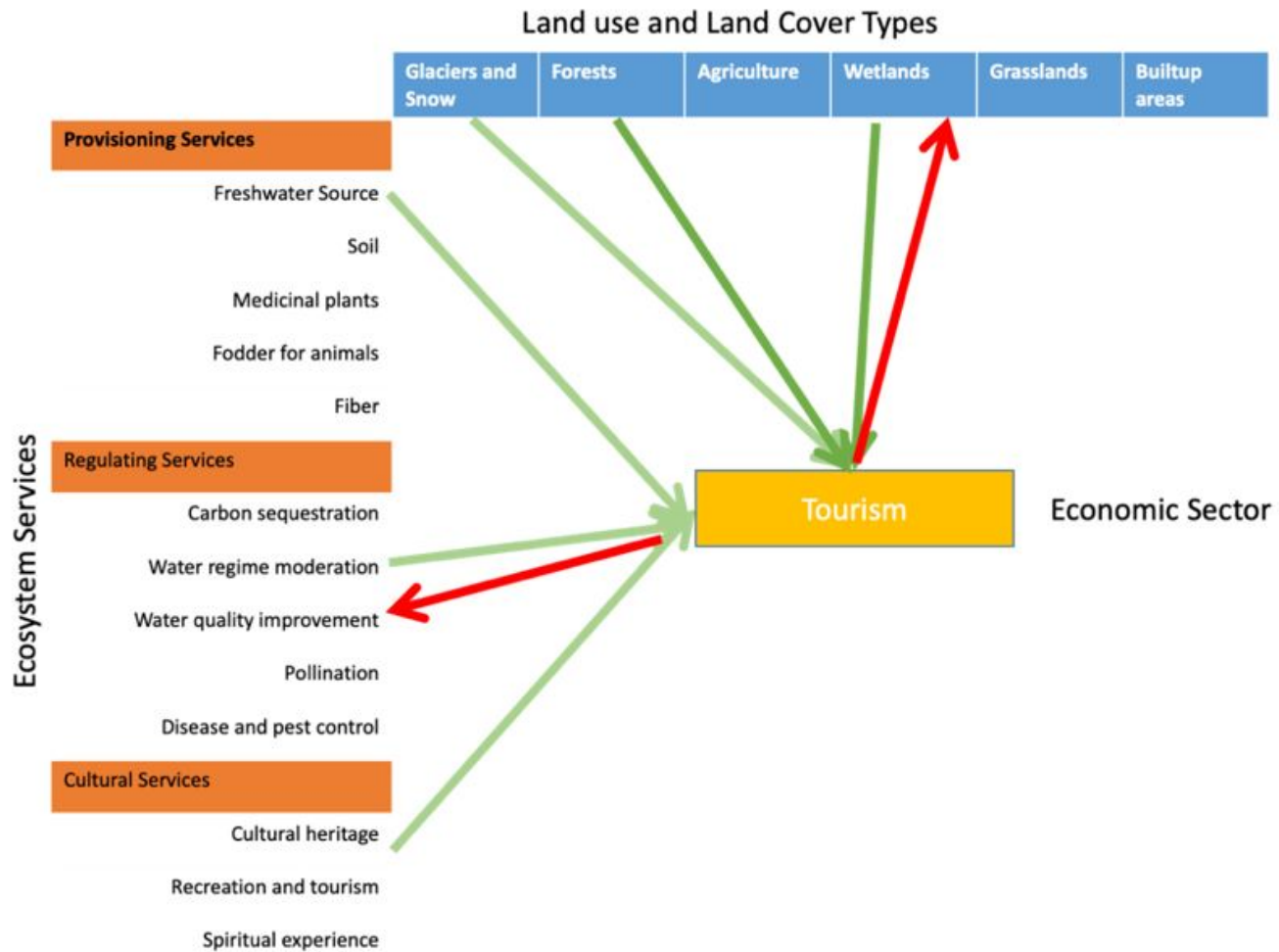
## Land use and Land Cover Types

| Glaciers and Snow | Forests | Agriculture | Wetlands | Grasslands | Builtup areas |
|---|---|---|---|---|---|

**Ecosystem Services**

**Provisioning Services**

Freshwater Source

Soil

Medicinal plants

Fodder for animals

Fiber

**Regulating Services**

Carbon sequestration

Water regime moderation

Water quality improvement

Pollination

Disease and pest control

**Cultural Services**

Cultural heritage

Recreation and tourism

Spiritual experience

**Tourism**  —  **Economic Sector**

The evaluation will be finally compiled in a form of a landscape plan which will specify the overall goal and purpose of conservation, the ecosystem as well as sector related objectives and outcomes and specific actions needed to achieve SBE. In atleast one of the landscapes, flood buffering through the blending of natural capital and physical infrastructure solutions will be targeted. Training workshops to support integration of NC, BD and ES values in district level sector planning (such as environment, rural development, fisheries, disaster management and others) will also be conducted.

Activities:

2.1.3A    Develop draft landscape plans for two coastal districts integrating NC, BD and ES values incorporating development objectives, threat reduction and sustainable development opportunities for Blue Economy (using results from Output 2.1.1)

2.1.3B    Organise stakeholder meetings (particularly including the line departments and agencies planning and responsible for sector investments) for review and finalisation of landscape plans

2.1.3C    Publish final landscape plans incorporating recommendations from the stakeholders

2.1.3D    Conduct round table consultation meetings for incorporation of NC values in district plans

2.1.3E    Provide support to district plans for embedding NC, BD and ES values through hand-holding training workshops

*Output Lead*: LTSP in close coordination with Economics Division of MoEFCC , MoSPI , SWA and RKI

*Partners involved*: Knowledge partners

**Output 2.1.4** Public-private partnership and NC Protocols adopted by 2 corporations leading to start of green investments in the two project sites ? specifically related to sustainable infrastructure, fisheries and tourism development under the Blue Economy Strategies and Spatial Plans

The development of public-private partnerships will be critical at the landscape scales, so as to enable green investments from public and private sources which are aligned with the landscape plans developed as Output 2.1.3. Partnership opportunity mapping and private sector engagement will assist in identifying and integrating opportunities for green investment within the business plans, specifically in the infrastructure, fisheries and tourism sectors. There will be strong engagement with the private sector entities through establishing collaborative mechanisms to facilitate public-private partnerships and facilitating the integration of the emerging NC information into the corporate risk analyses through environmental footprint analysis, business planning and sustainability reporting ? all captured in the proposed NC protocols and its process, to be adopted by at least two corporate partners. Implementation and investments towards the BE development in two project landscapes will be guided by the sector reviews (Output 1.2.2), district level government budgeting and fiscal measures (Output 1.2.3), and partnerships and business planning (via NC Protocol) to minimize negative impacts of their operations and investment decisions to NC.

Activities

2.1.4A    Mapping the partnership opportunities for private sector engagement opportunities for green investments in two project sites (Using results of Output 2.1.2 and 2.1.3)

2.1.4B    Conducting meetings and workshops for role clarification and consolidation of private sector partners

2.1.4C    Support to corporates on incorporation of NC protocol in business plans

2.14D    Consolidate agreements with corporate sector partners on green investments aligned with the landscape plans

2.1.4E    Conduct periodic review to assess effectiveness of green investment in landscape management

*Output Lead*: SIU, IBBI and corporate partners

*Partners involved*: Knowledge partners

**Component 3**: **Project Performance and Knowledge management support for National replication of NC accounting for blue economy growth in India**.

The emphasis of this component is on upscaling, knowledge exchange and capacity building to facilitate wide-scale replication across coastal areas in India. The project elements will focus on strengthening partnerships at the national level, to facilitate implementation of BE development at the State and District levels, whilst building capacity through the development of knowledge exchange platforms and the use of targeted training and skill development programmes.

*Outcome 3.1: Strengthened Public-private partnerships implement NC accounting for national, state and district planning through exchange of lessons learned and data collected by the project M&E system.*

Knowledge exchange, based on the lessons learned from the two target coastal landscapes, will be critical to enhancing institutions, systems and partnerships for upscaling. The knowledge base and systems developed through Components 1 and 2 will underpin the broader upscaling and dissemination to facilitate replication across coastal areas both within Kerala and Karnataka States and beyond. The data gathering and learning process , as part of this outcome, will be participatory, gender and socially inclusive, with all project partners contributing to the data and able to access summary reports prepared for NPSC and reporting to UNEP.

*Outcome targets*:

? A draft national NCA roadmap reflecting overall vision for NCA in India, its key strategy pillars, institutional arrangements, and sequentially organised objectives, activities and guiding principles on the implementation of the common national approach is made available for endorsement by MoSPI and MoEFCC

? At least three organizations align their programmes and investment with the national NCA roadmap

? At least five knowledge products including monitoring and evaluation tools to support adoption, replication, and mainstreaming of NCA within districts, states and national levels are generated and are used by at least 50 organizations
? National portal on wetlands aggregates and shares knowledge, lessons and best practices in incorporating wetlands Natural capital values in sectoral economic planning and decision making

? End term review of project performance and impact is used to support the application of NCA in planning and decision making for the blue economy

**Output 3.1.1** A gender-sensitive communication and engagement strategy for partnership and adoption of SEEA-based NC accounting developed and implemented

This output includes development and implementation of communication outreach and engagement strategy for partnership building towards adoption of NC accounting based on a) the ?policy-analysis? on the benefit of developing SEEA-based indicators applied to routine government mechanisms such as SDGs (Output 1.1.2) and b) the ?sector analysis and round tables? (Output 1.2.2), and blue economy strategy development and spatial planning under Component 2. As a result, the National NCA strategy

developed under component 1 (Output 1.1.1) will be launched successfully and gain full support for adoption by central and state government ministries, departments and agencies as well as private sectors.

BluNatCap aims to generate verified evidence on application of NCA to BE sectors resulting in increased recognition of NC based interdependencies, NC supportive budgets in coastal districts, availability of indicators for monitoring BE growth and improved incorporation of NC values in district level planning for BE sectors. It is intended that such evidence will ultimately catalyse mainstreaming of NC values in planning and implementation for SBE in coastal districts. The project?s quantitative and qualitative data management system will be supplemented by case studies selected and undertaken from the second semester of year 2. Lessons and experiences will be documented and presented in summary publications targeted at the three BE sectors for replication and scale-up. Annual learning events will be organised to share the lessons learnt under the project as well as allowing infusion of knowledge generated in similar initiatives (for example, under projects listed at section 2.7) into BluNatCap implementation. Proceedings of these events will be systematically documented and disseminated for use by project stakeholders. The outcomes of BluNatCap will be proactively disseminated through participation in national and international events (such as Side events as Conference of Parties meetings of international conventions).

This output will also include the establishment of a Community of Practice on NCA so as to provide an informal knowledge exchange environment with due recognition of specific social, cultural and political contexts. The Community of Practice will also include learning networks created as a part of training programmes (Output 3.2.1 and 3.2.2) enabling the exchange of information and tools, best practices and lessons related to the application of SEEA-based NCA to BE development. The project will use the existing ENVIS network and platforms such as SANDEE (South Asian Network for Development and Environmental Economics) and INSEE (Indian Society for Ecological Economics) as well as link up with international platforms such as NatCap project and TEEB network towards this output.

Activities:

3.1.1A   Launch National NCA roadmap (Output 1.1.1) for adoption by central and state government ministries, departments and agencies as well as private sectors.
3.1.1B   Develop a database of NC practitioners
3.1.1C   Establish a NCA community of practice to provide an informal knowledge exchange environment
3.1.1D   Compile best practices on  NC accounting and application to Blue Economy sectors
3.1.1E   Participate in side events at CoPs and regional/global events for the active dissemination of the outcomes of the project
3.1.1F   Participate in national workshops
3.1.1G   Participate in international events
3.1.1H   Organise annual learning events to share the lessons learnt under the project as well as allowing infusion of knowledge generated in similar initiatives
*Output Lead*:   MoEFCC and MoSPI for launch of NCA strategy

*Partners involved*: Knowledge partners

**Output 3.1.2** Knowledge management platform and impact performance M&E developed to support policy makers and practitioners in India in adopting, replicating and mainstreaming NC accounting

BluNatCap will include the establishment of an online knowledge sharing platform to facilitate networking among policy makers and practitioners in India to exchange their knowledge and experiences in mainstreaming NC values into sectoral and spatial planning processes. The online knowledge management platform will be developed and maintained to support and promote networking and exchange of experiences and success stories. At the beginning, the knowledge platform will be hosted within the National Wetlands Portal (https://indianwetlands.in/) and mirrored in NCSCM website. BluNatCap will include a knowledge needs assessment of BE sector policy makers, planners and practitioners (operating within government, non-government and private sectors) to determine priority knowledge needs for supporting the application of NCA in sector operations. The knowledge needs assessment will be responded to by tailor-made knowledge products (in the form of issue briefs, toolkits, case studies, guidance documents, and others) which will be made available through the portal as well as proactively disseminated through direct engagement. The project will also endeavour to ensure that the knowledge products are living documents and incorporate new knowledge as they emerge during the project implementation or from linked initiatives (preliminary list at section 2.7).

The project?s M&E system will be applied at the landscape, state and national scale to track the output (progress) and outcome (impact performance), indicators in policy support for NCA, use of adapted NES-GRIDSS as a data hub, application of NCA in landscape planning, increased recognition of NC-based interdependencies, business risks and opportunities for BE development, increase in NC-supportive budgets in coastal districts, improved incorporation of NC values in district level planning and increase in green investments aligned with BE plans and informed by corporate NC protocols. The objective and outcome indicators corresponding to GEF core indicators will be monitored. The data gathering and learning process will be participatory, gender and socially inclusive, with all project partners contributing to the data and able to access summary reports prepared for NPSC and reporting to UNEP. Indicators baseline values will be reconfirmed during the project's inception so that the project?s contribution to change can be determined.

Private financing investments will be tracked by the PMU. To track the various co-financing investments, the PMU will request annual reports from the governmental departments or other organizations that made them, by way of follow-up to the co-financing letters signed and submitted with this project document.

Activities under this output will include an independent (of the project team) internal mid-term review, as well as an external terminal evaluation. These are targeted at generating further evidence-based conclusions on the effectiveness of the project?s approach and achievements in mainstreaming NC values into planning and implementation for SBE in coastal districts and strengthening learning generated by the project partners.

<u>Activities</u>

3.1.2A    Realign stakeholder and gender engagement plans within first six months of project initiation

3.1.2B    Identify priority knowledge needs and knowledge management system of BE sector policy makers, planners and practitioners for supporting application of NCA in sector operations

3.1.2C    Develop and publish knowledge products on different aspects of NCA mainstreaming in BE development on the basis of needs assessment

3.1.2D    Establish a web-enabled knowledge management platform to support and promote networking and exchange of experiences and success stories

3.1.2E    Provide support to National wetland portal for aggregating and sharing wetland natural capital values knowledge

3.1.2F    Finalize project monitoring systems to ensure adoption of mid-course correction measures

3.1.2G    Monitor the progress of the project output, and attainment of outcomes performance

3.1.2H    Finalize project reporting system

3.1.2I    Project reporting

*Output Lead*:  LTSA and PMU
*Partners involved*: Knowledge partners


### Outcome 3.2 Enhanced application of SEEA-based NC accounts, valuation and other applications to spatial planning, budgeting, and integrated natural resources management for sustainable blue economy development

Adequate uptake of NCA and applications will require the development of key skills and competencies among responsible personnel in the 12 targeted Districts (9+3) applying SEEA-based NC assessment and accounting, methods of scenario analysis, other applications, including spatial planning, green budgeting and integrated natural resource management for sustainable development. The BluNatCap would provide incremental support to the ongoing baseline programs by developing specific training materials on NCA and its applications for use in BE sectors and wetlands management. GSDPs on NCA and application on wetlands are envisaged to build capacities on these topics within youth from the perspective of employment generation. Measurable increases in capacity will be achieved through targeted training of practitioners, through a programme of training workshops and the development of online resources, and the institutionalization of NCA using SEEA-based NES-GRIDSS.

*Outcome targets*:

?    In at least three institutions staff training on the application of SEEA based NCA to support the blue economy is institutionalized.

?    Practitioners of 12 (9 districts from project landscape and 3 additional coastal districts) are trained and demonstrate the application of SEEA-based NCA in planning budgeting and integrated natural resources management for blue economic development.

?    At least 100 individuals (of which 50 are women) trained in the Green Skill Development Programme incorporating NC based NES-GRIDSS.

?      At least 100 individuals (of which 50 are women) trained in the Green Skill Development Programme on NC values of wetlands.

**Output 3.2.1** Staff training in 12 (9+3) coastal districts in SEEA-based NES-GRIDSS system on application to coastal resources, sectors and BE development.

In 12 coastal districts (9 districts from the pilot landscapes in Kerala and Karnataka and 3 additional coastal districts to be identified during project inception), the BluNatCap will include staff training on application of NCA to BE sectors planning, programming and investments. Use of SEEA complaint NES-GRIDSS to conduct NCA would be a key feature of the training. The course will focus on district and state level officials entrusted with plans and programmes of the BE sectors. The training design will on the basis of needs assessment which will specifically look into the extent of coastal NC, BD and ES interdependency relevant for the specific sector and opportunities for integration. The course curriculum will be developed in response to the needs assessment and under the supervision of a technical committee of subject matter experts as well as those holding experience on training and pedagogy. A pool of master trainers will be created to ensure that common training approaches are used, ideas are shared, demand for resources are coordinated and training resources and outcomes are sustained beyond the project life.  The selection of trainees will ensure a gender-balanced approach. Uptake of training will be monitored through periodic evaluation and mid-course correction integrated as a response measure. Post-training hand-holding support will be provided through the network of master trainers and BluNatCap project resources.

The staff training curriculum will be hosted and institutionalized in NCSCM and two additional ENVIS RPs (to be decided at the project inception) with formal agreements with the MoEFCC ENVIS scheme and embedding within the training calendar.

Staff training will be expanded beyond the two project coastal landscapes into three other coastal districts to embed capacity and to facilitate the application and integration of NC values in natural resource planning and development. Training will be facilitated through expanding existing institutions and organizations, such as the NCSCM and national universities, to develop specific capacity focusing on the integration of NC values in BE growth.

Activities:

3.2.1A     Conduct a training needs assessment survey to review skill requirements for application of NCA using SEEA-based NES-GRIDSS system

3.2.1B     Develop training modules in SEEA-based NES-GRIDSS system on application to coastal resources, sectors and Blue Economy development

3.2.1C     Conduct staff training workshops for district-level planning and programming agencies and individuals on application of NCA using SEEA-based NES-GRIDSS system

3.2.1D     Conduct training of trainers to create a pool of master trainers

3.2.1E      Conduct programme effectiveness review for mid-course corrections

3.2.1F      Provide follow-up support through refresher courses, updated training modules, periodic training needs assessment and budgetary requirement review

*Output Lead*: SIU and SWA with support of a specialized NCA institution

*Partners involved*: Knowledge partners

**Output 3.2.2** National replication of NC-based NES-GRIDSS and Environmental Information System (ENVIS) development and implementation in three additional Districts through the Green Skill Development Programme (GSDP).

BluNatCap will include establishment of two GSDPs on NCA using NES-GRIDSS and wetlands NC evaluation and management integration. The two programmes are aimed at developing soft skills which can enable getting gainful employment through acquiring skills on NCA and application in wetlands management. The course curriculum of the first programme (NCA using NES-GRIDSS) will be developed in collaboration with ENVIS partners (MSE and IISc (Energy and Wetlands Group)) who have experience of running a GSDP course on environmental economics and valuation of natural resources. For the second course, the BluNatCap will collaborate with SACON whilst the LTSP (Wetlands International South Asia) also brings on board considerable experience on this topic. The two courses will be implemented within the framework of ENVIS GSDP and will include creating a pool of master trainers on the two topics to enable replication beyond the project life. The course curriculum will be designed under the guidance of a committee of experts from the subject fields as well as holding experience in training and pedagogy. The effectiveness of the training programmes will be evaluated and post-training hand-holding support provided on a needs basis.

<u>Activities</u>

3.2.2A     Develop programme framework for GSDP for NCA using NES-GRIDSS and draft curriculum for wetlands NC evaluation and management integration

3.2.2B     Develop training modules for NC based NES-GRIDSS

3.2.2C     Develop training module for Wetlands NC values evaluation and management integration

3.2.2D     Implement training course for NC based NES-GRIDSS through GSDP with selected candidates

3.2.2E      Implement training course for Wetlands NC values evaluation and management integration through GSDP with selected candidates

3.2.2F      Conduct programme effectiveness review for mid-course corrections

3.2.2G     Provide follow-up support through refresher courses, updated training modules, periodic training needs assessment and budgetary requirement review

*Output Lead*: SIU, ENVIS Centres and LTSP

*Partners involved*: Knowledge partners

The development and implementation of the project are predicated on a variety of underlying **assumptions**. Within **Component 1,** the development of a national systems to support a BE growth model incorporating NC values will rely on modifications to the existing NES-GRIDSS and the assumptions that the data nodes can be adequately populated to enable conversion to a SEEA-compliant system for the necessary applications, to support computation of SDG indicators and

integrate the assessments and valuation of wetland. The need for working in a participatory and consultative manner will be essential to overcome these challenges. The project also assumes that the ENVIS hubs designated to produce indicators maintain the required capacity, resourcing and institutional commitment for future upscaling and delivery.

Understanding the interdependencies, business risks and opportunities arising from increased recognition and integration of NC values in BE development will require input from a range of stakeholders. The success of eliciting the appropriate information through the sector roundtables will be reliant on the active engagement and involvement of relevant stakeholders. It will also be reliant on the continued political will, from a national to a local level, to incorporate an expanded diversity of NC values in future planning and development.

**Component 2** assumes that the district planning authorities recognize the value proposition of integrating NC in coastal landscape and sector scale planning and development and will be compliant in modifying existing and future plans. It is further assumed that this compliance and political will to incorporate NC in planning and development for BE will continue into the future. At a district level, there will be a dependence on ensuring that national guidelines towards a BE are firstly fully understood and recognized and secondly incorporated and followed. This challenge will be addressed *inter alia* participatory engagement and knowledge exchange with key stakeholders at the district level.

At a state level, it will be essential that the SWA recognizes the value proposition of the role of NCA in wetlands conservation and planning. The acceptance of the role of NC values in ecosystem management within the public sector will also require expansion with the private sector and CSO. It is assumed that there will be a willingness, and a strong business case to underpin partnerships, to collaborate on improving the planning, design and operations of infrastructure (such as transport and waterworks), tourism and fisheries, or other sectors of NC concern.

**Component 3** seeks to replicate NC accounting for blue economy growth across India. To achieve this, it is assumed that organizations having plans, programmes and investments related to BE recognize the value of a national NCA roadmap, and are willing to engage in strategy formulation and review. The project further assumes that the NC knowledge platform is both acknowledged by organizations and that they engage proactively with it. To facilitate knowledge exchange, the project assumes that ENVIS centres designated to host and support knowledge management platforms maintain the required capacity and institutional commitment to ensuring ongoing delivery and support. Furthermore, it is assumed that all participating organizations will engage in and support the project monitoring and review system throughout implementation.

Please refer to section 3.3 and Appendix 3 of the ProDoc for a detailed description of the Alternative Scenario.

The overall structure of project components has been retained as in PIF, and the outcomes and expected outputs realigned and/or slightly rephrased to ensure consistency. A mapping of changes in project design with respect to the PIF is presented in the table below:

?

**Summary of Changes in Components, Outcomes and Outputs**

| Comparison of Components | | Comparison of Expected Outcomes | | Comparison of Outputs | |
|---|---|---|---|---|---|
| *PRODOC* | *PIF* | *PRODOC* | *PIF* | *PRODOC* | *PIF* |

| | | | | | |
|---|---|---|---|---|---|
| Component 1: National systems support for blue economic growth model incorporating Natural Capital (NC) values (Maintained) | Component 1: National system support for blue economic growth model incorporating natural capital (NC) values. | 1.1 A national roadmap and governance framework for SEEA based SNA within the NES-GRIDSS endorsed by strengthened government institutions<br><br>(Modified) | 1.1 Enhanced institutional capacity towards integrating NC values in government procedures and the System of National Accounts (SNA) ? in favour of blue economic growth | 1.1.1 Governance framework and roadmap established towards SEEA-based NC accounting and its integration into the System of National Accounts (SNA) and the NES-GRIDSS system. (Maintained) | 1.1.1 Governance framework and roadmap established towards SEEA-based NC accounting and its integration into the System of National Accounts (SNA) and the NES-GRIDSS system. |
| | | | | 1.1.2 Policy-analysis and agreement on a position paper on system design towards linking NC accounts and SEEA-based indicators with SDG Reporting available to decision makers [building on the outcomes of NCAVES analysis] (Modified) | 1.1.2 Policy-analysis and agreement on a position paper on system design towards linking NC accounts and SEEA-based indicators with routine government reporting procedures, e.g. Green GDP |
| | | 1.2 Nine coastal districts integrate NC-based principles and targets of a sustainable growth path in | 1.2 The national system NES-GRIDSS adapted and enables planning and budgeting for | 1.2.1 National NES-GRIDSS system adapted to SEEA- EEA for NC -analysis, planning and investments (Maintained) | 1.2.1 National NES-GRIDSS system adapted to SEEA- EEA for NC -analysis, planning and investments |

| | | | | | |
|---|---|---|---|---|---|
| | | sector related budgets, fiscal measures and programming indicators . (Part modified ? excludes marine sectors and uses the Ramsar Convention definition of coastal wetlands. the ambit includes all natural and human made wetlands having connection with the sea, as well as near-shore ecosystems such as inter-tidal mudflats, seagrasses beds and coral reefs) | Blue Economic growth in coastal districts through NC-based assessments and valuation for coastal and marine resources and sectors. | 1.2.2. Tourism, fisheries and infrastructure sector review report on NC-based interdependencies, business risks and opportunities for Blue Economy development endorsed by relevant national and state decision-makers through sector roundtables ? in nine coastal districts. (Modified) | 1.2.2 Tourism and infrastructure sector review report on NC-based interdependencies, business risks and opportunities for Blue Economy development endorsed by relevant national and state decision-makers through sector roundtables ? in two project sites. |
| | | | | 1.2.3. New NC-supportive budget, fiscal measures and indicators agreed for the development and monitoring of Blue Economy growth in the nine coastal districts, enabled through adapted NES- GRIDSS system and results of BioFIN. (Modified) | 1.2.3 New NC-supportive budget, fiscal measures and indicators agreed for the development and monitoring of Blue Economy growth in the two project sites, enabled through the results of BioFIN and the expanded District SEEA- GRIDSS system (e.g. for M&E NC benefits) |
| Component 2: Demonstrating integration of NC objectives in coastal landscape and sector scale planning and development (Modified) | Component 2: Integration of NC objectives in planning and development of District Blue Economy and sector operations (tourism, infrastructure | 2.1 Enhanced incorporation of the values of NC including BD and ES in two target coastal landscape planning and implementation by government institutions and key | 2.1 Enhanced incorporation of the value of NC including biodiversity, in state and district government planning and corporate decision making | 2.1.1. NES-GRIDSS for 9 Districts for two coastal landscapes spanning 0.56 million ha made SEEA - compliant. (Modified) | 2.1.1 Four Districts? NES-GRIDSS made SEEA -EEA compliant and capacity established towards development of Blue Economy Strategies incorporating NC and BD aspects. |

| | | | | |
|---|---|---|---|---|
| and other NC-sensitive sectors? development) | stakeholders which trigger investment aligned with NC (Modified) | | **2.1.2** Preparation of SEEA compliant wetlands NC account using NES-GRIDSS for two states and capacity established towards development of Blue Economy Strategies incorporating NC and BD aspects [expanding the framework for wetlands extent account developed under NCAVES, and wetland health card system to include Ecosystem stock and change account (extent and condition); Ecosystem Services flow account (supply and use); Physical and monetary; Ecosystem asset account(Monetary)] (Modified) | **2.1.2** Preparation of Green GDP report for one State using NES-GRIDSS. |

| | | | | 2.1.3 Two spatial plans developed - targeting 2 coastal-landscapes spanning 0.56 million by integrating NC values and development objectives (with specific focus on flood mitigation in at least one landscape); threat reduction and sustainable development opportunities identified, in support of the Blue Economy (Modified) | **2.1.3** Two spatial Plans developed - targeting 2 sea-/ landscapes associated with the Sagarmala and Rebuild Kerala Initiative by integrating NC values and development objectives; threat reduction and sustainable development opportunities identified, in support of the Blue Economy |
|---|---|---|---|---|---|
| | | | | 2.1.4 Public-private partnership and NC Protocols adopted by 2 corporations leading to start of green investments in the two project sites ? specifically related to sustainable infrastructure, fisheries and tourism development under the Blue Economy Strategies and Spatial Plans. (Maintained) | **2.1.4** Public-private partnership and NC Protocols adopted by 2 corporations leading to start of green investments in the two project sites ? specifically related to sustainable infrastructure, fisheries and tourism development under the Blue Economy Strategies and Spatial Plans. |
| Component 3: Project Performance and Knowledge management support for National replication of NC accounting for blue economy | Component 3: National replication of NC accounting for blue economic growth in India | **3.1** Strengthened Public-private partnerships implement NC accounting for national, state and district planning through exchange of lessons learned | 3.1 Strengthened national partnerships, knowledge and acceptance of NC accounting for District upscaling and | 3.1.1 A gender sensitive communication and engagement strategy for partnership and adoption of SEEA-based NC accounting developed and implemented. (Modified) | **3.1.1** Communication and engagement strategy for partnership and adoption of SEEA-based NC accounting developed and implemented. |

| | | | | | |
|---|---|---|---|---|---|
| growth in India (Modified) | | and data collected by the project M&E system (Modified) | replication. | **3.1.2** Knowledge management platform and impact performance M&E developed to support policy makers and practitioners in India in adopting, replicating and mainstreaming NC accounting. (Maintained) | **3.1.2** Knowledge management platform and impact performance M&E developed to support policy makers and practitioners in India in adopting, replicating and mainstreaming NC accounting. |
| | | **3.2** Enhanced application of SEEA-based NC accounts, valuation and other applications to spatial planning, budgeting, and integrated natural resources management for sustainable blue economy development (Modified) | **3.2** Enhanced capacity to apply SEEA-based NC accounts, valuation and other applications to spatial planning, budgeting and integrated natural resource management for blue economic development. | **3.2.1** Staff training in 12  (9+3 coastal districts in SEEA-based NES-GRIDSS system on application to coastal resources, sectors and Blue Economy development. (Targets modified) | **3.2.1** Staff training in 12 (4 + 8) coastal districts in SEEA-based NES-GRIDSS system on application to coastal and marine resources, sectors and Blue Economy development |
| | | | | **3.2.2** National replication of NC-based NES-GRIDSS and Environmental Information System (ENVIS ) development and implementation in 3 additional Districts through the Green Skill Development Programme (*mainly co-financed*). (Maintained) | **3.2.2** National replication of NC-based NES-GRIDSS and Environmental Information System (ENVIS ) development and implementation in 8  additional Districts through the Green Skill Development Programme (*mainly co-financed*). |

*4) Alignment with GEF focal area and/or Impact Program strategies*
Alignment with GEF focal area and/or Impact Program strategies is retained as in PIF.

The project design is closely aligned with GEF 7- BD Objective 1-3 on ?Mainstream biodiversity across sectors as well as landscapes and seascapes through NC Assessment and Accounting?, with its strong focus on enabling a sustainable blue economic development in coastal districts, by developing NC accounts as well as integrating NC values in spatial planning, coastal and marine sectors operations

and decision support system. The information provided by the SEEA-based NC accounting system and a strengthened NES-GRIDSS network, established through the project will be utilized in improving spatial and economic planning, and investment decisions in two selected coastal and marine sectors (tourism and infrastructure development), contributing to the achievement of the selected blue economy strategies.

In particular, the project will contribute towards mainstreaming biodiversity into coastal landscapes with its focused interventions in one of the Sagarmala development zones, under the major investment programme of the Government of India, and Rebuild Kerala Initiative of the Government of Kerala. Specifically, the project will support the joint development of Spatial Plans among the states, districts and corporations involved in two investment landscapes, to ensure that key NC values and considerations are integrated into the operations and investment decisions of the targeted sectors involved in the programme. Through active engagement with the infrastructure agencies, private sector entities and financial institutions that are involved in the Sagarmala and Rebuild Kerala programs, the project will facilitate the integration of NC information into the corporate risk analyses, business plans and sustainability reporting of corporate partners. Furthermore, through the project, specific market-based mechanisms will be identified and applied to two NC-dependent sectors, which will result in the enhanced environmental sustainability of the land/seascape, protection of critical coastal and near-shore habitats, measures to avoid or reduce water pollution, as well as enhanced environmental sustainability of near-shore fisheries (an ecosystems/habitat approach) in and around the targeted Sagarmala Investment zone. Through these activities, the project is expected to significantly increase financing for NC and biodiversity management activities in targeted Districts and sea-/landscapes.

The incorporation of Blue Economy models supported by NCA will directly support sustainable management and in some local cases the conservation of coastal ecosystems in India. Furthermore, the two pilot coastal landscapes of the project, namely Vemaband-Kol in Kerala and Aghanashini in Karnataka form a part of the Western Ghat bio-geographic region which is identified as one of the 25 biodiversity hotspots[97][97] of the world.

Development of the SEEA national framework and partnership for NC accounting will significantly raise the profile of the value to the economy and environmental stability of NC in India, in general, and biodiversity specifically, through better capture in SDG reporting systems. The project will lead to enhanced protection and sustainable management of coastal ecosystems, including watersheds over an estimated maximum of one-third (566,733 ha) of the total of 1,700,200 ha delineated in critical coastal wetland and river basin ecosystems, and ensure their integration in plans, programmes and investments in 12 districts.

Through the development of an enhanced knowledge base relating to the status of NC and improved information on linkages with and contributions to key economic sectors, the project will facilitate improved decision-making to minimize adverse impacts of key sectors on ecosystem service provision at two levels. Firstly, at the district level, the project will allow provincial and local stakeholders to systematically define environmental and economic trade-offs associated with development measures by using the national system of NES-GRIDSS and NC-based assessments and valuation and incorporate ecosystem service-related opportunities and risks into their planning and development strategies, targeted specifically for coastal and marine resources and sectors. Secondly, for the corporate sector, the project will support initiatives by leading enterprises to integrate the value of ecosystem services and biodiversity into their own operations and activities. Such initiatives will contribute not only to long-term business sustainability but also to the standard of the company?s sustainability reporting. Ultimately, participating companies will be able to clearly define their operations as contributing to long-term operational and corporate sustainability, offering competitive advantage through growth, innovation and new market opportunities, while strengthening stakeholder relations and the company?s long-term license to operate. Together these public and private initiatives will help boost the

contribution of sustainable management of coastal and marine ecosystem services to the economy, at both national and local levels.


### 5) Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing

Incremental/additional cost reasoning and expected contributions from the baseline has been retained as in PIF.

In order for biodiversity mainstreaming to generate impacts at the scale necessary to achieve the related Aichi Biodiversity Targets, a series of investments by GEF that are *strategically nested within a larger-scale national planning and management framework* is often required. GEF support for this project will leverage the opportunities identified in the baseline scenario and associated co-finance brought in, particularly, the NES-GRIDSS, NPCA and GSDP programs by the government, as well as the modest NCA work at the national level coordinated by MoSPI. A summary table on incremental reasoning per Component is in Appendix 3.

As embedded in the project design, GEF incremental support will mobilize additional funding to ensure policies, plans, programmes and investments in key economic sectors are based on credible information produced via NC valuation and accounting as well as other planning tools, such as NC-based economic development scenario analysis. Additionally, incremental GEF support will enable enhancing conservation effectiveness in two landscapes spanning 0.56 million ha, through significantly improved and NC-based planning, spatial allocation and routing of transport and related infrastructure, as well as the adoption of support investments towards blue economic operations in the field of water resources, tourism, near-shore fisheries and others.

The financial resources provided by the GEFTF will serve to enhance the resilience of coastal landscapes and their contributions to key economic sectors targeted by the project, and mainstream the incorporation of the principles and planning tools based on NC valuation and accounting into development planning. This is likely to create an alternate financing strategy for conservation of coastal ecosystems NC, BD and ES, especially shifting away from near-complete dependence on public finance sources, to public-private partnerships, and improved sectoral investment ecosystem risk screening. The project design is grounded in the full recognition of the dependencies of key economic sectors in India on the NC provided by healthy coastal landscapes. The project recognizes the impacts of activities of one sector on ecosystem services affects other sectors that also depend on those services (e.g., impacts of agricultural production on watersheds servicing downstream and urban areas). Addressing these dependencies and interrelationships among economic sectors requires a landscape-wide approach. It also requires increased investments in the management of biodiversity and ecosystem services provided by landscapes through tools to internalize the market and non-market values of ecosystem services into sectoral planning processes. Most importantly, by creating embedding mechanisms for landscape-scale NC conservation action (informed through SEEA compliant NCA) into district-level planning, implementation and capacity development, the project will create strong demonstrations for capturing externalities and resource inefficiencies at the district level, and through replication and upscaling mechanisms provided in the project, create long term sustainable programming and financing models in support of Blue Economy growth.

### Component 1. National system support for blue economic growth model incorporating Natural Capital Values

In the baseline scenario, despite the existence of a national government structure and ambition, agencies with a mandate and an appropriate legislative base, the level of integration of NC considerations into India?s national and state policy and budgeting processes remain low, and existing institutional mechanisms do not fully support such efforts. The government of India?s draft BE Strategy calls for a national accounting framework for BE, however, it lacks adequate NC based planning, operations and monitoring. The National Mission on Biodiversity and Human Wellbeing also

seek integration of ecosystem services and natural capital values of biodiversity in sectoral development planning. The National Biodiversity Action Plan identifies the valuation of ecosystem services and their consideration in decision making as a thrust area. A similar thrust is seen in National Environment Policy. NSO in its official environmental economic accounts in India (most recent being EnviStats 2021) has covered select SEEA based indicators and ecosystems such as land, cropland, forest and wetlands, thus indicating the potential for a SEEA-compliant NCA.

In the absence of systematic approaches to value and monitor NC and its contribution to key economic sectors, particularly through a System of National Accounts (SNA), the ability to integrate NC, BD and ES values in Blue Economy planning and investments remain highly compromised. SDG dashboard tracks a select set of indicators that are linked with ecosystem conditions. Under the NCAVES project, several SDG indicators were tested for calculation using the accounts developed as a part of the project, indicating the potential to further enhance consideration of NC related targets in the SDG indicator suite.  The CII-ITC Center for Excellence for Sustainable Development has developed tools to assess ecosystem services and also adopted NC protocols, and NC action planning framework for the corporate sector, however, there have been no applications in coastal landscapes. In order to facilitate access to disaggregated environmental data at the district level, the MoEFCC has commissioned a NES in select districts on a pilot basis, deploying the existing ENVIS network.   NES-GRIDSS is insufficient to generate NCA stock and flow accounts (in physical and monetary terms).

India had several project-based (only) efforts on NCA (e.g., NCAVES with UNSD and UNEP), however the mandated MoSPI, MoF, MoEFCC have not published any joint strategy, agreed formats and roles & responsibilities for advancing and sustaining the NC Accounting related efforts and link these with the System of National Accounts in India. There is no clear roadmap and sector-specific strategies on the ways in which Blue Economy sectors can integrate NC based interdependencies, business risks and opportunities. Under the BioFIN project, the biodiversity finance gap for 2017-22, is assessed to be around US$ 6.5 billion to achieve NBAP targets, which can be plugged by mainstreaming biodiversity in public schemes, Corporate Social Responsibility (CSR), Augmenting Public Finance, Ecological Fiscal Transfer (EFT) and Access and Benefit Sharing (ABS). However, the EFT has largely focused on forests, leaving out critical ecosystems such as coastal wetlands.

In the alternative scenario, building on the NCAVES Interagency Working Group the project will establish and formally agree on a coherent and consistent national roadmap for NC accounting (methods, data, analysis and reporting responsibilities); as well as reach an agreement with mandated government agencies on the adoption of SEEA-based indicators and applications in routine government mechanisms such as SDG reporting. ). The project incremental TA support will guide the agreement and optimal contents methodology towards upgrading and expanding the functionality of the national network of the NES-GRIDSS system in compliance with the SEEA framework? supporting decentralised pilots in SEEA NC-based planning and blue economy development in priority coastal landscapes and related sectors at District level, serviced through local GRIDSS data nodes.

The GEF TF will further the work under NCAVES project and develop a suite of SDG indicators aligned with Blue Economy. The project will also conclude arrangements with ENVIS nodes to ensure that adapted NES GRIDSS supports continued reporting on these indicators beyond project life. Better capture of Blue Economy relevant NC indicators within SDG framework is expected as a cue to national and state governments to take up targeted action for the conservation of coastal ecosystem NC.   The GEF-TF support will be used to adapt NES-GRIDSS into a data hub for supporting SEEA compliant NCA. This will be piloted in the 9 districts (covering two coastal landscapes - Component 2), and subsequently sustained through formal agreements with ENVIS centre and capacity development support (Component 3).

The project incremental support will raise the recognition and incorporation of externalities, risks and impact to BD& NC of the transport and tourism infrastructure sectors with corporate and public entities involved in the two coastal landscape and states , through analysis, round tables and incorporation in business plans (e.g. via the NC Protocols), budgeting and reporting (SDG), enabled through a national SEEA compliant NES-GRIDSS (Component 2). The NC protocols and NC Action planning framework

of the IBBI will be harmonized with the NCA and used as a basis for establishing sector roundtables and delivering sector strategies aligned with Blue Economy. Endorsement by state and national level decision-makers will enable the use of these sector strategies widely.   Building on the recommendations of the BioFIN Project, the GEF-TF funds will be used to develop an EFT on the basis of conservation of coastal ecosystem NC, and their inclusion within current conservation and development sector financing instruments will be supported, ultimately targeting at least 10% increase in NC supportive budgets at district level aligned with Blue Economy.

### Component 2: Demonstrating integration of NC objectives in coastal landscape and sector-scale planning and development

The Vembanad-Kol and Aghanashini coastal landscapes are critical NC, sustaining globally significant BD values, and through its wide-ranging ecosystem services, providing the basis of ecological and economic security of the region. By designating Vembanad-Kol wetlands as a Ramsar Site, the Government of India has committed to the maintenance of the site's ecological character, by ensuring that the developmental planning in the region takes into account their interdependence on wetland BD and ES. Aghanashini has been identified as a potential Ramsar Site.

Despite the NC and ES of the coastal landscapes feeding into developmental benefits for different sectors (such as disaster risk reduction, shoreline protection, flood mitigation, fisheries, tourism, inland waterways, and climate change mitigation and adaptation), rarely are actions coordinated across various levels of planning and interventions. While districts are the primary level at which economic development investment decisions and implementation is made, rarely does planning at this level (such as coastal regulation zone, disaster management, environment, development, tourism, fisheries, water resources development and other public and private sector investments) take into account NC values and their interactions fully. As a result, the NC, BD and ES continue to degrade, and several public and private investment streams end up generating externalities and resource inefficiencies. Some of the major drivers of coastal wetland landscape degradation (hydrological regime fragmentation, sedimentation, pollution, encroachment, marine litter, invasive species, unsustainable harvest of resources, degradation and loss of habitats of wetland-dependent species) are very much rooted in development sector investments which do not take into account the NC, and full-range of BD and ES values in planning and implementation.  Continued degradation of coastal wetlands in the two landscapes compromises the delivery of Blue Economy.

 Though a management plan framework for conservation of Vembanad-Kol Wetlands has been adopted for implementation by the State Wetlands Authority, Kerala, the plan is at a framework level and does not include specific interventions for mainstreaming into the regional development processes, such as Rebuild Kerala Initiative.  In the case of Aghanashni Estuary, there is no integrated management plan in place to enable a road map for sectoral coordination for securing its NC, BD and ES values.

Several initiatives target the application of blue economic growth through e.g. ICZM, Sargamala, Rebuild Kerala Initiative, Green Skills Development Program, however, these initiatives have largely failed to incorporate the stock, flows and value of NC& BD, in planning, investment design and decision making. This is due to the already mentioned reasons stated under Comp 1 ? specifically, the lack of a nationally agreed SEEA-based NCA framework and metrics. Additionally, without adequate knowledge and capacity towards integrating NC values into development planning and operations of key economic sectors and programs ? specifically under the baseline Sagarmala, the local development and application of blue economic growth ? including at the State level the obligatory development of CZMP will be less effective to protect biodiversity, NC and key ecosystem services.

Current funding of conservation action is largely done through public-sector grants (to projects and management plans), while the economic activities (public and private sector) continue to generate adverse impacts on the NC and ES. By not factoring in the interdependence of economic activities and NC and ES, the private sector investments, as well as public sector development investments, are often not aligned with securing coastal NC and ES, thereby leading to lower resource efficiency, and missed opportunities of gains from investing into ?nature-based solutions? to meet development outcomes.

The GEF TF investments will be targeted at enhanced landscape-scale management of two coastal landscapes spanning 0.56 million ha. The information from adapted NES-GRIDSS (Component 1) will be used to generate SEAA compliant NCA [stocks and flows, physical and monetary accounts] developed for the two coastal landscapes. The accounts will feed into landscape plans integrating NC values and development objectives (with a specific focus on flood mitigation using nature-based solutions in one landscape), and climate scenarios developed as a guide to Blue Economy planning and investments. Blue Economy strategies will be incorporated in these plans to enable factoring in the sector as well landscape elements (such as upstream-downstream linkages, the network of migratory corridors)? zooming in on potential risk, impact reduction, protection and mitigation in the development and conservation sector investment of public as well as the private sector. The landscape-scale interventions will be embedded in district plans (for BE sectors - public and private) as a basis for investments into securing NC, BD and ES values. Conservation plans (such as management plans for Vembanad -Kol, Sharavati Lion Tailed Macaque Sanctuary) will be improvised to factor in NC capital interdependencies with sectoral development, and also include measures for influencing sectoral investment plans. These incremental changes are projected to increase investments into conserving coastal wetlands NC, BD and ES increase by 40%.

The GEF TF investment will generate SEEA compliant wetlands NC accounts using NES-GRIDSS for two states (expanding the framework for wetlands extent account developed under NCAVES, and wetland health card system). This will feed into a knowledgebase on the full range of wetland ecosystem NC, BD and ES values, enabled through the NES-GRIDSS datahub and NCA will be used to systematically prioritize wetlands, and also secure their mainstreaming in developmental planning by promoting alignment with ongoing public and private sector plan and programmes

The GEF TF support will enable diversifying funding sources for conservation action, especially by recognizing and internalizing externalities generated by public and private sector investments that fail to account for interdependencies on coastal ecosystems NC, BD and ES.  This will be done through aligning district level private and public sector investment plans with landscape plans, as well as developing public-private sector partnerships triggering green investments.

### Component 3: Project performance and knowledge management support for national replication of NC accounting for BE growth in India

In the baseline scenario, despite a long history in research and projects in ecosystem accounting and valuation, there is a lack of a knowledge management platform, and systematic capacity development efforts to support easy access and use of available science, data sets and best practices for applying NCA to support BE development. The national NES-GRIDSS program will not be able to adopt the SEEA framework and upgrade staff capacity towards enhanced data nodes and applications for the blue economy at the District level. While tools are available to conduct ?risk screening? of developmental projects in terms of their impacts on NC, there is no agreed national unified and standardised monitoring system adopted for guiding blue economy development and investment.

An Inter-Ministerial group under the chairmanship of Principal Economic advisor has been established for environmental accounts, however, there is an insufficient national partnership towards national NCA framework and KM learning to foster replication of integrating NC values and criteria in ?policy and practice?. A national portal on wetlands exists as a knowledge management platform on wetlands. Information on coastal ecosystems is spread across several websites (coastal zone plans are hosted on the website of NCSCM, atlases and inventories on the website of SAC and others). There is no dedicated knowledge management platform to support the adoption, replication and mainstreaming of NCA.

Furthermore, mainstreaming of NC values in district-level planning is constrained by a lack of effective capacity for assessing and preparing NCA and integration in planning and programme implementation. At the state level, NCSCM has a mandate for capacity development for integrated coastal management. The centre has also been designated as a knowledge hub for wetlands management. The Institute of Ocean Management, Anna University has been designated as the ENVIS Center for Coastal Zone

Management, whereas the Madras School of Economics is the hub of environmental economics. The Indian Society for Ecological Economics (INSEE) is a major platform for generating academic research on environmental economics. However, these arrangements largely cater to capacity development at the state level, or address specific knowledge and research gap, and do not cater to the district level capacity development.

In the alternative scenario, the GEF TF resources enable putting in place a draft national NCA roadmap reflecting the overall vision for NCA in India, its key strategy pillars, institutional arrangements, and sequentially organised objectives, activities and guiding principles on the implementation of a common national approach, which will be available for endorsement by MoSPI and MoEFCC. Support to knowledge management will also be provided through the establishment of a NCA community of practice, as a learning and knowledge exchange platform to help raise awareness of NCA, connect stakeholders and build technical capacity. A knowledge management platform on NCA for BE will be established, and within the project timeframe, at least 5 knowledge products including monitoring and evaluation tools to support adoption, replication, and mainstreaming of NCA within districts, states and national levels will be generated and used enabled in at least 50 public and private sector organisations. To specifically address the data needs of wetlands management, the national wetlands portal will serve as an aggregation and knowledge, lessons and best practices sharing platform in incorporating wetlands NC values in sectoral economic planning and decision making

The GEF Incremental investment will enable building and nurturing the capacity for mainstreaming NCA in development planning and programmes by institutionalizing a training course focused on the use of adapted NES-GRIDSS to generate NCA and integrate it in planning and decision-making processes. The training course will be rolled out within the project in 9 coastal districts, and within the project lifetime, the course will be institutionalized within one of the ENVIS Centers. A framework for Green Skill Development Programme on NC- based NES-GRIDSS will be established, and based on pilot tested in 8 districts, rolled out for all coastal districts. The project envisages training at least 100 individuals (of which 50 women) in the application of NCA based on NES-GRIDSS in various spheres of BE planning and implementation.

### 6) Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)
Global environmental benefits (GEFTF) and/or adaptation benefits are retained as in PIF.

Given the highly favorable baseline situation and potential for scale-up through the many additional districts and investment zones of the NES-GRIDSS and baseline projects, the incremental GEF investment is expected to generate significant global environmental benefits in India well beyond the direct scope of the project itself. The project is expected to generate the following global environmental benefits which will be reassessed during the project preparation phase based on better field delineation, baseline data and identification of the specific sectors and NC existing in the targeted sea- and landscapes.

*Blue economy through NC accounting? and biodiversity conservation:* Coastal areas are some of the most productive and important habitats of the biosphere including coastal wetlands backwaters and estuaries. Over 11,000 faunal (625 vertebrates and 10,400 invertebrates) and over 800 floral (624 algae, 50 mangroves, 32 angiosperms, 71 fungi, 14 lichens, 12 seagrasses) species have been identified from the Indian coastal areas. The two pilot river basins form a part of the Western Ghat bio-geographic region which is identified as one of the 25 biodiversity hotspots[98][98] of the world.

The *Vembanad*-Kol forms a part of 37 wetlands designated as Ramsar Sites in recognition of their contribution to global biodiversity. Recorded biological diversity at the Ramsar Site includes 123 phytoplankton, 17 mangrove and 23 mangrove associates, 135 zooplankton, 150 pisces, 18 crab, 6 clam, 2 bivalve, 2 mussel, 1 oyster and 225 bird species. One vulnerable (*Aquila clanga*) and 9 near-

threatened bird species (*Aythya nyroca*, *Mycteria leucocephala*, *Threskiornis melanocephalus*, *Pelecanus philippensis*, *Anhinga melanogaster*, *Ichthyophaga ichthyaetus*, *Limosa*, *Numenius aqquata* and *Coracias garrulous*) have been reported from the Vembanad estuary. The site continues to meet Ramsar criteria 5 (as the wetland regularly supports over 25,000 waterbirds).

The *Aghanashini Estuary* has been identified as a potential Ramsar Site under criteria 5 of the Ramsar Convention (as the wetland regularly supports over 45,000 waterbirds) and criteria 6 (as a population of as many as 39 waterbird species found at this site exceeds known 1% biogeographic population threshold). The estuary is of global significance in supporting the Near-threatened bird species: *Sterna aurantia*, *Haematopus ostralegus*, *Caladris ferruginea*, *Numenius arquata*, *Limosa lapponcia*, *L. limosa* and *Threskiornis melanocephalus*; and the Vulnerable *Leptoptilos javanicus*).  With the presence of 77 fish species (including 13 marine, 43 marine-estuarine, 1 estuarine, 1 estuarine-freshwater, and 18 species inhabiting all habitats), the site also qualified under criteria 7 of the Ramsar Site designation. Additionally, the NC accounting and green economic development planning proposed by the GEF project will build the basis of a balanced developmental path for the region, particularly ensuring that the values of the estuary are not compromised by upstream development in the river basin which affects the natural hydrological regimes in the targeted Aghanashini estuary. The Aghanashini river includes the recently expanded and renamed Sharavathi Lion Tailed Macaque Wildlife Sanctuary with an area of 93,016 ha protecting the freshwater habitat of *Myristica* -swamps that host many species like the Endangered Lion Tailed Macaque (*Macaca silenus*), as well as the ?Vulnerable? Sambar (*Rusa unicolor*), and Gaur (*Bos gaurus*); as well as the ?Endangered? Tiger (*Panthera tigris*), and Dhole (*Cuon alpinus*).

The project can help reduce threats posed by conventional coastal and marine development ? specifically the two Sagarmala and Rebuild Kerala Initiative programs, to this globally significant biodiversity. Improved planning for investment, direct management and (future) restoration of natural areas in the sea-/landscapes will help in maintaining ecological connectivity and resilience including in support of the three existing and proposed protected areas. The project would work with and target increased incorporation of NC values and targets in the sector plans and operation of the infrastructure and tourism sectors ? and if resources allow also of the inshore and near-shore fisheries sector.

Furthermore, developing the SEEA national framework and partnership for NC accounting will significantly raise the profile of the value to the economy and environmental stability of NC in India, in general, and biodiversity specifically, through e.g. the Green GDP reporting. The project will lead to enhanced protection and sustainable management of coastal ecosystems, including watersheds over an estimated maximum of one-third (566,733 ha) of the total of 1,700,200 ha delineated in critical coastal wetland and river basin ecosystems, including watersheds feeding into the coastal river basins in 3 related Districts.

*General GEBs*: Through the development of an enhanced knowledge base relating to the status of NC and improved information on linkages with, and contributions to key economic sectors, the project will facilitate improved decision-making to minimize adverse impacts of key sectors on ecosystem service provision at two levels. Firstly, at the district level, the project will allow provincial and local stakeholders to systematically define environmental and economic trade-offs associated with development measures by using the national system of NES-GRIDSS and NC-based assessments and valuation and incorporate ecosystem service-related opportunities and risks into their planning and development strategies, targeted specifically for coastal and marine resources and sectors. Secondly, for the corporate sector, the project will support initiatives by leading enterprises to integrate the value of ecosystem services and biodiversity into their own operations and activities. Such initiatives will contribute not only to long-term business sustainability but also to the standard of the company?s sustainability reporting. Ultimately, participating companies will be able to clearly define their operations as contributing to long-term operational and corporate sustainability, offering competitive advantage through growth, innovation and new market opportunities, while strengthening stakeholder relations and the company?s long-term license to operate. Together these public and private initiatives will help boost the contribution of sustainable management of coastal and marine ecosystem services to the economy, at both national and local levels.

Global environmental benefits generated by the projects

| GEF Core Indicator | Project definition | Project target | Estimation method | Assumptions |
|---|---|---|---|---|
| Indicator 1.1: Terrestrial protected area newly created | Area of wetlands notified under Wetlands (Conservation and Management) Rules, 2017 | 10,000 ha | - | Knowledge, capacities and assessments under BluNatCap lead to notification of additional wetlands in the two states by State Wetland Authorities for regulation as per the provisions of Wetlands (Conservation and Management) Rules, 2017. |
| Indicator 1.2 | Terrestrial protected areas under improved management effectiveness | Vembanad Kol-53<br><br>Aghanashini Estuary - 43 | METT scores estimated using Tracking Tool for GEF-7 Protected Area Projects in the Biodiversity Focal Area | State Governments recognise the value proposition integrating NC, BD and ES values in management planning and implementation |
| Indicator 4.1: Area of landscapes under improved management to benefit biodiversity | Area of landscapes that benefit from integration of NC, BD and ES in sector plans, programmes and operation | 566,733 Ha | GIS computed areas of Aghanashini basin and Vembanad-Kol basin | The spatial plans for the two coastal landscapes are able to influence sectors operations which improve management in atleast one-third of the landscape area. |

| Indicator 6.1: Carbon sequestered or emissions avoided in the AFOLU sector | Amount of Carbon sequestered or avoided as a result of integration of NC values in planning and implementation of BE sectors | -4,105,589 tCO$_2$-e (Sink) | Estimated using FAO EX-ACT tool | The spatial plans in the two coastal landscapes influence landuse and landcover management practices for inland wetlands, coastal wetlands aquaculture and fisheries. |
|---|---|---|---|---|
| Indicator 11: Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment | Number of individuals trained under GSDP on NCA and application to wetlands management (Output 3.2.1 and 3.2.2) | 200 individuals (of which 100 females) | - | The State governments, knowledge partners, NGOs, CSOs, corporates and other project stakeholders nominate the stated number of individuals for attending the GSDP |

**7) Innovativeness, sustainability and potential for scaling up.**
Innovativeness, sustainability and potential for scaling up are retained as in PIF.

Sustainability refers to the continuation of the positive benefits (institutional, environmental, social, economic and financial) beyond the duration of the BluNatCap. The GEF project?s underlying logic is predicated on creating an enabling system that builds from the coastal landscape scale through the establishment of a robust national framework for upscaling, knowledge exchange and capacity building to create a sustainable legacy beyond the project?s life.

The project is innovative as it aims to operationalize the concept of NC and ecosystem-based approaches at the landscape level and promote the integration of values of services/benefits obtained from multiple ecosystem services into decision making and operations of key economic sectors (including infrastructure, and tourism). By applying ecosystem-based approaches and emphasizing sea- and landscape connectedness, the project will foster partnerships among multiple departments within central and state governments as well as the private sector. Moreover, it is anticipated that over the project?s duration, financing models for coastal ecosystems, alternate to the current near complete dependence on central government grants, will be developed, particularly through participation of corporate sector having strong interdependencies with Blue Economy sectors.

The institutional sustainability of the project will be ensured through the institutionalization of mechanisms to integrate NC information into the ongoing and relatively well-funded System of National Accounts (SNA) and the NES-GRIDSS system ? specifically related to coastal ecosystems and economic development. Through integrated coastal landscape planning, the application of NCA will enhance existing cross-Ministerial linkages with wetlands conservation, thus leading to their systematic prioritization, and creating alternate investment streams into conservation and wise use. The NES-GRIDSS is also being expanded nationally, which offers the further prospect for replication and sustainability for the SEEA increment on NC assessment and accounting. These mechanisms will help ensure ongoing efforts and post-project impacts.

A significant sustainability measure will be the application of NCA to improve the implementation and spatial targeting of NPCA. It is expected that BluNatCap will generate alternate models of financing wetlands and coastal ecosystem conservation beyond the prevalent dependence on Central Sector Schemes (CSS) for implementing management plans. GSDP focused on wetlands NC, BD and ES will also help expand the skillsets to support landscape-scale conservation of wetlands and other coastal ecosystems. The National Wetlands Portal and the knowledge platform developed under BluNatCap will serve as a means of disseminating information on coastal NC, BD and ES to a wider range of stakeholders.

Financial and economic sustainability is critical to the delivery of a BE in India. Through the project components, the institutional, knowledge and capacity barriers will be evaluated and addressed through the adoption and implementation of necessary actions to facilitate long-term financial and economic sustainability in relation to development planning within the coastal landscapes at the project sites. Through knowledge transfer, enhancement of existing systems, such as the NES-GRIDSS and the wetland health cards, and lessons learned, the sustainability of BE growth will extend more widely across the country. The capturing of NC values within this process will address a key barrier to environmental sustainability through the recognition of externalities and the development of procedures and systems to internalize environmental factors within decision-making.

Institutional sustainability will also be addressed by integrating NC, BD and ES conservation aligned actions within sectoral planning at the district level. Further, building capacity at this level, as well as linked GSDP will ensure wider replication of the application of NCA into development plans, programmes and investments.

*Replication:* The GEF project aims to strengthen India?s public and private administration systems in order to incorporate BD and NC valuation into their respective decision-making structures and reporting systems at a variety of scales. Replication, from a district, via a coastal landscape to a state and ultimately at a national level, underpins the project?s philosophy.

The support from GEF would allow India to directly access global-level expertise and experience to implement the UN SEEA framework and adapt to the India context, as well as apply and replicate through means of the increment to the NES-GRIDSS system and program which covers a total of 588 are rural/coastal Districts and constitute the potential upscaling of BE in India (Outcome 1.1). GEF financing will function as a catalyst to embolden political commitment to driving change among existing public sector agencies, both in terms of enforcement of existing legal and regulatory provisions and in developing innovative financial instruments to incentivize BD conservation and internalization of NC values in planning and development decision-making.

By demonstrating the interdependencies among NC, BD, ES and sustainable investment strategies (Outcome 2.1), the opportunity arises to engage more fully with the private sector and to raise the potential of replication in different wetland systems beyond coastal landscapes. This has the potential to enhance the delivery of commitments made by India under the Ramsar Convention regarding the wise use of all wetlands under the national wetland program as well as to attract additional financial resources from beyond the project partners and organizations.

From a global perspective, the project will enhance India?s capability to implement the NBAP, which directly serves its obligations under the CBD. GEF funding will expedite India?s capability to

accomplish the Aichi Target 3[99][99] and Target 20[100][100]. Embedding and linking the project?s field-level activities with the process of policy development will contribute to an enabling policy, regulatory and institutional framework that further contributes to the sustainability of project outcomes.

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[1] The dimensions of Vision-2030 outlined by Government of India are aimed at creating a ?modern, technology driven, high growth, equitable and transparent society? which is set to become ?a five trillion-dollar economy in five years, and aspiring to become a 10 trillion-dollar economy thereafter?. The lements of the vision are:  i) To create physical and social infrastructure for ten trillion dollar economy and to provide ease of living; ii) Digital India led by the youths with innumerable start-ups and millions of jobs; iii) To make India pollution free by focusing on Electrical Vehicles and renewables; iv) Rural industrailisation using modern technologies to generate massive employment; v) Clean rivers, with safe drinking water to all Indians and efficient use of water in irrigation using micro-irrigation techniques; vi) Besides scaling up Sagarmala, India?s coastline and ocean waters will power development; vii) Through our space programme ? Gaganyaan, India becoming the launch-pad of satellites for the World; viii) Self-sufficiency in food production and producing food in the most organic way; ix) A healthy India by 2030 and a distress free health care and wellness system for all. Ayushman Bharat and women participation would be an important component in it; and, x) Employees working with elected Government, transforming India into Minimum Government Maximum Governance nation.

[2] There is no single accepted definition of Blue Economy. Generically, Blue Economy is understood as sustainable use of ocean resources for economic growth, improved livelihoods and jobs, and ocean ecosystem health. The Indian Ocean Rim Association, of which India is party, defines the objective of Blue Economy as ?promotion of smart, sustainable, and inclusive growth and employment opportunities within the Indian Ocean Region?s maritime economic activities. While sustainability forms the core of Blue Economy concept, is several instances, the plans, programmes and investments tend to overlook this aspect, and hence the term ?sustainable blue economy? is used to stress the dimensions of environmental protection, conservation, sustainable use and stewardship within the ambit of the blue economy operations.

[3] Issued by the Economic Advisory Council to the Prime Minister, Government of India and available at: incois.gov.in/documents/Blue_Economy_policy.pdf

[4] Natural Capital refers to natural assets in their role of providing natural resource inputs and environmental services for economic production.

[5] Natural Capital Accounting is ?a set of unbiased accounts of stocks and flows of natural capital?. The System of Environmental-Economic Accounting (SEEA) is the accepted international standard for environmental economic accounting, and provides a framework for organizing and presenting statistics on the environment and its relationship with the economy. SEEA consists: a) SEEA Central Framework (SEEA CF) which looks at individual environmental assets and their movement between the environment and the economy, b) SEEA Ecosystem Accounts (SEEA EA) which is synthesis of current knowledge on ecosystem accounting, and takes the perspective of ecosystems in describing the ways in which individual environmental assets interact within a defined spatial area, and c) SEEA Applications and Extension illustrating the ways in which SEEA CF can be used in policy and decision-making.

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[87] Biodiversity mainstreaming is defined as the: ?the process of embedding biodiversity considerations into policies, strategies and practices of key public and private actors that impact or rely on biodiversity, so that it is conserved and sustainably used both locally and globally.? Source: Biodiversity Mainstreaming in Practice: A review of GEF Experiences, Accessed at: https://www.thegef.org/sites/default/files/publications/GEF_MainstreamingBiod_11.28.16.pdf

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[97] Over 4000 species of flowering plants (38% endemic), 289 fish (41% endemic), 135 amphibians (75% endemic), 156 reptiles (62% endemic), 508 birds (4 % endemic) and 120 mammals (12% endemic) have been recorded from Western Ghats (Daniels, 2003; Babu and Nayar, 2004; Dhanukar et al, 2004; Gururaja and Sahyadri, 2004)

[98] Over 4000 species of flowering plants (38% endemic), 289 fish (41% endemic), 135 amphibians (75% endemic), 156 reptiles (62% endemic), 508 birds (4 % endemic) and 120 mammals (12% endemic) have been recorded from Western Ghats (Daniels, 2003; Babu and Nayar, 2004; Dhanukar et al, 2004; Gururaja and Sahyadri, 2004)

[99] By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, while positive incentives for conservation and sustainable use of biodiversity are developed and applied, consistent with the CBD and other relevant international obligations, taking into account national socio-economic situation.

[100] By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization, should increase substantially from current levels.

**1b. Project Map and Coordinates**

**Please provide geo-referenced information and map where the project interventions will take place.**

Coordinates of the project sites are

Vembanad Kol Wetland Complex: Latitude: 9.9771 and Longitude: 76.2655

Aghnashini Estuary: Latitude: 14.5345 and Longitude: 74.3614
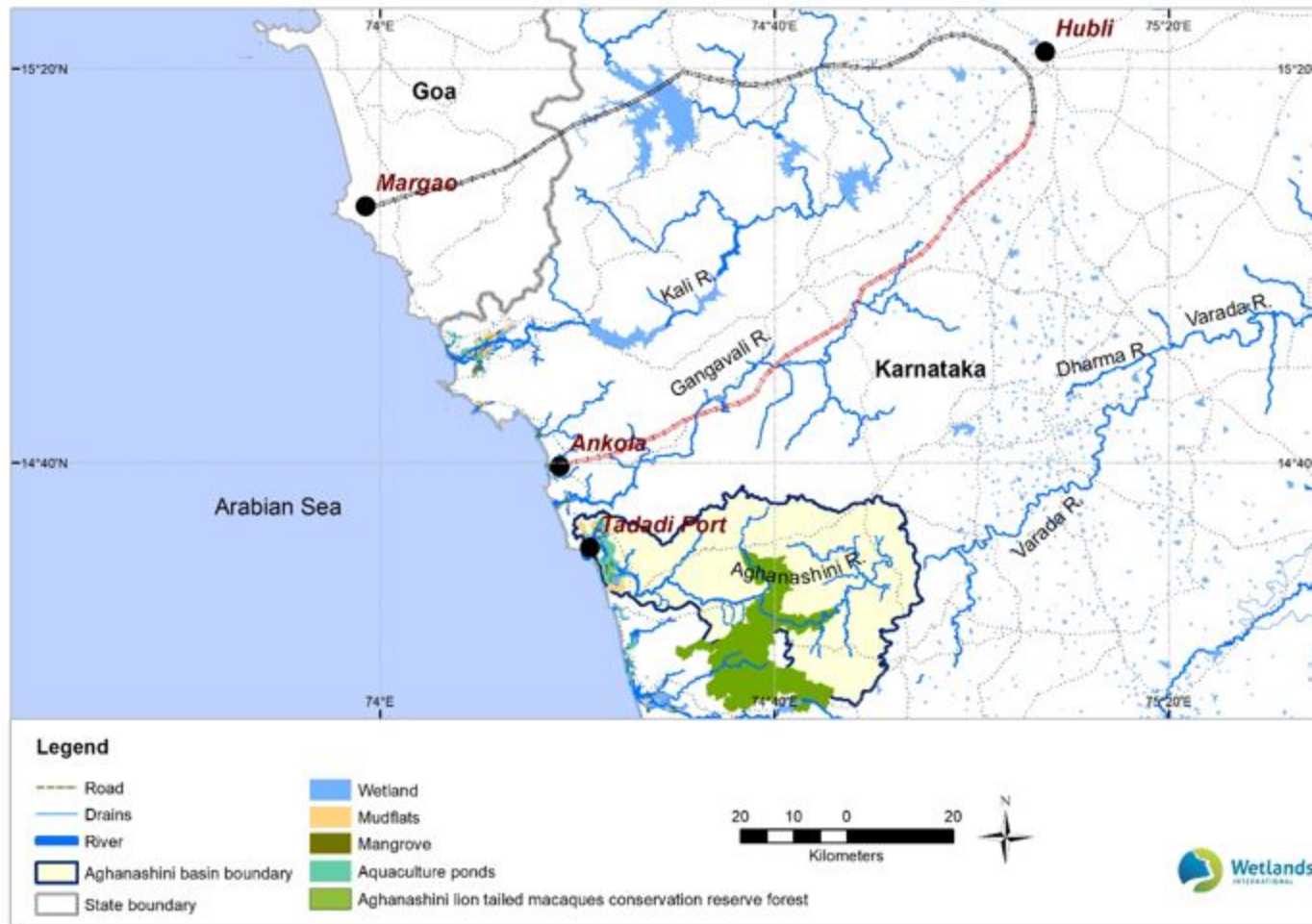
**Map 4: Aghanashini Estuary And its River Basin**

**Map 5: The Vembanad Kol Wetland Complex and its Basin**

**1c. Child Project?**

**If this is a child project under a program, describe how the components contribute to the overall program impact.**

**2. Stakeholders**
**Select the stakeholders that have participated in consultations during the project identification phase:**

**Civil Society Organizations** Yes

**Indigenous Peoples and Local Communities**

**Private Sector Entities** Yes

**If none of the above, please explain why:**

Stakeholders[1] relevant to mainstreaming NC and ES values into planning and implementation for sustainable BE operate at a range of scales and sectors. During the PPG process, consultations were held with key stakeholders to map their relevance and engagement strategy in the BluNatCap implementation (summary discussions at Appendix 17). As the PPG period unfortunately overlapped with the rampant spread of the COVID-19 pandemic, physical travel and meetings were not possible in India. Consultations were held via electronic meetings as far as possible. During discussions with the MoEFCC Wetlands division, their role as Executing Agency was confirmed, as their flagship programme, NPCA is the key baseline project. During discussions, the wetlands division recommended integrating the wetlands health card systems with the knowledge hubs to support the creation of wetlands accounts. The division also concurred with the need to use wetlands NC accounts for prioritization of interventions, especially linking wetlands conservation and wise use with the operations of different sectors wherein the direct threats to coastal wetlands are rooted. The Ministry also suggested integrating NC accounts with the wetlands management planning process and providing a basis of financing which enables shifting away from predominantly public finance dependence, to models which allow for systematic corporate sector engagement.  The division also seconded the proposal to create a Green Skill Development Programme centred on creating employment opportunities by acquiring skills and employability on the application of wetlands NC accounts in BE sector plans, programmes and implementation. A key recommendation was to ensure convergence with the implementation of GEF-5 Integrated Management of Wetlands Biodiversity and Ecosystem Services (IMWBES) and IKI funded ?Integrated Management for Wetlands Biodiversity Conservation and Climate Security? projects.

Discussions were held with the ENVIS division welcomed support to the implementation of NES-GRIDSS and adaptation to SEEA compliant EA and NC accounts. The divisions suggested working with the ENVIS nodes in the two landscapes and focusing on the network for capacity development programmes. The division also suggested reviewing the outcomes of NES-GRIDSS piloting in Karnataka.

During discussions with the MoSPI, they expressed concurrence with the need to follow up with work on SEEA-EEA done under the NCAVES project. It was recommended that rather than taking valuation and accounting for specific ecosystems, an entire landscape be taken as an assessment unit and accounts established to feed into landscape-scale plans. Furthermore, the Ministry also recommended using scenario analysis as a basis for selecting pathways aligned with BE development.

The PPG team also had discussions with the UNDP-BioFIN implementation team which welcomed that the project will test and elaborate the pathways for bridging the biodiversity finance gaps with

respect to coastal ecosystems. The UNDP team suggested close cooperation with BioFIN Phase II implementation and taking forward the gap assessment with interventions based on NC accounting.

The PPG team engaged CWRDM as a consultant for mapping stakeholders within the Vembanad-Kol landscape, conducting discussions and seeking inputs for BluNatCap design. The team engaged with Rebuild Kerala Initiative, State Wetlands Authority Kerala, Kerala State Council for Science, Technology and Environment to assess key issues related to the management of Vembanad-Kol landscape, and the ways the relevance of NC accounts informed landscape-scale plans to address these challenges.

In discussions with ENVIS node for Karnataka ? Indian Institute of Science (IISc) - Energy and Wetlands Group, the implementation of NES-GRIDSS pilots and application for preparing EEA for agriculture and fisheries were discussed, with a view of replication for preparing wetlands accounts for the state and their application for furthering conservation of Aghanashini Estuary landscape. The risks to the landscape from infrastructure development (related to the Hubli Ankola railway corridor) were discussed, along with the relevance for application of NC accounts for influencing these developments.

The PPG team also held discussions with the GIZ-India and World Resources Institute -India teams who expressed their willingness to provide technical support to project implementation. The Chief Economist at WRI ? India, Dr Madhu Verma, has considerable experience in developing NC accounts for the forestry sector in several Indian states, and is willing to provide support to the adaptation of NES-GRIDSS to become SEEA and SEEA-EEA compliant, and also assist in development NC accounts for the two landscapes, as well as state scale work. GIZ-India has confirmed access to results of the IKI project and supported scenario development as a park of landscape plan development. The World Bank team also confirmed access to technical outcomes under WAVES, ICZM and ENCORE projects.

Consultations were also held with Salim Ali Center for Ornithology (SACON), NCSCM, and Chilika Development Authority (CDA). These institutions have been undertaking various initiatives for the conservation of coastal ecosystems. The project also engaged with SANDEE to discuss areas of support to the preparation of NC accounts for the two landscapes, and possible support to training programmes.

As part of the two CEO milestone extensions, additional field assessments and local consultations could be conducted, which not only led to firmer partnership with the States (see attached e..g the attached letters of commitment by SWAK at Appendix 11) but also new co-financing commitments from IBBI which will be critical to catalyse corporate sector partnership for integration of NC values in sustainable BE development. The consultations with states also provided better insight into stakeholder engagement and gender sensitivity elements and which have resulted in refinements to stakeholder engagement plan (Table 3) and Gender Mainstreaming Action Plan (Appendix 16).

A summary of stakeholders relevant for BluNatCap and their rationale for inclusion in the project is presented in Table 2.

Table 2. Stakeholder description

| Stakeholder category | Scale of operation | Stakeholder | Functions |
|---|---|---|---|
| Government Ministries | National | MoEFCC | ?    Provides the overarching policy and regulatory framework for environment conservation (including coastal wetlands). The Ministry is also the nodal agency for India?s international commitments related to wetlands.<br><br>?    The Statistics Division of MoEFCC liaises across all divisions of the Ministry to strengthen the process of data collection, validation and interpretation. The Division is also responsible for the coordination of developments in NC accounting and the SEEA within MoEFCC and the liaison with other Ministries, such as MoSPI.<br><br>?    The Economic Division of the Ministry is responsible for the implementation of the Environmental Information System (ENVIS) which provides a central, comprehensive repository for environmental data and information.<br><br>?    The Ministry also operates the Green Skill Development Program (GSDP) under the ENVIS scheme to train young people in the environment, forest and wildlife sectors and enable them to be gainfully employed or self-employed. |

| Stakeholder category | Scale of operation | Stakeholder | Functions |
|---|---|---|---|
| | | MoSPI | ? Developed the National Indicator Framework (NIF) for reporting progress on the SDGs. Presently, at the national level, data from the National Statistical Office (NSO) and nearly 30 other Ministries and Departments are involved in the process of providing data on SDGs. MoSPI coordinates the flow of data to institutionalize the data as SDG indicators.<br><br>? The NSO has also been instrumental in implementing the NCAVES project and working in consort with other Ministries and Departments to oversee the project and to ensure robust data are used in the NC accounting processes. |
| | | The Ministry of Ports, Shipping and Waterways (MoPSW) | ? Responsible for a variety of responsibilities including shipbuilding, ship repair works, the running of major ports and waterways, and the formulation of policies and programmes.<br><br>? The Sagarmala Programme is the flagship programme of the MoPSW and presents the potential to unlock the potential of India?s coastline and waterways. |

| Stakeholder category | Scale of operation | Stakeholder | Functions |
|---|---|---|---|
| | | Ministry of Fisheries, Animal Husbandry and Dairying (MoFAHD) | ? Responsible for the formulation of policy relating to inland, marine and coastal fisheries.<br><br>? Responsibilities also include the maintenance of the welfare of fisherfolk and the strengthening of their livelihoods; the promotion and development of fisheries, including infrastructure development and marketing opportunities; fisheries statistics; and understanding fish stocks in relation to natural calamities.<br><br>? Oversee the ?Blue Revolution? which, through a focus on capacity and sustainable business development for small-scale fisherfolk and fish farms, aims to increase the overall fish production in a responsible and sustainable manner to secure future economic prosperity. |
| | | Ministry of Housing and Urban Affairs | ? The apex authority to formulate policies, sponsor and support programmes, coordinate the activities of various Central Ministries, State Governments and other nodal authorities and monitor the programmes concerning all the issues of housing and urban affairs in the country<br><br>? Smart Cities Mission- aimed to promote sustainable and inclusive cities that provide core infrastructure and give a decent quality of life to its citizens, a clean and sustainable environment and application of ?Smart? Solutions through blue-green plans- include 14 coastal cities<br><br>? Atal Mission for Rejuvenation and Urban Transformation (AMRUT) aims at providing basic civic amenities like water supply, sewerage, urban transport, parks to improve the quality of life for all especially the poor and the disadvantaged |

| Stakeholder category | Scale of operation | Stakeholder | Functions |
|---|---|---|---|
| | | Ministry of Earth Sciences through ESSO - Indian National Centre for Ocean Information Services (INCOIS) | ?   An autonomous body under the Ministry of Earth Sciences (MoES) and a unit of the Earth System Science Organization (ESSO). <br><br> ?   Mandated to provide the best possible ocean information and advisory services to society, industry, government agencies and the scientific community through sustained ocean observations and constant improvements through systematic and focussed research. |
| | | Through the Department of Science and Technology (DST), the Ministry of Science and Technology (MoST) | ?   Responsible for development of indigenous technologies concerning, processing, standardization and applications, in coordination with the concerned Ministry or Department, as well as an undertaking or financially sponsoring scientific and technological surveys, research design and sustainable development, where necessary. |
| | | Environmental Information System (ENVIS) Hubs (hosted by the Environment/ Forest Department of State Governments/ UT Administrations) and Resource Partners | ?   Provide a single-stop web-enabled repository of comprehensive environmental information with the collection, collation, storage, retrieval and dissemination of the same. <br><br> ?   Promote, implement and coordinate Green Skill Development Programme (GSDP) <br><br> ?   Implement and coordinate NES-GRIDSS, to map environment data of 55 districts across 24 States and 3 Union Territories and bring out the entire data of different environmental aspects onto a single platform |
| | | NITI Aayog | ?   The nodal agency for SDGs, it has developed the SDG India Index and Dashboard for monitoring the progress in achieving SDGs at national and sub-national levels. |

| Stakeholder category | Scale of operation | Stakeholder | Functions |
|---|---|---|---|
| | | Ministry of Finance | ?   The Department of Economic Affairs (DEA) acts as a nodal point for all the Climate Change financing matters in the Ministry.<br><br>?   Provides inputs designing, operationalization and working of Green Climate Fund.<br><br>?   DEA in collaboration with UNDP has launched the Sustainable Finance Collaborative that included dialogues on critical elements such as barriers in deploying new financing such as Impact Investing, the role of blended finance instruments, green finance instruments for sustainable development. |
| | | National Biodiversity Authority (NBA) | ?   An autonomous and statutory body of the MoEFCC to implement India?s Biological Diversity Act (2002).<br><br>?   The NBA performs a facilitative, regulatory and advisory function for GoI on issues of conservation, sustainable use of biological resources and fair equitable sharing of benefits of use. |

| Stakeholder category | Scale of operation | Stakeholder | Functions |
|---|---|---|---|
| | | Ministry of Tourism | ? Nodal agency for the formulation of national policies and programs and the coordination of activities of various Central Government Agencies, State Governments, UTs and the private sector for the development and promotion of tourism across India.<br><br>? Responsible for the public sector India Tourism Development Corporation (ITDC) which is considered to be a proactive force in the progressive development, promotion and expansion of tourism across the nation. The ITDC discharges a range of duties including providing innovative and dependable solutions to the challenges faced by tourism infrastructure development. As such, the ITDC makes commercial investment decisions that would benefit from a robust consideration of NC as well as from seeking synergies with the GSDP. |
| | | Inland Waterways Authority of India | ? Responsible for the development and regulation of inland waterways for shipping and navigation.<br><br>? Primarily undertakes projects for development and maintenance of inland water transport infrastructure on national waterways through grants received from the Ministry of Shipping |
| | | Coastal Aquaculture Authority | ? Statutory Body to regulates coastal aquaculture activities<br><br>? Make regulations for the construction and operation of aquaculture farms in coastal areas, inspection of farms to ascertain their environmental impact, registration of aquaculture farms, fixing standards for inputs and effluents, removal or demolition of coastal aquaculture farms, which cause pollution etc. |

| Stakeholder category | Scale of operation | Stakeholder | Functions |
|---|---|---|---|
| | | SICOM | ? Established under aegis of the MoEFCC to deliver on a resilient coastal and marine environment that provides a sustainable outflow of benefits to local communities as well as the national economy.<br><br>? A key role is to support the implementation of ambitions for ICZM as articulated in the 2006 NEP across States. |
| | State ? Kerala and Karnataka | State Wetland Authorities/ Site Authorities | ? Serve as the nodal policy making, regulatory and knowledge support organizations within states<br><br>? Mandate to ensure mainstreaming of the full range of wetlands ecosystem services and biodiversity values within developmental planning processes. |
| | | State Coastal Zone Management Authorities | ? Statutory bodies responsible for coastal zone regulation and management |
| | | State Disaster Management Authority | ? Statutory body responsible for laying down policies and plans for disaster management in the State.<br><br>? Mandated to lay down guidelines for minimum standard of relief by State Authority |
| | | State Pollution Control Boards | ? Statutory organization entrusted to implement environmental laws and rules within the states.<br><br>? Develops frameworks for management of wastes and natural resources and of the States.<br><br>? Acts as a regulatory body for the prevention of environmental pollution. |

| Stakeholder category | Scale of operation | Stakeholder | Functions |
|---|---|---|---|
| | | Directorate of Economics and Statistics | ? Nodal agency for the statistical activities in all the State Government Departments |
| | | Biodiversity Board | ? Statutory body for promoting conservation and preservation of habitats.

? Advise the State Governments, subject to guidelines issued by the Central Government, on matters relating to conservation of biodiversity, sustainable use of its components and equitable sharing of benefits arising out of utilization of biological resources.

? Regulate by granting approvals or otherwise request for commercial utilization or bio-survey and bio utilization of any biological resource by Indians;

? Within the aegis of State Biodiversity Boards, Biodiversity Management Committees have been constituted and entrusted with promoting conservation, sustainable use and documentation of biological diversity including preservation of habitats, conservation of land races, folk varieties and cultivars, domesticated stocks and breeds of animals and microorganisms and chronicling of knowledge relating to biological diversity. |

| Stakeholder category | Scale of operation | Stakeholder | Functions |
|---|---|---|---|
| Knowledge Institutions | | National Institute of Public Finance and Policy | ? An autonomous research institute under the Ministry of Finance for economics and policy, contributing in the areas of revenue and taxation, fiscal management, public expenditure, macro-economic policies, fiscal federalism and other policy issues both at the Central and the State-level. |
| | | | ? Also contributes to work on public expenditure financial accountability, public financial management performance assessment, and fiscal issues related to energy (including fossil fuels), environment, health, education and gender. |
| | | Institute of Economic Growth | ? An autonomous, multidisciplinary centre for advanced research and training in the fields of economic and social development. |
| | | | ? Environment and resource economics is one of the nine broad themes of research and had previously undertaken research on Valuation and natural resource accounting, in a particular application of new techniques such as contingent valuation to primary data sets; Ecological economic modelling; Environment and development; and Sustainable development: indicators, operationalisation and sectoral analysis. |
| | | Madras School of Economics | ? The MSE along with the University of South Wales is working on the development and use of ocean accounting under the Australia-India Indo-Pacific Oceans Initiative Partnership (AIIPOIP) program |

| Stakeholder category | Scale of operation | Stakeholder | Functions |
|---|---|---|---|
| | | National Center for Sustainable Coastal Management | ?   Accorded the status of National Wetland Center<br><br>?   Mandated to disseminate knowledge on coastal management through capacity building at all levels for the benefit of coastal communities and wider stakeholders.<br><br>?   A key focus area is Integrated Social Sciences and Economic (ISE) which is focused on coastal communities and their livelihoods with an emphasis on community-based approaches to coastal vulnerability and coastal management. The ISE Group is also actively engaged in accessing traditional knowledge as well as more traditional ?science? to support sustainable use of NC in coastal areas. |
| | | Wildlife Institute of India | ?   The Focus area is to build capacity through training, education and research in the field of wildlife conservation.<br><br>?   Designated as an ENVIS centre by MOEFCC for information dissemination related to Wildlife and Protected Areas.<br><br>?   It has worked on disseminating information on Ramsar wetland sites and Important Coastal, Marine Biodiversity Areas (ICMBAs), Marine Protected Areas and Important Bird Areas (IBAs).<br><br>?   Developed a manual on ?Status of Marine and Coastal environments and developing a Marine Protected Area Network in India. |

| Stakeholder category | Scale of operation | Stakeholder | Functions |
|---|---|---|---|
| | | Knowledge partners of Wetlands Division | ?    Wetlands International South Asia, WWF-India, GEER Foundation, Salim Ali Centre for Ornithology and Natural History (SACON) and Environmental Planning & Coordination Organisation (EPCO)<br><br>?    Provide handholding support to state governments in implementing the four-pronged approach for wetlands rejuvenation |
| | | National Remote Sensing Center | ?    Has a mandate of creating satellite databases related to NC such as forestry, ecology and water resources.<br><br>?    Derived data is being used in several national mission projects in collaboration with the ministries/departments of   State and Central Governments.<br><br>?    Centralized outreach facility has been established at Jeedimetla, Hyderabad, for all the training and outreach purposes to disseminate knowledge amongst various stakeholders such as State / Central Government departments and ministries and academic institutions. |
| Corporate | | CII - ITC Center for Excellence for Sustainable Development | ?    Established in 2006 as a not-for-profit industry-led initiative, this centre for excellence serves to assist businesses in moving towards sustainable pathways.<br><br>?    Areas of interventions include environment management systems, biodiversity mapping, sustainability reporting, integrated reporting, and social & natural capital valuation in India, thus upgrading business in India to sustainable competitiveness |
| Government agencies / representatives | District level/Landscape | District Administration | ?    Spatial planning and coordination for the developmental activities |

| Stakeholder category | Scale of operation | Stakeholder | Functions |
|---|---|---|---|
| of line departments | level <br><br> Site-level | Wetland?s managers | ? Responsible for formulating and implementing management plans for wetlands |
| | | Protected area managers | ? Responsible for designing and implementing protected area plans as per provisions of the Indian Wildlife Protection Act, 1976 |
| Local self-government | | Panchayati Raj Institutions and Urban Local Bodies | ? Responsible for designing and implementing local development plans at the local level |
| Private sector federations | | House boat federations | ? Responsible for coordinating House boat operations with Vembanad estuary, including implementation of various environment-friendly technologies |
| Citizen groups | | Wetland mitras | ? A non-statutory coalition of concerned citizens to support conservation and wise use of wetlands. |
| Indigenous people and local communities | | Kuttanad and Kol farmers in Vembanad-Kol landscape, Kagga Farmers, Fishers (Ambiga, harikanta, Gabit, Dalji Namdhari  Patgar Salt makers (Ager), Gazni landowners found in Aghanashini Estuary landscape | ? These are the community groups which are a part of ecological and cultural identity of the landscapes are its original inhabitants. |

[1] The analysis presented here considers stakeholders as actors (organizations, formal and informal groups) with a specific interest or shared preference, and who are affected by and can affect a

decision for mainstreaming NC values in planning and implementation decisions for sustainable blue ecosystem growth. Definitions from: Wutich, Amber; Beresford, Melissa; Bausch, Julia C.; Eaton, Weston; Brasier, Kathryn J.; Williams, Clinton F.; Porter, Sarah (2020). Identifying Stakeholder Groups in Natural Resource Management: Comparing Quantitative and Qualitative Social Network Approaches. Society & Natural Resources, (), 1?8. doi:10.1080/08941920.2019.1707922

**Please provide the Stakeholder Engagement Plan or equivalent assessment.**

Please refer to Appendix 17.
In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement

the project will consult with community based organisations at the pilot sites including Panchayati Raj Institutions; CSOs/CBO; and Wetland Mitras; to determine concerns, aspirations and future BE opportunities related to fisheries, tourism, transport infrastructure development and e.g. flood management. The Table below provides more details on kind of engagement.

The objective of mainstreaming Natural Capital values in government and corporate sector planning and operations to enable a shift towards Blue Economy growth path is predicated on the extent to which NC, BD and ES values are recognized by different actors and stakeholders and having the capacity and willingness to integrate these in sectoral action plans and operations, especially those at the district level.

The participatory approach is an integral part of the project?s implementation strategy, as it has been the case during the Preparation Phase. A participatory approach to activities is built in all stages of the project cycle, including monitoring and evaluation, and will be refined during the inception phase. A variety of institutions, stakeholders and partners have been identified to facilitate the various activities during the GEF project?s implementation phase. Table 8 contains an overview of a range of international, national, state and site-level stakeholders and actors, their role in project implementation, as well as likely benefit from BluNatCap, and engagement strategy. Within the implementation arrangements, civil society is included within the National Project Steering Committee, as well as within the State Implementation Units, and as Knowledge Partners at national, state and district levels. Active participation of civil society will be the basis of NC accounts informed landscape plans in Component 2, as well as delivery of capacity building and knowledge management intervention under Component 3. Participation of civil society at a national scale will also be ensured in the development of the national NC strategy under Component 1, as well as in sector roundtables in Component 2.

The project, as part of component 3, will devise a communication strategy to ensure that the flow of information is continuous and targeted to the selected audiences. Several mechanisms, such as communities of practice, web-based knowledge platform, annual learning events, and dissemination

workshops will be used throughout the project to ensure that all stakeholders are informed about activities and overall advances and progress in implementation. These mechanisms will be targeted at different stakeholder groups taking into account their unique requirements.

The project will take complete advantage of the national, state and site-level policy-driven participatory structures constituted under the aegis of NPCA, ENVIS and related government programmes of the MoEFCC. The project will provide a platform for the MoEFCC to engage with and benefit from the knowledge and networks available with the MEAs related to wetlands and international networks. Conventions will also stand to benefit from an improved reporting on international commitments and the application of guidance for improved management of wetlands of national and international significance. The project will also establish twinning arrangements with select institutions and networks (eg. the Natural Capital Project of Stanford University; the Natural Capital Initiative; Natural Capital Cambridge Conservation Initiative) to support the exchange of knowledge and best practices for natural capital accounting and application in conservation programmes. At the national scale, the project will work with state governments for use of NCA in planning and decision-making. Within NPCA, the MoEFCC has been advising the SGs regarding the constitution of state wetland authorities as nodal state-level policymaking and cross-sectoral institutional coordination arrangements. BluNatCap will proactively engage with these institutions to promote the recognition of wetland ecosystem services and biodiversity values. The project will also engage with NGOs and CSOs which support Ministry and state governments in integrated management of coastal wetlands. The delivery mechanisms of the project will engage a range of stakeholders at the international, national and state levels to promote cross-sectoral arrangements for coastal landscapes.

The project specifically intends to demonstrate the application of NCA in landscape planning and district level sector plans and programmes in two coastal landscapes. Integrated management, in line with wise use principles, will aim to outline pathways for sustainable livelihoods of wetland-dependent communities, while maintaining the ecological integrity of wetlands. The baseline assessment will include identification and evaluation of natural capital stocks and flows and map these with the standard approaches of defining ecological character and risks of adverse change. Scenario planning will be used as a mechanism for reflecting various stakeholder priorities, needs and capacities in envisioning futures for the two landscapes. The management plan will also outline interventions for building capacity within community institutions to be natural resources stewards as well as seeking the involvement of local political leadership in conservation and wise use of these sites. In addition, the project will also engage with the private sector to support measures for conservation of coastal ecosystem NC, BD and ES.

**Stakeholder engagement in project implementation**

| Project stakeholders | Role in project | Benefit from BluNatCap Project | Engagement Mechanism |
|---|---|---|---|
| | | | |

National

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|---|---|---|---|
| ? Ministry of Environment and Forests (MoEFCC) | ? The Wetlands Division of the MoEFCC as the Executing Agency will be responsible to the GEF Implementing Agency (UNEP) for the financial administration and technical execution of the project; as well as will enter into an agreement with UNEP for the duration of the project.<br><br>? Facilitate the required level of inter-sectoral coordination with other relevant ministries, particularly MoSPI and departments of GoI, and also ensure the required level of participation from the two-state governments (Karnataka and Kerala)<br><br>? Ensuring that the project co-financing is made available on a timely basis for project implementation by all concerned<br><br>? Ensuring that GEF funds are made available to the two-state governments in which pilots are to be implemented<br><br>? Coordinating and reporting GEF financing from/to UNEP and other sources<br><br>? Guiding preparation of Terms of Reference for engagement of consultants, sub-contractors and tender | ●Effective application of NPCA mandate of mainstreaming wetland biodiversity and ecosystem services in developmental planning.<br><br>●Incorporation of NC values in government planning and corporate decisions will strengthen MoEFCC actions towards implementation of Integrated Coastal Zone Management Planning<br><br>●Improved information systems for the wise use and management of wetlands<br><br>●Improved reporting mechanisms on international commitments related to wetlands within MEAs<br><br>●Enhanced capacities of Wetland and development sector practitioners on NC - based NES-GRIDSS through the Green Skill Development Programme and on wetland ecosystem health assessments<br><br>●Expansion of ambit of NPCA through sites prioritized on biodiversity and ecosystem service values in relationship with developmental programming | ●Executing Agency |

| ? | MOSPI | •Supporting the development of a draft national roadmap that integrates NC values within SEEA.<br><br>•Supporting in modifying the existing government processes and decision-support systems, including NES-GRIDSS and on the adoption of SEEA-based indicators and applications in routine government mechanisms<br><br>•Endorsing the national roadmap and governance framework for SEAA based SNA within the NES-GRIDSS | •Advancing MOSPI actions for establishing environmental-economic accounts in India in terms of improving the quality of accounts, increasing its relevance and alignment with  user needs and enhancing the scope of environmental accounts with emerging areas<br><br>•Establish a consistent national roadmap for NC accounting in a System of national accounts in line with the MOSPI strategy on environment economic accounting<br><br>•Build on work under NCAVES project and develop a suite of SDG indicators aligned with Blue Economy to support national reporting on SDGs<br><br>•Expand the scope of ENVIS NES-GRIDSS in terms of seamless integration of NC information into national accounts and enhanced communication with key users to inform budgets and policy interventions | •Engagement in dialogue for the development of a roadmap for natural capital accounting in the context of coastal wetlands<br><br>•Leading stakeholder review meetings along with MoEFCC (including that of NCAVES Interagency Working Group)<br><br>•Involvement in reviewing existing policy and reporting frameworks; and proposing modifications to existing processes and decision-support systems, including NES-GRIDSS and on the adoption of SEEA-based indicators and applications in routine government mechanisms<br><br>•Involvement in preparing a national capacity building and outreach strategy to promote broader stakeholder engagement<br><br>•Proactive outreach of methods, best practices and lessons learnt through project implementation<br><br>•Invitation to nominate participants to capacity building and outreach workshops<br><br>•Engagement to develop dissemination tools adapted to the different types of users: e.g. websites brochures, analytical reports, maps, handbooks, press releases, Data User Seminars/Webinars |
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|---|---|---|---|
| ?     Ministry of Finance | ●Supporting the development of a draft national roadmap that integrates NC values within SEEA.<br><br>●Supporting in modifying the existing government processes and decision-support systems, including NES-GRIDSS and on the adoption of SEEA-based indicators and applications in routine government mechanisms | ●Contribute towards the road map to develop national NCA roadmapNCA roadmap | ●Briefing and discussions on methods, best practices and lessons learnt through project implementation<br><br>●Meetings/workshops to discuss sustainable financing mechanisms in the context of the blue economy and identify opportunities for replication in different districts |
| ?     ENVIS | ?     Support reporting on the NC indicators is essential to monitor BE growth<br><br>?     Maintain the required capacity, resourcing and institutional commitment for future upscaling and delivery<br><br>?     Host and support knowledge management platforms and maintain the required capacity and institutional commitment to ensuring ongoing delivery and support<br><br>?     Support pilot testing of adapted NES-GRIDSS in the 9 districts<br><br>?     Support establishing a framework for Green Skill Development Programme on NC- based NES-GRIDSS<br><br>?     Implementation of GSDP on NC based NES-GRIDSS<br><br>?     Implementation of GSDP on Wetlands NC values evaluation and management integration | ●Adaptation of existing ENVIS NES-GRIDSS to generate NC stock and flow accounts for blue economy<br><br>●Contribute towards the methodology for upgrading and expanding the functionality of the national network of the NES-GRIDSS  system in compliance with the SEEA framework | ●Consultations, formal agreements for support to establish NC-based NES-GRIDSS for monitoring purposes in pilot districts<br>●Regular engagement to develop a strategy for capacity development of ENVIS nodes on NC-based NES-GRIDSS and ENVIS development and implementation, through the Green Skill Development Programme<br>●Engagement to develop relevant information products on NC- based NES GRIIDSS such as maps, web-based spatial information, e-newsletters, technical reports |

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| ? Central Government Ministries<br><br>?<br><br>? The Ministry of Ports, Shipping and Waterways (MoPSW), Ministry of Fisheries, Animal Husbandry and Dairying (MoFAHD), National Fisheries Development Board (NFDB), Ministry of Housing and Urban Affairs, Ministry of Tourism | ●Support development of strategy report for tourism, fisheries and infrastructure sectors on NC based interdependencies, business risks and opportunities for Blue Economy<br><br>●Mainstreaming coastal wetlands conservation within sectoral programmes | ●Availability of Spatial Decision Support Systems to inform sectors on coastal ecosystem NC, BD and ES<br><br>●Availability of best practices and lessons related to the integration of wetland biodiversity and ecosystem services in sectoral planning | ●Engagement in stakeholder dialogue to mainstream coastal wetlands conservation within sectoral programmes<br><br>●Communication through reports<br><br>●Invitation to participate in seminars<br><br>●Co-branding of outreach material<br><br>●Possible co-financing for a clean and sustainable environment and application of ?Smart? Solutions in the coastal region<br><br>●Involvement in drafting a CEPA strategy for coastal ecosystems<br><br>●Proactive outreach of methods, best practices and lessons leant through project implementation<br><br>●Invitation to nominate participants to capacity building and outreach workshops |

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| ? Regulatory authorities

? National Biodiversity Authority (NBA), SICOM, Marine Products Export Development Authority (MPEDA), Inland Waterways Authority of India, Coastal Aquaculture Authority | ●Support in the compilation of best practices

●Support development of a draft national roadmap that integrates NC values within SEEA. | ●Availability of ready databases to inform statutory bodies on NC values of coastal ecosystems will assist them in performing their regulatory and advisory functions | ●Invitation to stakeholder dialogue with MOSPI

●Sharing of best practices and lessons learnt |

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| ? Capacity building, research and training centres<br><br>? Ministry of Earth Sciences through ESSO - Indian National Centre for Ocean Information Services (INCOIS), Through the Department of Science and Technology (DST)<br><br>? National Institute of Public Finance and Policy, Institute of Economic Growth, National Center for Sustainable Coastal Management, National Remote Sensing Center,<br><br>? Wildlife Institute of India, Central Inland Fisheries Research Institute, CMFRI, Zoological Survey of India, Botanical Survey of India, Universities as IIT ? Roorkee, Delhi University, JNU and others | ●Establishment of NCA community of practice<br><br>●Support development of the Knowledge management platform<br><br>●Support development and delivery of training modules | ●Communication and outreach products on wetland biodiversity and ecosystem service assessments and values<br><br>●Strengthened capacity to train wetland managers and stakeholders in integrated coastal management<br><br>●Capacity building toolkits for integrated management of coastal ecosystems<br><br>●Enhanced integration of existing datasets in decision support systems<br><br>●Availability of datasets and knowledge products to support setting conservation and development priorities | ●Involvement in stakeholder workshops led by MOSPI and MOEFCC to develop a framework for NC and ES based accounts<br><br>●Involvement in development and delivery of various toolkits and assessment of best practices<br><br>●Lead delivery of training courses<br><br>●Engagement for adapting the existing spatial decision support systems<br><br>●Function as outreach centres on coastal wetlands |

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| ? Industry associations and business enterprises, through CII - ITC Center for Excellence for Sustainable Development | ●Support incorporation of NC information into corporate funding protocols and processes and Green investment in landscape plan implementation | ●Address knowledge gaps for sustainable blue economy<br><br>●Further dialogue with stakeholders for designing long term, sustainable growth models for the blue economy<br><br>●Promote better adoption of NC protocols, and NC action planning framework by the corporate sector | ●Engagement to understand current knowledge and practice barriers with respect to incorporation of NC considerations in developmental planning<br><br>●Dissemination of toolkits, best practices and lessons learnt<br><br>●Invitation to nominate participants to capacity building and outreach workshops<br><br>●Sustained engagement for enhancement of corporate sector investments for sustainable infrastructure, fisheries and tourism development |

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| ?<br>International organizations, INGOs and NGOs with wetland related work programmes<br><br>?    SACON, Tamil Nadu; NIH, Roorkee; GEER Foundation, Gujarat, Environmental Planning & Coordination Organisation (EPCO), Wetlands International South Asia, IUCN-India, BNHS, WWF-India, MSSRF | ●Provide support in the development and delivery of training modules | ●Toolkit and best practices for inventory and assessment of wetland ecosystem services and biodiversity values | ●Engagement in development of capacity building module<br><br>●Engagement in the development of toolkits on wetland biodiversity and ecosystem services inventory and flow assessments<br><br>●Participation in training programmes<br><br>●Dissemination of toolkits, best practices and lessons learnt<br><br>●Participation in learning networks<br><br>●Support for organizing outreach events |
| State-level | | | |

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| ? Nodal agencies responsible for the management of Ramsar Sites and wetlands of national significance | ? Support district level Blue Economy Strategy formulation<br><br>●Update and review management plans<br><br>●Support modification of district plans in alignment with landscape plans<br><br>●Organise training workshops and training of trainers | ●Toolkit and best practices for inventory and assessment of wetland ecosystem services and biodiversity values<br><br>●Assessed management effectiveness to support improved management<br><br>●Information on status and trends in wetland ecological character<br><br>●Updation of RIS, Wetlands database<br><br>●Built capacity in integrated management of wetlands | ●Engagement in development of capacity building module<br><br>●Engagement in development of toolkits on wetland biodiversity and ecosystem services inventory and assessment, climate vulnerability assessment<br><br>●Participation in training programmes<br><br>●Dissemination of toolkits, best practices and lessons learnt<br><br>●Participation in learning networks<br><br>●Support for organizing outreach events<br><br>●Support for applying inventory and assessment tools and integrated management planning through Small Grants Facility |

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| ? State Wetland Authorities | ●Support district level Blue Economy Strategy formulation<br><br>●Update and review management plans<br><br>●Support modification of district plans in alignment with landscape plans<br><br>●Organise training workshops and training of trainers | ●Guidance on systematic prioritization of wetlands considering wetland biodiversity and ecosystem service values within developmental planning<br><br>●Built capacity for integrated management of wetlands<br><br>●Best practices and lessons learnt for integrated management of wetlands | ●Engagement in development of capacity building module<br><br>●Engagement in the development of toolkits on wetland health assessments<br><br>●Working with central government mandates agencies (e.g. Ministry of Finance) towards adoption and implementation of new budgets and fiscal measures<br><br>●Participation in training programmes<br><br>●Dissemination of toolkits, best practices and lessons learnt<br><br>●Participation in learning networks<br><br>●Support for organizing outreach events |
| ? State Pollution Control Boards<br><br>? State Disaster Management Authority<br><br>? State Coastal Zone Management Authorities<br><br>? State and UT Biodiversity Board | | ●Benefit from adapted NES-GRIDSS as an information source on coastal ecosystem NC, BD, ES condition and trends | ●Participation in training programmes<br><br>●Dissemination of best practices and lessons learnt<br><br>●Participation in workshops to promote the use of biodiversity and NC values for better management of coastal and nearshore marine ecosystems<br><br>●Engagement to integrate learnings in District and state Environment Plans, Coastal Zone Management Plans and Disaster Management Plans |
| Site-level | | | |

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| ? Community-based organisations at the pilot sites<br><br>? Panchayati Raj Institutions<br><br>? CSOs/CBO<br><br>? Wetland Mitras | | ●Interventions for sustainable livelihoods linked to the wise use of coastal ecosystems<br><br>●Improved social and economic well-being and health outcomes<br><br>●Improved gender balance and social equity in community engagement with site management | ●Specific consideration of community views, rights and capacities while formulating a landscape action plan for coastal ecosystems<br><br>●Integration of actions for site-specific and landscape plans in village-level developmental plans to ensure convergence with local developmental programming<br><br>●Integration of gender equity concerns in site management planning and implementation<br><br>●Integration of traditional knowledge, culture and belief systems in site management planning and implementation<br><br>●Specific targeting for communication and outreach programmes<br><br>? Engagement in participatory monitoring and evaluation |
| ? Indigenous people and local communities (Kuttanad and Kol farmers, Kagga Farmers, Fishers (Ambiga, harikanta, Gabit, Dalji Namdhari Patgar Salt makers (Ager), Gazni landowners) | ? Support development of spatial plans for the two coastal landscapes<br>? Enagage in training programmes<br>Support revision of sector plans resulting from NC, BD and ES values | ? Views, rights and capacities are integrated in spatial and sector plans<br>? Interventions for improved ecosystem management build community resilience<br>● | ? Meetings, interviews and Focus Group Discussions for seeking inputs into development of spatial plans wetland NC accounts<br>? Grievance redress avenues and feedback systems<br>●Informing project progress through meetings and discussions |

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| ?      Agencies leading the implementation of pilot sites<br><br>?      District Administration<br><br>?      Wetland Managers<br><br>?      Protected Area Managers | | ●Improved inter-sectoral collaboration for information sharing and integrated planning<br><br>●Improved integration of NC values of district economy in national accounts<br><br>●Establish pathways for sustainable growth in the district resulting in better SDG outcomes and GDP | ●Technical and financial support for establishing physical accounts quantifying wetland ecosystem services flows to the landscape<br><br>●Technical support for setting up cross-sectoral governance mechanisms<br><br>●Technical and financial support for mainstreaming of NC values and ecosystem services in sectoral planning, investment and operations |
| ?      Industries<br><br>?      Tourist boat associations / federations<br><br>?      Marine Product Export Houses | | ●Established mechanisms for participation in the management of coastal wetlands<br><br>●Enhanced sustainability of core operations<br><br>●Reduction in investment and reputational risks | ●Engagements to identify opportunities for corporate sector engagement<br><br>●Involvement in landscape planning and implementation<br><br>●Share best practices<br><br>●Lessons learnt on the engagement of the private sector in wetland management<br><br>●Opportunities to engage in the development of training modules on private sector participation in wetland management<br><br>●Engagement in capacity building programmes<br><br>●Specific targeting for communication and outreach programmes |

Stakeholder Engagement

The Stakeholder Engagement Plan (SEP) is designed to ensure effective engagement between various stakeholders throughout the lifecycle of BluNatCap project. This plan will build on any other work which is being undertaken with regard to planning and impact assessment processes. The BluNatCap project will aim to maintain dialogue with the relevant government ministries and State and Local governments and selected local community groups and NGOs, business and business associations and research and academia.

**Stakeholder identification**

In order to ensure inclusive participation, the following stakeholders were identified for consultation and engagement in project in an on-going basis. The list includes identified stakeholder groups that are relevant for the delivery of the project results, ultimately supporting mainstreaming NC values into planning and implementation of blue economic growth in Indian coastal districts. These stakeholders are categorized into four categories based on how much they are impacted by the outcome of BluNatCap and how much can they influence the project. The stakeholders with high impact and high influence are the key stakeholders and BluNatCap with work closely with them for the effective delivery of the project outputs. The stakeholders with high impact and low influence will be engaged through consultations to identify convergence opportunities with the developmental/ sectoral programmes. The low impact and high influence stakeholders will be actively engaged during the implementation of BluNatCap through the State Implementing Units (SIUs), especially in Component 2 that iinvolves spatial planning. The low impact and low influence stakeholders will be regularly informed about the project through stakeholder consultations and dissemination workshops so as to ensure incorporation of their needs and priorities while developing spatial plans.

**Stakeholder identification matrix:**

| Stakeholder Category | National | State | Site |
|---|---|---|---|
| Government Ministries/Departments/ Agencies | MoEFCC, MoSPI, MoF,, MoPSW. MoHUA , MoFAHD, MoT | DOECC, DoI DoT, DoRD, DoA, KSCSTE , DoTP, DoMD , KGWD, DoF, LSGD, Elected representatives | District Administration, Niyamasabha, Elected representatives |

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|---|---|---|---|
| Statutory Bodies | NWC, NBA, SICOM, MPEDA, NFDB, IWA, CAA, | SWAK, KSPCB, KSCZMA, KLDC, Haritha Keralam Mission, KSM, Karnataka SWA, SDMA (36) | DDMA, CARMAC |
| International organisations, INGOs/ NGOs | UNEP-India Program, UNDP (Biofin), TEEB-Agriculture, BNHS, WRI, World Bank, IUCN-India, SANDEE | MSSRF, KIDS, ATREE | WWF-India, KNS, WISA, Panchabhoota Conservation foundation, Greenworms |
| CBOs/CSOs | | Sneha Kunja | KVS, SHGs |
| Local administration | | | PRI, Village Forest Panchayats |
| Media | Times of India, Hindustan Times, The Hindu and other national daily

National Wetlands Portal | Matrubhumi, Manorama Deshabhimani, kaumuthi , Deepika newspaper | |
| Research and academia | Knowledge partners of wetlands programme (SACON, GEER Foundation, WISA, WWF-India, EPCO, NCSCM, GIZ), NIPFP, NRSC, WII, CMFRI, ZSI, BSI | ENVIS centres, KUFOS, CWRDM , KILA, KAU, CUSAT, SESMGU, CUCE, CERS, TIES, EMPRI | IRBSF, CWRDM, ATREE, KVK, RRI, IISc |
| Business and Business Associations/Federations | CII-ITC Centre for excellence for Sustainable Development | | Udyog mandal, Shell Collectors, House Boat Associations, Marine fishers Association, Resort Associations, Cochin Port Trust, Coir Retting Society, Karnataka Industrial Development Board |
| Community and vulnerable groups | | | Padashekharam samithi Kudumbashree , Clam collectors , Wetland Mitra |

| Indigenous People and Local communities | | | Kuttanad and Kol farmers, Kagga Farmers, Fishers (Ambiga, harikanta, Gabit, Dalji Namdhari  Patgar Salt makers (Ager), Gazni landowners |
|---|---|---|---|
| Project Management Unit | | | |

**Color coding used in Matrix:**
High Impact- High Influence
1-    High Impact- Low influence
2-    Low Impact- High Influence
3-    Low Impact- Low Influence

Note: the matrix will be updated during project inception workshop

**Mapping of stakeholder concerns and recommendations for the project**

The table below summarises the key concerns and recommendations that emerged during the discussions with the stakeholders consulted during the PPG phase and subsequent extensions. Due to COVID-19 restrictions the PPG team was not able to directly consult the IPLCs and local communities in the Aghanashini landscape. The project will endeavor to immediately consult the landscape stakeholders within the first two months of initiation of the project so that their views, concerns and suggestions are taken on board during project implementation.

| Organization | Name and Designation | Summary of discussions |
|---|---|---|

| Ministry of Environment, Forest and Climate Change (Wetlands Division) | Mr Ravi Agrawal (Additional Secretary)<br><br>Ms Manju Pandey (Joint Secretary) | ? Role as Executing Agency was confirmed, and NPCA as a major baseline project<br><br>? Recommended integrating the wetlands health card systems with the knowledge-hubs to support creation of wetlands accounts.<br><br>? Concurred with the need to use wetlands NC accounts for prioritization of interventions, especially linking wetlands conservation and wise use with the operations of different sectors wherein the direct threats to coastal wetlands are rooted.<br><br>? Suggested integrating NC accounts with the wetlands management planning process, and provide a basis of financing which enables shifting away from predominantly public finance dependence, to models which allow for systematic corporate sector engagement.<br><br>? Recommended creation of a Green Skill Development Programme centered on creating employment opportunities by acquiring skills and employability on application of wetlands NC accounts in BE sector plans, programmes and implementation.<br><br>? Recommended ensuring convergence with implementation of GEF-5 Integrated Management of Wetlands Biodiversity and Ecosystem Services (IMWBES) and IKI funded ?Integrated Management for Wetlands Biodiversity Conservation and Climate Security? projects. |
| Ministry of Environment, Forest and Climate Change (Economic Division) | Mr. Arun Kumar, Senior Economic Advisor (consultations through Wetlands Division)<br><br>Ms. Lipika Roy, Deputy Director | ? Welcomed support to implementation of NES-GRIDSS and adaptation to SEEA compliant EA and NC accounts.<br><br>? Suggested working with the ENVIS nodes in the two landscapes, and focus on the network for capacity development programmes.<br><br>? Suggested reviewing the outcomes of NES-GRIDSS piloting in Karnataka.<br><br>? Full project proposal under formal review (under communication through Wetlands division) |

| Ministry of Statistics and Plan Implementation | Mrs Bhanumathi, DDG and Project Lead (NCAVES) ? currently with IMF | ? Expressed concurrence with the need to follow up with work on SEEA-EEA done under NCAVES project.<br><br>? Recommended that rather than taking valuation and accounting for specific ecosystems, an entire landscape be taken as an assessment unit and accounts established to feed into landscape scale plans.<br><br>? Recommended to use scenario analysis as a basis for selecting pathways aligned with BE development. |
| --- | --- | --- |
| National Center for Sustainable Coastal Management | Dr Purvaja Ramachandran, Division Chair, Futuristic Research Division<br><br>+coastal wetlands and integrated coastal management team | ? Current engagement of NCSCM on coastal wetlands, and implementation of CRZ regulation were discussed<br><br>? Mapping and inventory of coastal ecosystems (defined as ecologically sensitive areas and critically vulnerable areas) were discussed<br><br>? Geo-spatial data architecture for coastal region were discussed ? the possibility of creating interface with adapted NES GRIDSS and supporting NCA were also discussed at length<br><br>? NCSCM is very willing to support creation of physical accounts and ecosystem services assessment within the two landscapes. Substantive complementarities exist between Component 2 (landscape planning) of the BluNatCap and coastal ecosystem and resources mapping activities being undertaken by NCSCM |

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| Salim Ali Center for Ornithology | Dr S Muralidharan, Acting Director<br><br>Dr Goldin Quadros, Principal Scientist, Wetlands Division | ? The activities of SACON are guided by the ?Visionary Perspective Plan for Conservation of Avian Diversity, their Ecosystems, Habitats & Landscapes in the Country? (VPP) for a period of ten years (2020-30).<br><br>? The VPP has identified priority issues and actions required for the conservation of birds under 15 programmes which are to be implemented by various stakeholders including various Ministries and Departments at the Central and State levels in collaboration with various partner institutions and organisations.<br><br>? The activities under programme 14 (Mainstreaming Conservation of Avian Diversity with other Sectors) bears complementarity with BluNatCap Component 2.<br><br>? SACON will also support setting up capacity development programmes ? especially Green Skill Development Programme on wetlands |
| UNDP ? India | Dr Ruchi Pant, Chief, Climate Change, Resilience and Chemicals alongwith BioFIN India team | ? A presentation on BioFIN India Phase 1 implementation and Phase 2 structure was made<br><br>? Welcomed that the project will test and elaborate the pathways for bridging the biodiversity finance gaps with respect to coastal ecosystems.<br><br>? Suggested close cooperation with BioFIN Phase II implementation, and taking forward the gap assessment with interventions based on NC accounting. |
| CII ? ITC Center for Excellence | Pravir Deshmukh, Counsellor | ? BluNatCap project framework presented<br><br>? Natural Capital integration in business plans through valuation and risk assessment tools is a priority for IBBI<br><br>? IBBI has conducted a valuation of mangroves for Appollo Tyres in Kerala. On similar lines, a project on mangrove restoration through engagement of corporates is being developed in Mumbai for Godrej.<br><br>? IBBI has confirmed being a partner to BluNatCap in supporting sector roundtables and development of strategies for Blue Economy sectors<br><br>? IBBI will also proactively seek private sector co-finance in discussion with its member corporates |

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| World Resources Institute | Dr Madhu Verma, Chief Economist and colleagues | ? Welcomed natural capital assessment and valuation<br><br>? Recommended using ETF experience of forestry sector for coastal wetlands<br><br>? WRI would be willing to support SEEA EA for two states, as well as provide handholding support at national level |
| GIZ ? India | Dr Ravindra Singh, Director, Indo German Biodiversity Programme | ? Recommended using TEEB experience for application of NCA to specific policy contexts<br><br>? Recommended using scenario approaches, including climate information, for assessing consequences for alternate development pathways |
| Center for Water Resources Development and Management, Kerala | Dr P S Hari Kumar, Senior Principal Scientist and Head<br><br>Ecology and Environment Research Group | ? Discussions focused on state of Vembanad- Kol wetlands and catchments and various sectoral programmes<br><br>? CWRDM will be willing to handhold BluNatCap implementation in Vembanad-Kol landscape<br><br>? CWRDM will make accessible databases and human resources for development of physical accounts at landscape as well as state level<br><br>? Training infrastructure at CWRDM can be used for capacity development interventions |
| Indian Institute of Science (Energy and Wetlands Division) | Dr T V Ramachandra, Head (Energy and Wetlands Division) | ? Discussions focused on state of Aghanashini Estuary and engagement of IISc (summarized in baseline analysis)<br><br>? Experiences of creating NCA for forests and agriculture were shared ? these can be built upon in implementation of Component 2 and 3 of BluNatCap<br><br>? IISc is willing to be a technical partner for BluNatCap implementation in Aghanashini landscape |
| Asian Waterbirds Census ? State Coordinator | Dr Subbu Subramanya, State Cooridnator ? Karnataka | ? Discussions focused on state of Aghanashini Estuary and processes leading to Ramsar Site designation proposal (summarized in baseline analysis) |
| State Wetlands Authority ? Kerala | Mr Sunil Pamdi, Member Secretary<br><br>Dr John C Matthews | ? Conveyed concurrence to project implementation in Vembanad Kol basin<br><br>? Recommended building complementarities with the management planning initiated in January with Wetlands International South Asia and CWRDM |

| Rebuild Kerala Initiative | Vishnu Kumar G, Project Director | ? Project framework discussed in detail<br><br>? Has sought more time to discuss internally on alignment with initiative |
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| ENVIS Centre network | Mr. P. Vipin Babu, ENVIS Coordinator / Scientist | BluNatCap design was presented to the Ministry and ENVIS network. Following comments were made by the attendees: |
|---|---|---|
| | Dr. P. Harinarayanan, Principal Scientist & ENVIS Co-Ordinator, KSCSTE | ?      The project design was acceptable. The proposal to adapt NES-GRIDSS to make the system capable of generating NC accounts was a novel approach which will assist in streamlining the database, as well as make value additions by contributing the NCA. |
| | Dr. Deepu Vijayan, Scientist - B , Botanical Survey Of India,  Shillong , ENVIS Coordinator | ?      The project should build upon the lessons and experiences of NES-GRIDSS piloting in 8 Districts of Karnataka, including Uttara Kannada Districts. The NCA for forestry and agriculture sector have been developed using the NES GRIDSS data in the state. |
| | Prof. Dr. P. Anantharaman, Dean & ENVIS co-ordinator Faculty of Marine Sciences Centre of Advanced Study in Marine Biology Annamalai University | ?      The IISc- ENVIS center had produced a systematic analysis of biophysical and social aspects of Aghanashini landscape. These datasets could be integrated into description of baseline and alternate courses of action.

?      A catchment approach should be taken while developing wetlands NC accounts. This will ensure that the key processes sustaining wetlands, especially those related to developmental planning and land and water resources management, are adequately factored in the accounts. |
| | Mr. Vinay Kumar K H, Director, Environmental Management Policy Research Institute, Bangalore, Project Coordinator of ENVIS | ?      Project should include actions for standardizing data collection and also create processes for systematic data sharing using a web interface.

?      Lessons learnt from coastal landscapes are also valuable for terrestrial landscapes. The project should create opportunities for learning lessons and best practices from the NES-GRIDSS adaptation and use in NCA development. |
| | Prof. Dr. M. Krishnaveni , ENVIS Coordinator, Director, Institute for Ocean Management, Koodal Building, Anna University | ?      EMPRI has conducted an assessment of 10 estuaries of Karnataka, including Aghanashini. The institute has also partnered with the State Government for preparation of draft coastal zone management plans. The available datasets could be used in describing the baseline condition and also the alternate course of action. |
| | Prof. Dr. Meenakshi Dhote , Department of Environmental Planning, School of Planning and Architecture Delhi, ENVIS Centre on Human settlement | ?      Puducherry has undertaken Marine Spatial Planning through the National Center for Coastal Research. These experiences could be used for the project planning.

?      The Himalayan region has dearth of environmental data. Efforts should be made to improve data availability through measures such as NES-GRIDSS implementation. |
| | Dr Mazid Farooq , Scientific Staff Officer / ENVIS Co-ordinator, Department of Ecology, Environment and Remote Sensing, J&K | ?      ENVIS ? Odisha has developed a mobile app for data collection under NES GRIDSS implementation in Cuttack. These experiences could be used in integrated in project design. |
| | Dr. T. V. Ramachandra , IISc, | |

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| Kerala State Council for Science, Technology and Environment, Govt of Kerala | Dr P Harinarayanan, Principal Scientist | ? Project framework discussed in detail<br><br>? Assurance on implementation support as may be needed by BluNatCap |
| Minor Irrigation Department | Mr Lalji (Assistant Environment Engineer)<br><br>Ms Jency Rose Jameson (Overseer) | Following recommendations were made:<br><br>? Capacity of industries (such as distelleries) in the Vembanad lake should be capped.<br><br>? Encroachment and pollution by the industries need to be controlled.<br><br>? lack of treatment plant facilities in the operating industries.<br><br>? Quality of oil and engine of the house boats should be monitored regularly. The speed of the boats should be controlled. Defaulters to be banned.<br><br>? Guidelines should be formulated for liquid and solid waste management.<br><br>? Remove the deposited slit periodically to improve the holding capacity of lake.<br><br>? The outflow from the agricultural fields should be treated<br><br>? More importance to be given water transportation. |
| Kerala State Pollution Control Board | Mr Anikar (Assistant Environment Engineer)<br><br>Mr Smith Mohandas (Assistant Environment Engineer) | ? Expressed concern over growing water pollution<br><br>? Recommended establishment of sampling stations along the entire Vemabanad wetland area.<br><br>? Tourists should be sensitised to stop macro-plastic pollution and littering (general awareness raising required). |

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| House Boat Owners Society, Kumarakom | Mr Soji J. Alumparambil (President)<br><br><br><br>Mr Roy P.V (Secretary) | ?    ?Suggested that separate infrastructural facilities should be established for the house boats for waste management.<br><br>?    Bridge construction across the river should be as wide as the river width, natural flow should not compromise.<br><br>?    Stated that there is no change in the pollution load even in the pandemic days.<br><br>?    Requested to make a separate pathway for houseboats. |
| Town Planning Department | Mr Robin Thomas (Planning Officer, Kottayam)<br><br><br><br>Ms Beeta Bhadran (Assistant Planner) | ?    Concerns were raised pertaining to increased flood intensity over the years hence flood modelling/simulation studies should be carried out so that some mechanism for prior warning is established.<br><br>?    Suggested setting up of a permanent solid and liquid waste management facility for the conservation of Vembanad-Kol |
| Muhamma Live Shell Co-operative Society | Mr P. K Surendran (President) | Following recommendations have been made:<br><br>?    Natural resources are becoming scarce, hence opportunities of alternative livelihood options should be provided.<br><br>?    The shutters of Thanneermukkom barrage should be opened for a period of one year in an experimental basis.<br><br>?    As per the recommendations of Swaminathan commission, a calendar should be provided for the regulation of Thanneermukkom barrage.<br><br>?    To establish treatment plants in the Gramapanchayath in the banks of lake.<br><br>?    Increase the depth of approach channels and protect them by rubble walls.<br><br>?    Take immediate action to remove silt deposition from the lake. |
| Agriculture Department, Alleppey | Ms Rejatha (Joint Director) | ?    Shared that studies should be conducted to understand the cropping pattern and to enhance the productivity of paddy cultivation. |

| International Research & Training Centre for Below Sea Level Farming, Kuttanad | Prof. (Dr) K.G Padmakumar (Director)<br><br>Ms Rekha Bhaskar (Deputy Director) | Following points were raised and discussed<br><br>?     IMP should be people centric<br><br>?     There is no need for excessive dredging, siltation is a natural process wherein the farmers should be allowed to excavate and use it for building their polder<br><br>?     The untreated discharge from the industries is more dangerous than the amount of fertilisers or pesticides being used by farmers, if this is not checked then there are all likelihood chances of adverse situations arising similar to Ludhiana in Punjab<br><br>?     Prospects of reintroducing native species based on scientific methods can be explored |

| Kerala University of Fisheries and Ocean Studies | Dr S. Suresh Kumar (HoD, Aquatic Environment Management)<br><br>Dr. Anvar Ali (Faculty, Dept. of Fisheries)<br><br>Dr.V.N.Sanjeevan (Former Director, CMLRE (MoES) | ? The following recommendations were made:<br><br>? Closure of the Thaneemukkom Barrage extended for 2-3 months drastically impacts the estuarine ecology. Atleast the opening of the side gates at the extremes should be considered so that species migration takes place and that fisheries and Black-clamp regenration happens.<br><br>? Some consideration should be given to relax the CRZ for the dyke dwellers looking in to the reality of the situation i.e. geography/landscape. These are indeginous communities and cannot give up the age old practice of paddy cultivation.<br><br>? Ecology should be viewed in three zones i.e. Freshwater, Estuarine and Marine.<br><br>? 142 fish species have been recorded from the Vembanad lake system.<br><br>? Scientific Techniques should be used to develop native fisheries.<br><br>? Local fish species need to be bred for re-introduction, this has been successfully attempted in the mountain areas of the state.<br><br>? A sharp decline in the functional ability of the Vembanad Wetland System to retain and discharge flood waters has been recorded.<br><br>? Most of the engineering structures are based on faulty design and lack in functional efficiency hence contribute to the occurrence of flash floods in Kuttanad area during extreme rainfall events.<br><br>? Reduced discharge capacity of the Thottapally spillway is largely due to the relatively high sill height (2.03 m below MSL), narrowing of the bar-mouth (132.5 m) and due to the prolonged retntion of extensive river plumes in the coastal waters off the spillway.<br><br>? Deepening of the Vembanad Lake, re-establishing the pulsatile nature of paddy fields adjoining the lake system and improving the discharge efficiency of the Thottappally spillway are few hybrid Solutions recommended to manage flood situations in central Kerala. |
| M S Swaminathan Research Foundation | Mr Jibin Thomas (Coordinator) | ? Expressed the need to look into the carrying capacity of the ecosystem and the trend in extraction of natural resources by the indigenous communities and to study prospects of alternative livelihoods for these communities. |

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| KSCSTE-Centre for Water Resources Development and Management | Dr Drissia T.K (Senior Scientist) | ? Following recommendations were made:<br><br>? For flood control structural interventions such as the flood walls/embankments are not feasible as max. flood level at certain places is higher than 5m.<br><br>? Early warning systems should be installed, model developed for Manimala and Achenkovil districts can be replicated.<br><br>? Widening of the lead channel by 300m (from Viyyapuram to Thottappally) may reduce the effect of the flood. |
| Tropical institute of ecological sciences | Dr Roshini susan elias (Sr Scientist) | ? Expressed concerns on the usage of use of chemical fertilizers and  disposal of waste<br><br>? Recommended regular monitoring of water quality and taking actions to protect and enhance biodiversity |
| SN Arts and Science College, Kumarakom | Dr. Nadia C Raj (Assistant Professor)<br><br>Ms Anitha R (Asst. Professor) | ? Recommended regeneration of mangroves<br><br>? Provision of facilities and fund for school, colleges for awareness classes<br><br>? Control/ recycle the oils used in Ayurvedic massage centers<br><br>? Proper removing the deposited slit is a major concern |
| Times of India | Ms Sreemol (reporter) | ? Make local bodies to set up STPs at each LSGD/divisions to treat sewage in the respective areas.<br><br>? LSGDs have to ensure that there is no leakage from households and industries.<br><br>? Recommend that we can grade the local bodies who implement the conservation activities of the ecosystem based on the direction of the Govt. |
| Kottayam Nature Society | Dr. Prashanth Narayanan (Research Associate) | Following recommendations were made:<br><br>? Synchronisation of Agricultural calendar<br><br>? Nature education not only to the youth but also to the adults<br><br>? Regular monitoring of all measurable aspects<br><br>? Pollution minimising at producer level<br><br>? ?Proper waste-water and sediment treatment at ground level |

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| Regional Agriculture Research Station, Kumarakom | Dr. Ajit (Assistant Professor) | ? Expressed the need for a rapid Flood warning system |
| Padashekharam samithi | Mr Babu U (Secretary) | ? Suggested deepening of the adjoining rivers and streams by removing deposited slits.<br><br>? Shore of the lake should be protected by walls<br><br>? Thanneermukkom barrage should be regulated for paddy cultivation |
| Muhamma Grama Panchayth | Ms Swapna Shabu (president) | ? Recommended implementation of proper management system for removing the deposited slit<br><br>? Regulation of the Thannermukkom barrage for increasing the fish cultivation<br><br>? Protection of all adjoining streams should be protected |
| Samyuktha Vembanad Kayal Samrakshna Samithi | Mr KM Poovu (Secretary) | ? Recommended opening of barrage should on March 15<br><br>? Industrial waste water should be treated |
| Kila Canalpy | Ms Drissia Viswan (Research Associate) | ? Suggested decentralization of all the solid and liquid waste water treatment systems<br><br>? Suggested deepening of the adjoining streams should implement without partiality |
| Haritha kerala Mission | Ms Reshma V (Resource person) | ? Recommended limiting waster rather than treating them |
| CUSAT | Dr. G. D. Martin | ? Expressed concerns about pollution due to Kochi port, various industries and KSEB<br><br>? Recommended catchment level planning and management |

**Stakeholder Categorisation**

The list of stakeholders has been further classified in three categories in terms of their association with the project:

? Stakeholders affected directly or indirectly by the outcomes of the project implementation

?     Stakeholders that participate in the project directly or indirectly

?     Stakeholders who are able to decide the outcomes or the manner of the project implementation or make decisions on the basis of the outputs of the project

| Stakeholder group | Stakeholders affected directly or indirectly by the outcomes of the project implementation | Stakeholders that participate in the project directly or indirectly | Stakeholders who are able to decide the outcomes or the manner of the project implementation or make decisions on the basis of the outputs of the project |
|---|---|---|---|
| Government Ministries/Departments/ Agencies | DoI, DoT, DoTP, | MoEFCC, MoSPI, District Administration | MoF, MoPSW. MoHUA , MoFAHD, MoT, DOECC, DoRD, DoA, KSCSTE, DoMD, KGWD, DoF, LSGD, Elected representatives, Niyamasabha |
| Statutory Bodies | SDMA, DDMA | SWAK, Karnataka State Wetland Authority | NWC, NBA, SICOM, MPEDA, NFDB, IWA, CAA, KSPCB, KSCZMA , KLDC, Haritha Keralam Mission, KSM, CARMAC |
| International organisations, INGOs/ NGOs | | UNEP-India Program, UNDP (Biofin), TEEB- Agriculture, WISA | BNHS, WRI, World Bank, IUCN-India, SANDEE, MSSRF, KIDS, ATREE, WWF-India, Panchabhoota Conservation foundation, KNS, Greenworms |
| CBOs/CSOs | | | Sneha Kunja, KVS, PC, SHGs |
| Local administration | PRI, Village Forest Panchayats | | |

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| Media | | National Wetlands Portal | Times of India, Hindustan Times, The Hindu and other national daily, Matrubhumi, Manorama, Deshabhimani, kaumuthi, Deepika newspaper |
| Research and academia | | ENVIS centres, Knowledge partners of wetlands programme (SACON, GEER Foundation, WISA, WWF-India, EPCO, NCSCM, GIZ), NIPFP, NRSC, WII, CMFRI, ZSI, BSI | KUFOS, CWRDM , KILA, KAU, CUSAT, SESMGU, CUCE, CERS, TIES, IRBSF, CWRDM, ATREE, KVK, RRI, IISc |
| Business and Business Associations/Federations | House Boat Associations, Karnataka Industrial Development Board, Shell Collectors, Resort Associations | CII-ITC Centre for excellence for Sustainable Development, Marine fishers Association | Udyog mandal, Cochin Port Trust, Coir Retting Society, Karnataka Industrial Development Board |
| Community and vulnerable groups | Clam collectors | Padashekharam samithi Kudumbashree , Clam collectors , Wetland Mitra | |
| Indigenous People and Local communities | Kuttanad and Kol farmers, Kagga Farmers, Fishers (Ambiga, harikanta, Gabit, Dalji Namdhari Patgar Salt makers (Ager), Gazni landowners, | | |

BluNatCap will engage with the stakeholders as per the following framework (to be further updated during project inception)

| Stakeholder Category | Engagement method | Roles and responsibilities for plan implementation | Timing of the engagement throughout the project cycle | Budget |
|---|---|---|---|---|
| Government Ministries/Departments/ Agencies | Engagement in the development of NCA roadmap (1.1.1), position paper (1.1.2), public private partnerships (2.1.4)<br><br>Seek participation in training programmes (3.2.1)<br><br>Sharing project progress and results (3.1.1) | PMU and LTSP | Year 1 to Year 4 | Included in Output 1.1.1, 1.1.2, 2.1.4, 3.1.1, 3.2.1 |
| Statutory Bodies | Engagement in development of NCA roadmap (1.1.1), position paper (1.1.2), KM platform (3.1.2), spatial plans (2.1.3), SDG suite of indicators (1.1.2), wetlands NC accounts (2.1.1), sector strategy papers (1.2.2)<br><br>Engagement in sector roundtables (1.2.2)<br><br>Engagement in delivery of training programmes (3.2.1 and 3.2.2)<br><br>Sharing project progress and results (3.1.1) | PMU and LTSP | Year 1 to Year 4 | Included in Output 1.1.1, 1.1.2, 2.1.3, 3.1.1, 3.2.1, 3.1.2, |

| International organisations, INGOs/ NGOs | Engagement in development of NCA roadmap (1.1.1), position paper (1.1.2),  KM platform (3.1.2), spatial plans (2.1.3), SDG suite of indicators (1.1.2), wetlands NC accounts (2.1.1), sector strategy papers (1.2.2)<br><br>Engagement in sector roundtables (1.2.2)<br><br>Engagement in delivery of training programmes (3.2.1 and 3.2.2)<br><br>Sharing project progress and results (3.1.1) | PMU | Year 1 to year 4 | Included in output 1.1.1, 1.1.2, 1.2.2, 2.1.1, 2.1.3, 3.1.1, 3.1.2, 3.2.1, 3.2.2 |

| CBOs/CSOs | Meetings, interviews and Focus Group Discussions for seeking inputs into development of landscape plans ( 2.1.3), wetland NC accounts (2.1.2)<br><br>Grievance redress avenues and feedback systems (3.1.2)<br><br>Informing project progress through meetings and discussions (3.1.2)<br><br>Seeking participation in training programmes and inputs to curricula development (3.2.1 and 3.2.2)<br><br>Sharing project progress and results (3.1.1) | SIU and PMU | Year 2 to Year 4 | Included in output 2.1.2, 2.1.3, 3.1.2, 3.2.1 and 3.2.2 |
|---|---|---|---|---|
| Local administration | Engagement in the development of spatial plans (2.1.3) ,Wetlands NC accounts (2.1.1)<br><br>Seeking participation in training programmes and inputs to curricula development (3.2.1 and 3.2.2)<br><br>Sharing project progress and results (3.1.1) | SIU and PMU | Year 2 to Year 4 | Included in outputs 2.1.1, 2.1.3, 3.1.1, 3.2.1, 3.2.2 |

| Media | Sharing key project outcomes and events (3.1.1)

Invitation to outreach events and dissemination workshops

Seeking inputs in the development of media elements in the training programmes (3.2.1 and 3.2.2) | PMU | Year 2 to year 4 | Included in outputs 3.1.1, 3.2.1, 3.2.2 |
|---|---|---|---|---|
| Research and academia | Engagement in development of KM platform (3.1.2), spatial plans (2.1.3), SDG suite of indicators (1.1.2), wetlands NC accounts (2.1.1), adaptation of NES-GRIDSS (1.2.1)

Engagement in sector roundtables (1.2.2)

Engagement in delivery of training programmes (3.2.1 and 3.2.2) | LTSP and PMU | Year 1 to Year 4 | Included in outputs 1.2.1, 1.2.2, 2.1.1, 2.1.3, 3.1.2, 3.2.1, 3.2.2 |

| Business and Business Associations/Federations | Consultations and meetings to seek inputs into sector specific strategy paper (1.2.2), NC supportive budget, fiscal measures and indication (1.2.3), preparation of SEEA compliant wetland NC accounts (2.1.2), spatial plans for landscapes (2.1.3), public private partnerships (2.1.4), knowledge management platform (3.1.2) and staff training (3.2.1 and 3.2.2)<br><br>Representation in sector roundtables (1.2.2)<br><br>Sharing project progress and results (3.1.1) | LTSP and PMU | Year 1 to Year 4 | Included in Output 1.2.2, 1.2.3, 2.1.2, 2.1.3, 2.1.4, 3.1.1, 3.1.2, 3.2.1, 3.2.2 |
| Community and vulnerable groups | Meetings, interviews and Focus Group Discussions for seeking inputs into development of landscape plans ( 2.1.3), wetland NC accounts (2.1.2)<br><br>Grievance redress avenues and feedback systems (3.1.2)<br><br>Informing project progress through meetings and discussions (3.1.2) | SIU and PMU | Year 2 to Year 4 | Included in output 2.1.2, 2.1.3, 3.1.2 |

| Indigenous People and Local communities | Meetings, interviews and Focus Group Discussions for seeking inputs into development of landscape plans ( 2.1.3), wetland NC accounts (2.1.2)<br><br>Grievance redress avenues and feedback systems (3.1.2)<br><br>Informing project progress through meetings and discussions (3.1.2) | SIU and PMU | Year 2 to Year 4 | Included in output 2.1.2, 2.1.3, 3.1.2 |
|---|---|---|---|---|
| Project Management Unit | Inform of the LTSP?s plans in relation to labour issues; actual impacts on the local communities;<br><br>Inform on the internal Project development issues, success and difficulties | LTSP | Year 1 to Year 5 | Included in PMC |

**Making Available Information**

BluNatCap will endeavor to make information available to the public to allow stakeholders to get to know and understand both the environmental and social risks and impacts associated with the project, as well as opportunities provided by the project. This will enable these stakeholders to utilise the project information, capacities, networks and knowledge products to make informed decision in areas associated with mainstreaming NC values into planning and implementation for sustainable blue economic growth in Indian coastal districts.

Output 3.1.2 of the project includes establishment of an online knowledge sharing platform to facilitate networking among policy makers and practitioners in India to exchange their knowledge and experiences in mainstreaming NC values into sectoral and spatial planning processes. The online knowledge management platform will be developed and maintained to support and promote networking and exchange of experiences and success stories. At the beginning, the knowledge platform will be

hosted within the National Wetlands Portal (https://indianwetlands.in/) and mirrored in NCSCM website.

On an ongoing basis, the project will have a routine disclosure and consultation on the project?s environmental and socio-economic performance including grievances and other new emerging issues on the project. The disclosures will be done with all stakeholders through project briefs or annual reporting through brochures. While providing this disclosure, the project will also provide:

?        An update on the Project achievements and how its contributing to mainstreaming NC values into planning and implementation for sustainable blue economic growth in Indian Coastal districts;

?        An overview of the stakeholder engagement process and how affected parties can participate and provide feedback through meeting or other avenues;

?        Project impacts on environmental sustainability of critical coastal landscapes on India.

**Monitoring and Reporting**

Monitoring is an integral component of project management as it tracks and assesses progress towards achieving tangible development results associated with the project being implemented. It is an essential management tool which provides an opportunity to know whether results are being achieved as planned, what corrective action are needed to ensure delivery of the intended results and how they are making positive development contributions. This helps to detect problems earlier and coming up with appropriate measures to address them. Therefore, monitoring usually provides data used for analysis and synthesis prior to reporting for decision making.

| S.No | Parameter | Monitoring and reporting responsibility | Reporting period |
|---|---|---|---|
| 1 | Number of government agencies, civil society organizations, business and business assoctaions, research and acdemia, NGOs, CSOs, Community,  indigenous peoples and other stakeholder groups that have been involved in the project implementation phase | PMU | Annually |
| 2 | Number of individuals under various stakeholder categories (gender-disaggregated) that have been involved in project implementation phase | PMU | Annually |

| 3 | Number of engagement (e.g. meeting, workshops, consultations) with stakeholders during the project implementation phase | PMU | Annually |
|---|---|---|---|
| 4 | Percentage of stakeholders who rate as satisfactory the level at which their views and concerns are taken into account by the project | LTSP and PMU | Annually |
| 5 | Grievances handling mechanism ? how grievances are received and results communicated to all stakeholders | PMU and SIU | Annually |

**Updating stakeholder engagement plan**

Due to COVID-19 restrictions not all stakeholders could be formally consulted during the PPG phase. BluNatCap will therefore take up following activities in the first 6 months of the project initiation and prior to project inception.

a) Conduct stakeholder engagement meetings at the two project landscapes to seek inputs into project design and engagement mechanism.

b) Update list of stakeholders based on consultations

c) Update stakeholder engagement plan on the basis of new information

**Stakeholder Response and Grievance Redress Mechanism**

The project aims to be stakeholder responsive and relevant. For any perceived concerns and negative impacts caused by the project to the stakeholders, the project team, government, the UNEP, and the GEF are willing to hear and address them in an impartial and transparent manner. Project information and related safeguard risks and risk management measures are available in https://www.thegef.org/projects-operations/projects/10385 and htpps://open.unep.org

UNEP?s measure to handle complaint-related matters is called the Stakeholder Response Mechanism (SRM).
(https://wedocs.unep.org/handle/20.500.11822/32023;jsessionid=4F4541EE84AD069E5AB404310E9 6AA5E) provides further details on the SRM eligibility and related process. Eligible cases should meet the following criteria:
?   Complaints raised for currently proposed or implemented UNEP projects

? Demonstration of the adverse impacts due to UNEP-implemented project activity

? Complaint is related to UNEP?s commitment on safeguards through the ESSF or the project safeguard documents

Complaints can be ideally forwarded to the project team (or the LTSP and Wetlands division, MoEFCC) for speedy and informed assessment of the context and the issues. However, complaints can be also registered to UNEP and the GEF. Request for anonymity of the complainers is respected if requested.

**Compliance and grievance contact information:**

? At the project level

The Joint Secretary (Wetlands), Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhavan, New Delhi ? 110003 (wetlands-mefcc@gov.in)

? At the UNEP level

UNEP/GEF Regional Focal Point & Task Manager Biodiversity, UNEP Regional Office for Asia and the Pacific, 2nd Floor, Block A, UN Building Rajdamnern Avenue, Bangkok 10200

? At the donor level

GEF Conflict Resolution Commissioner, Global Environment Facility, The World Bank Group, MSN N8-800, 1818 H Street, NW, Washington, DC 20433-002

**UNEP Stakeholder Response Mechanism**
Complaints can be sent to the UNEP-IOSSR directly by completing the UNEP Online Project Concern Form (https://www.unep.org/about-un-environment/why-does-un-environment-matter/un-environment-project-concern), which is available both online and PDF format. The Form is available in English, Arabic, Chinese, French, Russian or Spanish.) Submission in local languages is welcome. The form can be emailed or mailed to IOSSR. They can also be reached by telephone.

Independent Office for Stakeholder Safeguard-related Response (IOSSR) &
Director of Corporate Service Division
UNEP
P.O. Box 30552, 00100
Nairobi, Kenya
Tel: +254 709 023 421 / +254 207 626 711

**For GEF projects** -  Concerned stakeholders may also submit a written complaint in any language to the GEF?s Conflict Resolution Commission (https://www.thegef.org/projects-operations/conflict-resolution-commissioner) and send it to:

Mr. Peter Lallas
GEF Conflict Resolution Commissioner
E-mail: plallas@thegef.org

Mailing Address:

Mr. Peter Lallas
Global Environment Facility
The World Bank Group, MSN N8-800
1818 H Street, NW
Washington, DC 20433-002
**Select what role civil society will play in the project:**

**Consulted only;**

**Member of Advisory Body; Contractor;**

**Co-financier;**

**Member of project steering committee or equivalent decision-making body;** Yes

**Executor or co-executor;**

**Other (Please explain)** Yes

Please see the text above.

**3. Gender Equality and Women's Empowerment**

**Provide the gender analysis or equivalent socio-economic assesment.**

Note: As the PPG implementation took place within the Corona pandemic spread which constrained stakeholder engagement, especially in the two pilot landscapes, a detailed stakeholder and gender engagement plan will be prepared by LTSP within the first six months of initiation of project implementation.

Research indicates that sustainable production practices in the targeted sectors may have significant long-term gender impacts. For example, the workplace gender gap in India is reinforced by low participation of women in the formal economy and low wages for those who work. The World Economic Forum?s Global Gender Gap report stated that on average of 66 percent of women's work in

India is unpaid, compared to 12 per cent of men. The scale of India's gender gap in women's share among legislators, senior officials and managers as well as professional and technical workers highlights that continued efforts will be needed to achieve parity in participation in planning, access to economic opportunity and decision making. This aspect will get full attention in the project activities and stakeholder/gender approach related to integrating natural capital and ecosystem services values in District-level blue economy strategy and the spatial planning processes. The very nature of expanding the NES-GRIDSS data systems, SEEA-based NCA as well as consultations and planning for a blue economic growth path in Districts will require -and the project will facilitate the involvement of a broad stakeholder representation and equitable voice in reaching agreements towards sustainable and equitable development in the targeted coastal sea-/landscapes. Gender dimensions in the blue economy strategies, coastal sector operations, and spatial planning processes are essential given it is expected that the key coastal NC, targeted sectors, resource utilization and usufruct rights are gender specific (e.g. related to water resources, fisheries, land titles etc). The project will facilitate a process with District Governments and the local ENVIS teams to devise a locally appropriate stakeholder and gender-sensitive participation and planning process, which will also inform the stakeholder forum and reference basis for the development and agreement on NC-based spatial planning. The project is expected to work with the community led Panchayati Raj Institutions for planning and project implementation. Besides the Panchayati Raj Institutions, there are several local user groups (e.g. related to wetlands? coir retting societies, fisheries societies, agriculture farmers societies and houseboat owners) which function as collectivized production and processing guilds in the project sea-/landscapes region. Analyzing their gender dimensions as well as representing their interests in the strategy and spatial planning development will be key for a gender appropriate project approach, as part of the targeted integration of NC & BD objectives in the targeted sectors. Additionally, the project will promote good participation of women from a wide range of relevant stakeholders including State and District government agencies, key corporate partners, civil society (e.g., NGOs, universities), women, indigenous communities, and identified vulnerable groups ? which is expected to be guided through a project gender manual as well as supporting budget.

In line with the 2018 GEF Policy on Gender Equality, the project will take the opportunities that are relevant to the project activities to address gender gaps and promote the empowerment of women. Unfortunately, a detailed gender assessment at the two project landscapes could not be carried out due to COVID-19 induced travel restrictions and inability to reach out to communities within remote areas. The project places specific emphasis will be put on addressing gender equity and proactive engagement of marginalized communities in mainstreaming NC in Blue Economy development plans, programmes and investments through output 1.1.2. Gender dimensions and power relationships will be evaluated as a vital element in the baseline information collated on the stakeholders and community participation in two pilot landscapes (Outcome 2.1). Outcome Indicator 2.1.1 (improved incorporation of NC values in district-level planning for BE sectors) and Outcome Indicator 2.1.2(b) (Increase in investments into effective management of coastal wetlands informed and triggered by state-level wetlands NC accounts) mentioned in table below will specifically address gender equity in resource management practices at the two pilot landscapes.

Outcomes of landscape plans will include well-being indicators (assessed as part of Outcome Indicators 2.1.1 and 2.1.2(a), The capacity building modules (developed as part of Outcome Indicators 3.2.2) will

also include gender and social equity dimensions in the context of integrated management of Natural Capital. Gender disaggregated data will be included in the reporting processes within the relevant sections. The gender specialist will bring experience to enable the project to achieve its gender mainstreaming approach. The specialist will provide input into work plans and training methodologies and content. The specialist will be a key resource for the State Implementing Units  to guide and support them in implementing work plans and developing strategies to maximize participation of women in the project activities. The Project Manager will be responsible for monitoring and reporting progress on gender and power equity related indicators in the three pilot sites and knowledge and capacity components of the project.

Gender Mainstreaming Action Plan

| Project Components/Outcomes | Outputs | Gender Focus in the project output | Activities necessary for incorporating the gender focus into the project output | Indicator | Target |
|---|---|---|---|---|---|
| COMPONENT 1: National systems support for blue economic growth model incorporating Natural Capital (NC) values | | | | | |
| Outcome 1.1: A national roadmap and governance framework for SEEA based SNA within the NES-GRIDSS endorsed by strengthened government institutions | Output 1.1.1 Governance framework and roadmap established towards SEEA-based NC accounting and its integration into the System of National Accounts (SNA) and the NES-GRIDSS system. | Ensuring gender consideration in the process of development of the national roadmap and governance framework for SEEA based SNA within NES GRIDSS | ?    Ensure equal gender representation, as applicable in the working group for the development of national framework as well as the drafting team<br><br>?    Inclusion of women among the stakeholders for review and recommendations on draft NCA roadmap | % of male and female participants in the working group<br><br>% of male and female participants in the working group | At least 50% are women<br><br><br><br>At least 50% are women |

| | | Output 1.1.2 Policy-analysis and agreement on a position paper on system design towards linking NC accounts and SEEA-based indicators with SDG Reporting available to decision makers | Ensuring integration of gender dimensions in the preparation of SDG report for the coastal ecosystems | ?    Ensure equal gender representation, as applicable in the working group for drafting policy analysis and position paper | % of male and female participants | At least 50% are women |
|---|---|---|---|---|---|---|
| | | | | ?    Inclusion of women among the stakeholders for review and recommendations on policy analysis and position paper | % of male and female participants | At least 50% are women |
| | | | | ?    Include gender disaggregated data in the development of suite of SDG indicators | Number of gender disaggregated indicators | At least 50% indicators use gender disaggregated data |
| | | | | ?    Ensure gender considerations in the thematic coastal ecosystems SDG report | Gender disaggregated information in the SDG report | 100% gender sensitive SDG report |

| | | | | | |
|---|---|---|---|---|---|
| Outcome 1.2: Nine coastal districts integrate NC-based principles and targets of a sustainable growth path in sector related budgets, fiscal measures and programming indicators | Output 1.2.1 National NES-GRIDSS system adapted to SEEA- EEA for NC -analysis, planning and investments | Including gender disaggregated data and indicators which can inform and support development of gender specific indicators within the NC accounts | ?      Design and development of framework for SEEA adapted NES-GRIDSS describing gender specific data requirements<br><br>?      Inclusion of women among the participant of the methods workshop and stakeholder of dissemination workshop | Number of gender disaggregated indicators<br><br>% of male and female participants | At least 50% indicators use gender disaggregated data<br><br>At least 50% are women |

| | Output 1.2.2. Tourism, fisheries and infrastructure sector review report on NC-based interdependencies, business risks and opportunities for Blue Economy development endorsed by relevant national and state decision-makers through sector roundtables ? in nine coastal districts | Ensuring women?s participation in the stakeholder consultations and round table meetings | ?      Prepare gender sensitive draft sector reports for tourism, infrastructure and  fisheries identifying NC based interdependencies, business risks and opportunities | Number of sector reports incorporating gender dimensions | 100% integration of gender dimensions in the sector reports |
|---|---|---|---|---|---|
| | | | ?      Inclusion of women among the participant of the sector round table meeting to discuss and agree on the outcomes of NC assessment | % of male and female participants | At least 50% are women |
| | | | | % of male and female participants | At least 50% are women |
| | | | ?      Ensure participation of women representatives at the district level decision makers for the formulation of district Blue Economy Strategy during handholding workshops | | |

| | Output 1.2.3. New NC-supportive budget, fiscal measures and indicators agreed for the development and monitoring of Blue Economy growth in the nine coastal districts, enabled through adapted NES- GRIDSS system and results of BioFIN | Include within scoping and development process, budgets and fiscal measures which can address underlying gender skews with BE sector development | ? Include gender disaggregated indicators in the suite of indicators for monitoring Blue Economy growth at district level | Number of gender disaggregated indicators | At least 50% indicators use gender disaggregated data |
|---|---|---|---|---|---|
| | | | ? Ensure participation of women representatives for the human and technical capacity building within identified ENVIS nodes for populating indicators | % of male and female participants | At least 50% are women |
| | | | ? Ensure inclusion of gender dimensions in the synthesis report incorporating gender disaggregated indicators, gender sensitive data acquisition and analysis mechanism and institutional embedding proposals | Gender disaggregated information synthesis report | 100% integration of gender dimensions in the synthesis reports |
| | | | ? Inclusion of women among the participants of workshop for dissemination of synthesis report on application of NC indicators for development and monitoring of BE growth | % of male and female participants | At least 50% are women |
| | | | ? Ensure embedding of gender dimensions in the draft EFT framework linked with | Gender disaggregated information in the EFT framework | 100% integration of gender dimensions in the framework |

COMPONENT 2: Demonstrating integration of NC objectives in coastal landscape and sector scale planning and development

| | | | | | |
|---|---|---|---|---|---|
| Outcome 2.1: Enhanced incorporation of the values of NC including BD and ES in two target coastal landscape planning and implementation by government institutions and key stakeholders which trigger investment aligned with NC | Output 2.1.1. NES-GRIDSS for 9 Districts for two coastal landscapes spanning 0.56 million ha made SEEA - compliant | Facilitation of a process with District Governments and the local ENVIS teams to devise a locally appropriate stakeholder and gender-sensitive participation and planning process, which will also inform the stakeholder forum and reference basis for the development and agreement on NC-based spatial planning. | ? Include gender-disaggregated data to generate NC accounts for the two coastal landscapes<br><br>? Ensure gender sensitive data acquisition<br><br>? Inclusion of women among the participants of workshops and consultations | Number of gender disaggregated indicators<br><br>Gender responsive data acquisition measures<br><br>% of male and female participants | At least 50% indicators use gender disaggregated data<br><br>100% gender responsive measures<br><br>At least 50% are women |

| | | | | | |
|---|---|---|---|---|---|
| | Output 2.1.2 Preparation of SEEA compliant wetlands NC account using NES-GRIDSS for two states and capacity established towards development of Blue Economy Strategies incorporating NC and BD aspects | Inclusion of gender equity in resource management practices at the two pilot landscapes. | ? Include gender-disaggregated data to generate Wetlands NC accounts for the two coastal landscapes<br><br>? Ensure gender equity in the resource management within the wetlands management plans<br><br><br>? Inclusion of women among the participants of workshops and consultations | Number of gender disaggregated indicators<br><br>Gender disaggregated information in management plans<br><br>% of male and female participants | At least 50% indicators use gender disaggregated data<br><br>100% integration of gender dimensions in the management plans<br><br>At least 50% are women |

| | Output 2.1.3 Two spatial plans developed - targeting 2 coastal-landscapes spanning 0.56 million by integrating NC values and development objectives (with specific focus on flood mitigation in at least one landscape); threat reduction and sustainable development opportunities identified, in support of the Blue Economy | Inclusion of gender equity in resource management practices at the two pilot landscapes. | ? Ensure gender equity in the resource management in the draft landscape plans for two coastal districts<br><br>? Inclusion of women among the participants of roundtable meetings and consultations<br><br>? Ensure participation of women representatives in the hand-holding support in the formulation of the district plans | Gender disaggregated information in management plans<br><br>% of male and female participants<br><br>% of male and female participants | 100% integration of gender dimensions in the management plans<br><br>At least 50% are women<br><br>At least 50% are women |

| | | | | |
|---|---|---|---|---|
| | Output 2.1.4 Public-private partnership and NC Protocols adopted by 2 corporations leading to start of green investments in the two project sites ? specifically related to sustainable infrastructure, fisheries and tourism development under the Blue Economy Strategies and Spatial Plans. | Focusing of partnerships which can address gender and social imbalances in investments supportive of BE growth | ? Mapping the partnership opportunities for private sector engagement opportunities for green investments also directed towards gender equity in two project sites | % of women participation in the partnership mapping exercises | At least 50% are women |
| | | | ? Ensure incorporation of gender disaggregated information and procedures in the NC based corporate funding protocols | Gender disaggregated information in NC based corporate funding protocols | At least two corporate partners include gender disaggregated information in NC based corporate protocol |
| | | | ? Inclusion of women among the participants of meetings and workshops | % of male and female participants | At least 50% are women |

**Component 3: Project Performance and Knowledge management support for National replication of NC accounting for blue economy growth in India**

| | | | | | |
|---|---|---|---|---|---|
| Outcome 3.1: Strengthened Public-private partnerships implement NC accounting for national, state and district planning through exchange of lessons learned and data collected by the project M&E system | Output 3.1.1 A gender sensitive communication and engagement strategy for partnership and adoption of SEEA-based NC accounting developed and implemented | Communicating the utility of NCA for policy, planning and investments to bring awareness among the stakeholders for institutionalization and replication must ensure gender equality | ? Development of a gender sensitive communication strategy to a range of stakeholders focusing on equal gender participation in the application and replication of SEEA based NC accounting<br><br>? Develop a database of women NC practitioners<br><br>? Ensure inclusion of best practices on NC accounting and application to Blue Economy sectors by women stakeholders and practitioners | Gender sensitive communication and engagement strategy<br><br>Number of women NC practitioners<br><br>Number of best practices by women practitioners | 100% integration of gender dimensions in the communication strategy<br><br>At least 50% are women<br><br>At least 50% are women-led/oriented |

| | | | | | |
|---|---|---|---|---|---|
| | Output 3.1.2 Knowledge management platform and impact performance M&E developed to support policy makers and practitioners in India in adopting, replicating and mainstreaming NC accounting | Ensure the promotion of gender equality in the implementation of the project at the national scale | ?        Identify gender disaggregated priority knowledge needs and knowledge management system of BE sector policy makers, planners and practitioners for supporting application of NCA in sector operations<br><br>?        Develop and publish gender sensitive knowledge products on different aspects of NCA mainstreaming in BE development on the basis of needs assessment<br><br>?        Establish a web-enabled knowledge management platform to support and promote networking and exchange of experiences and success stories<br><br>?        Inclusion of gender disaggregated information in the  project monitoring systems to ensure adoption of mid-course correction measures | % of male and female participants<br><br>Number of gender sensitive knowledge products<br><br>Gender disaggregated data on usage of KM platform<br><br>Number of gender disaggregated M&E indicators | At least 50% are women<br><br>At least 50% of the knowledge products are gender sensitive<br><br>At least 50% are women<br><br>At least 50% indicators evaluate gender consideration of the project |

| | | | | | |
|---|---|---|---|---|---|
| Outcome 3.2 Enhanced application of SEEA-based NC accounts, valuation and other applications to spatial planning, budgeting, and integrated natural resources management for sustainable blue economy development | Output 3.2.1 Staff training in 12 (9+3 coastal districts in SEEA-based NES-GRIDSS system on application to coastal resources, sectors and Blue Economy development | Inclusion of gender and social equity dimensions in the context of integrated management of Natural Capital

Ensuring 50% participation of women in the training programme

Training the trainers on gender sensitive approaches and how to be aware of, responsive to and advocate for gender equity and equipped to counter negative gender stereotypes. | ? Inclusion of women among target participants for the training needs assessment survey to review of skill requirement for application of NCA using SEEA-based NES-GRIDSS system | % of male and female participants during the trainings | At least 50% are women |
| | Output 3.2.2 National replication of NC-based NES-GRIDSS and Environmental Information System (ENVIS) development and implementation in 3 additional Districts through the Green Skill Development Programme | | ? Ensure gender representation in the selection of training participants | % of male and female participants during the trainings | At least 50% are women |

**Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?**

Yes

**Closing gender gaps in access to and control over natural resources;** Yes

**Improving women's participation and decision making** Yes

**Generating socio-economic benefits or services or women**

**Does the project?s results framework or logical framework include gender-sensitive indicators?**

Yes

**4. Private sector engagement**

**Elaborate on the private sector's engagement in the project, if any.**

The GEF project aims to strengthen India?s public as well as private administration systems in order to incorporate BD and NC valuation into their respective decision-making structures and reporting systems at a variety of scales. CII-IBBI will be enabling private sector engagement within various components of the project and have confirmed modest co-financing to enable this and securing additional grant co-financing through corporate sector.

Under outcome 1.2, BluNatCap shall support sector roundtables with representatives of the three targeted Blue Economy sectors (tourism, fisheries and infrastructure) at the state or district level to discuss and agree on the outcomes of NC assessment and valuation studies regarding inter-dependencies and NC-based business risks including specifically, highlighting the adverse environmental implications and potential consequences of policy failures; but also importantly identifying opportunities to move towards Sustainable Blue Economy growth path (SBE) in the targeted landscapes ( component 2). The sector analysis will look into the risks as well as opportunities related to COVID19, especially how the integration of NC in sector planning, investments and operations can contribute to a green recovery approach in the project landscapes. The sector roundtables will include assessment of the feasibility of NC-aligned market-based instruments, credit-seed funding & loan facilities, and explore partnerships for financing these instruments towards the realization of SBE. The sector analysis will result in a sector strategy report to demonstrate the cross-sectoral interdependencies and how alignment to achieve BE growth can be delivered at the district level. The project will also assist in generating ?green investments' from the private sector aligned with SBE pathways.

 Outcome 2.1 of component 2 focuses on public-private partnership and NC Protocols adopted by 2 corporations leading to the start of green investments in the two project sites ? specifically related to sustainable infrastructure, fisheries and tourism development under the Blue Economy Strategies and Spatial Plans. Partnership opportunity mapping and private sector engagement will assist in identifying and integrating opportunities for green investment, specifically in the infrastructure, fisheries and tourism sectors, in the landscape plan implementation. There will be strong engagements with the private sector entities through establishing collaborative mechanisms to facilitate public-private partnerships and facilitating the integration of the emerging NC information into the corporate risk analyses through environmental footprint analysis, business planning and sustainability reporting ? all captured in the proposed NC protocols and its process, to be adopted by at least two corporate partners. Implementation and investments towards the BE development in two project landscapes will be guided by the sector reviews, partnerships and business planning (via NC Protocol) to minimize negative impacts of their operations and investment decisions to NC.

By demonstrating the interdependencies among NC, BD, ES and sustainable investment strategies (Outcome 2.1), the opportunity arises to engage more fully with the private sector and to raise the potential of replication in different wetland systems beyond coastal landscapes. This has the potential to enhance the delivery of commitments made by India under the Ramsar Convention regarding the wise use of all wetlands under the national wetland program as well as to attract additional financial resources from beyond the project partners and organizations.

**5. Risks to Achieving Project Objectives**

**Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):**

The risk analysis has been updated from the PIF and evaluated according to criteria of probability and impact (if risk occurred). Risks change during a project and the evaluation of them and the required mitigation measures will be updated at least annually by the Steering Committee as part of the review of progress and approval of subsequent work plans. Significant changes will be reported to UNEP in the Project Implementation Review (PIR).

**Risk and risk management measures**

| Risk description | Probability | Impact | Mitigation Strategy |
|---|---|---|---|
| *Policy risk*<br><br>Government policies around BE change significantly | Low | Moderate | The project is well-aligned with existing government policies and government ministries have been engaged throughout the development of the Project Document.<br><br>Government ministries, and MoEFCC in particular, have been heavily engaged in the project development stage and will be active participants in the implementation phase. Routine reporting to ministries and the communication and promotion of project-related success stories will maintain the focus on the relevance of BE policies. |
| *Finance risk*<br><br>Government funding to key programmes such as NES-GRIDSS and ENVIS is reduced<br><br>Funding of the Green Skill Development Programme is reduced | Low | High | Initial assessments of the feasibility of budgetary and implementation provisions have been conducted jointly with the executing partners. The project will continue to seek co-financing through private sector partnerships and other sources throughout the project?s duration. The government has been made aware of the importance of the programme to the long-term development of a BE. The project approach will add value to the existing programmes<br><br>The project capacity building programme is flexible to allow for expansion to compensate for the possible termination of the GSDP. The added value of NC to the private sector will have the potential to attract private financing for training programmes. |

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| *Market risk*<br><br>Markets are volatile and therefore capturing and demonstrating NC values may be challenging in the short-term and undermine investment decisions in the longer-term | High | Low | The project will aim to capture a multiplicity of values, including market and non-market values of NC. The risk of market volatility will be better understood by taking a systems view of coastal landscapes which will define and evaluate interdependencies among multiple factors. At this stage, key market risks will be highlighted and appropriate mitigation strategies designed (and implemented where appropriate). |
| *Support and Capacity risks*<br><br>The limited capacity of local/national institutions to implement project activities. | Moderate | Moderate | The project will ensure full support throughout the implementation phase through support via the Executing Agency, including activities for targeted capacity-building, in order to specifically prepare local and national institutions for their respective roles and responsibilities. This targeted capacity-building support will also aim at addressing specific challenges due to weak understanding within national governmental institutions and other stakeholders of the concepts and approaches relating to ecosystem management and NC (particularly through Outputs 2.1.1). Implementation will additionally be supported by a range of local and international institutional centres of excellence such as universities and research institutions as well as UNEP?s Regional Office for Asia and the Pacific, and around the world. |
| Knowledge/ information provided through NC analysis is not acted upon or has a marginal effect on development choices | Moderate | Moderate | The SEEA-based data systems, analysis and incorporation in planning is fully led by and channelled through both the national ENVIS system based at the MoEFCC with a large national system of District-based data nodes and baseline government funding, as well as the agreed collaboration with the District Development Authorities, a.o towards Blue Economy Strategies, spatial planning and collaboration with the Sagarmala Program; funded partially through the Green Skills Development Program, green corporate finance (output 2.1.4) as well as the evolving partnership with the Infrastructure, Tourism and Fisheries sector agencies, led by the Ministry of Shipping ? through their Sagarmala Program. The project objective to attain better environmental sustainability in the design and operations of the Sagarmala Program was discussed with the related Ministry and agreed in principle- which indicates a willingness to be serious in this respect. |

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| *Institutional risk*<br><br>Weak coordination and partnerships among different ministries, provincial governments and private sector | Low | Moderate | The implementation of NC accounting, as well as integration of NC into economic sectors, requires the active involvement of a wide range of stakeholders including private sector actors, as well as close coordination among all relevant ministries and provincial governments. In view of this, the project will ensure that all key stakeholders are involved from the initial stages of project planning and implementation, by building upon and strengthening existing coordination mechanisms (e.g. coordination mechanisms relating to NBSAP and BIOFIN).<br><br><br>Component 1 specifically aims at understanding the institutional landscape and establishing strong cross-sectoral coordination and collaboration mechanisms. |
| *Attitudinal risk*<br><br>Low level of participation and support from stakeholders | Low | Low | The risk is considered low due to pre-existing engagement and excellent working relationships among all partners. The project will mitigate this risk by employing a participatory and consultative approach to build consensus and enhance local ownership. This latter is especially important at the provincial level and is a key to project success. A clear emphasis on economic benefits to e.g. the local community will also serve to mitigate any risk of inadequate stakeholder support. |

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| *Climate change risk*<br><br>Impact of climate change on the coastal and marine environment, targeted sectors, including production effects on local resource holders | High | Moderate | Climate change is likely to have an overriding effect on coastal and near-shore ecosystems, and would potentially affect the production of e.g. fisheries, freshwater availability, increase frequency and peak floods, etc. ( Reference section 2.3 of the ProDoc, particularly discussions on climate change impacts, sea level rise and extreme events and disaster risks). The Climate Risks have been analyzed and stated as Medium- level Risk in the new UNEP SRIF. E.g the Vembanad-Kol coastal wetlands in Kerala State (one of the project sites) has repeatedly been exposed to extreme weather-induced events. Especially the floods of 2018 which exposed the vulnerability of the Kerala coast to the effects of CC. The regular and sometimes severe flooding experienced in this site is affecting local communities; and which is exacerbated by economic development in the area which has resulted in shrinkage and transformation of wetland area, reduced water-holding capacity, clogging of channels, pollution, growth of invasives, and decline in brackish water fisheries and clam resources. Climate change modelling indicates that propensity to extreme events is only likely to increase exposing rainfall abundant landscape to thr risks of floods and droughts (Reference section 2.1 of the ProDoc, sub-section on Vembanad-Kol)<br><br>With regards occurrence of natural disasters in the second project site -the  Aghanashini Estuary in Karnataka State, it is known that the entire coastline in the state is affected by sometimes severe coastal erosion during the annual monsoon season. There has been a rising trend in temperature and projections indicate gradual increase in wave heights. The coastaline of Udupi has also been ranked as one of the highest vulnerables in the state of Karnataka.<br><br>It is assessed that the project incremental support will enhance medium- to long-term climate resilience through the protection, restoration and sustainable utilization of the ecosystem services of NC in the two  coastal landscapes. Landscape planning for the two coastal landscapes will include factoring in climate scenarios while identifying sector specific strategies for resilience building. The project will specifically aim at interventions for stabilizing and increasing LULUCF based carbon sequestration and reduced emissions due to avoided conversion of coastal ecosystem.<br><br>In Kerala, the project will work with Rebuild Kerala Initiative to promote integration of coastal wetlands conservation as nature based solution for flood buffering.  In Aghanashini |

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| *Resource conflict risks*<br><br>Existing natural resource management conflicts may   be exacerbated by the project | Moderate | Low | Background research into potential conflicts will form part of the integrated management planning at the two project coastal landscapes. A participatory approach to knowledge development and exchange will review and address potential conflicts. Future awareness of conflict resolution will be integral to knowledge exchange in capacity building programmes.<br><br>Through a more robust understanding of NC values to different stakeholders and an evaluation of the interdependencies between communities and NC, the project will provide a framework for mitigating future natural resource conflicts. |
| | | | |

**COVID-19 risk and opportunity analysis**

In the following table we present the most relevant COVID-19 specific risks and opportunities for BluNatCap:

| Risk Category | Potential Risk | Risk Mitigation |
|---|---|---|
| Availability of Technical expertise and Capacity and changes in timelines | While the project preparation has been severely affected by COVID-19, particularly limiting stakeholder engagement, at the time of project submission the impact has been reduced on account of rapid vaccinations and other other pandemic containment measures enforced by the government. Initial scoping suggests that the availability of the technical staff will not be affected by COVID-19, although the timelines are likely to be impacted. | If necessary, following measures will be implemented:<br><br>?    remote working system<br><br>?    online interactions<br><br>?    regularly updating project implementation plans and keeping all stakeholders informed of the changes.<br><br>The project implementation timelines have been designed to take into account the anticipated effects of the COVID-19 pandemic. |

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| Stakeholder engagement process | Measures pertaining to COVID-19 containment including travel and meeting restrictions may impact the in-person workshops, roundtable meetings and other engagement processes. | The project will comply with the national and local government guidelines and will follow the COVID-19 safety protocols. The stakeholder interactions will be held virtually or through hybrid consultations in place of in-person meetings and workshops. |
| Enabling environment | Government focus on environmental issues during COVID-19 pandemic and post pandemic economic reconstruction is likely to be reduced. At the PPG stage, this risk is assessed to be moderate. | The project will aim to contain this risk by:<br><br>Providing evidence of inter-linkages between health susceptibilities and environmental degradation within the One-Health framework.<br><br>Focussing on creating economic opportunities linked with sustainable blue economy investment. |

| Financing | One of the largest COVID impacts, globally as well as nationally including in India is the effect on the tourism sector due to significantly reduced travel and visitor numbers (though the sector has seen a rapid revival since the reduction in travel restrictions since late 2021).  The impact of COVID-19 on tourism sector is not likely to be significant for BluNatCap project, given the outputs do not concern the actual operations of tour operators, hotels and related services industry; yet rather focus on the higher-level planning, resource allocations and integration in a landscapes approach through the NC valuation and accounting work.

The risk of impact of COVID-19 on government investment programs is expected to be low. Most of the major national missions and investment programs that the project intends to target, are already committed and ongoing. For example, the Rebuild Kerala Initiative has adopted a broad financing strategy with multiple finances and fiscal measures to generate the needed funding. | The project targets application of NCA to the tourism sector, especially with regards to building the case to realize both the opportunities as well as the impacts and costs to NC of unsustainable tourism practices. The consideration of NC will also address entry points to strengthen green recovery through well planned (eco-)tourism as part of a blue economy development path.

We however expect the possibility of delays in implementation of these government investment programs, which is an added opportunity for the GEF project to seek collaboration, and especially to highlight the need and collaborate on a green recovery approach in the targeted investment sites and project river basins; further aided through e.g. the GEF outputs, also focusing of opportunities towards green recovery related to impacts of COVID). As part of these outputs, potential policy options and nature-based solutions to be adopted in the post-COVID-19 green recovery process, in the context of the Blue Economy development will be identified and discussed among key stakeholders. Somewhat similar to the mitigation approach to potential CC impact, the project incremental support will enhance medium- to long-term landscape ecological resilience ? and indirectly the resilience of e.g. local communities as well as physical infrastructure, through the protection, restoration and sustainable utilization of the ecosystem services of NC in the coastal river basins ? which aims to address key drivers of floods and other natural disasters and climate change risks and strengthens preparedness against future disasters. |

**6. Institutional Arrangement and Coordination**

**Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.**

*Executing Agency (EA)*: The project will be implemented nationally by the Wetlands Division of the MoEFCC, GoI, which will assume the overall responsibility for the achievement of the project outcomes, as well as financial management. MoEFCC will facilitate the required level of inter-sectoral coordination with other relevant ministries, particularly MoSPI and departments of GoI, and also ensure the required level of participation from the two-state governments (Karnataka and Kerala) in which the two coastal landscaped are located and from states in which various methods, tools and best practices are to be applied and replicated. MoEFCC?s project finance and management responsibilities will include: a) ensuring that the project co-financing is made available on a timely basis for project implementation by all concerned; b) ensuring that GEF funds are made available to the two-state governments in which pilots are to be implemented; c) coordinating and reporting GEF financing from/to UNEP and other sources; d) guiding preparation of Terms of Reference for engagement of consultants, sub-contractors and tender documentation; and e) chairing the National Project Steering Committee. The Wetlands Division of the MoEFCC as the Executing Agency will be responsible to the GEF Implementing Agency (UNEP) for the financial administration and technical execution of the project; as well as will enter into an agreement with UNEP for the duration of the project.

UNEP is the **GEF Implementing Agency** for this project (through the UNEP-Ecosystems Division - GEF BD/LD Unit) fulfilling a supervision and oversight role, ensuring that the project progresses appropriately and in line with the agreed Project Document, the cost-efficient and effective use of the GEF grant, as well as compliance with the UNEP and GEF policies. The UNEP Task Manager of the project is based with UNEP - Asia and the Pacific Office in Bangkok, Thailand.  In addition, UNEP GEF will administer the mid-and full-term evaluations. UNEP will approve the technical and financial reports, review audit reports, and ensure fluid disbursement of GEF funds within its rules and procedures. UNEP will inform the GEF Secretariat whenever there is a potentially substantive co-financing change (i.e. one affecting the project objectives, the underlying concept, scale, scope, strategic priority, conformity with GEF criteria, the likelihood of project success, or outcome of the project).  It will rate, on an annual basis, progress by the lead Executing Agency in meeting project objectives, project implementation progress, risk, and quality of project monitoring and evaluation, and report to the GEF Secretariat through the Project Implementation Review (PIR) report prepared by the lead Executing Agency. It will coordinate a mid-term review (or in case the project is at risk for various reasons - a mid-term evaluation).  The Evaluation Office of UNEP arranges for an independent terminal evaluation and submits its report to the GEF Evaluation Office (for more details please section below on project monitoring).

*National Project Steering Committee:* The National Project Steering Committee (NPSC) is the oversight, advisory and support body for the project and ensures representation of key stakeholder groups and interests in the project execution, including major co-finance agencies. National Project Steering Committee (NPSC) will be responsible for oversight on project implementation including regular review of project progress, ensuring that activities and outputs are in line with the results framework and expenditure

in line with budgets. Additionally, it will ensure the project remains consistent and benefits from national and state development policies including government (co-financing) programs. The NPSC will also facilitate inter-sectoral coordination with other relevant ministries, particularly related to NCA foremost MoSPI, as well as sector agencies targeted in the project landscapes such as water services, transport infrastructure, fisheries and tourism. The NPSC will meet at least two times a year, of which at least once in person, and will provide the required oversight to the project as well as ensure overall government coordination. The NPSC is also responsible for reviewing and endorsing Annual Workplans and Budgets; as well as providing inputs to the mid-term review and final evaluation, review findings and provide comments. The NPSC will facilitate the dissemination of project outcomes, especially regarding their integration into the implementation of national government policies and programs, in its effort to enable sustainability and replication.

The NPSC will be chaired by Additional Secretary, MoEFCC, GoI. Its suggested members include the concerned Joint Secretary handling NPCA matters within MoEFCC, GoI; Director heading the ENVIS programme; Additional Director General (National Statistical Office), MoSPI; CBD Focal Point within MoEFCC, GoI; the Principal Secretary of Forest, Ecology and Environment Department of Karnataka; Member Secretary of State Wetland Authority of Kerala; the Director of Wetlands International South; Asia; GEF Task Manager, UNEP; and two non-government representatives nominated by the government, one from the private sector and one related to key baseline programs for each State/targeted landscape. The members of the NPSC and its detailed Terms of Reference will be confirmed during the project inception (see Appendix 11 for draft ToR in Project Document). The meetings of the NPSC will be convened by the National Project Director (NPD), supported by the PMU for administrative aspects.

*Project Management Unit (PMU)*: will be the administrative and technical hub for the project located within MoEFCC. The PMU with a full-time Project Manager - who is also the technical lead on NCA, supported by a Coastal Landscape Management Specialist, one Project Administrative Assistant and one Accounts Officer will assist the EA in the implementation of the project. The PMU - through the Project Manager, reports to the National Project Director at the MoEFCC.  Services, staffing, costs and responsibility for PMU will be secured through a sub-contract from EA to Lead Technical Support Partner (LTSP - see below). The PMU will be staffed by the LTSP, with initial staff selection and approval coordinated by the EA. The Project Manager - supported by the Coastal Landscape Management Specialist, will be: a) in-charge of overseeing the day-to-day project planning, implementation and management of project activities; b) drafting ToR and services contracts (for approval by EA), and organizing and overseeing national and international consultant input; c) overseeing impact monitoring and evaluation, and ensuring that the project is on track; d) assessment performance on gender and social equity dimensions of project implementation, including compliance with UNEP SRIF safeguards;  e) working effectively with the NPD and members of NPSC to ensure that the project-inspired activities (both GEF and co-financed) are on track within each implementing partner; f) supporting NPD  in preparation and timely submission of Annual Work Plan (AWP) and budgets, as well as Semi-Annual progress, quarterly financial report and cash advance statements to UNEP (the draft of AWP, budgets, Semi Annual Progress reports, quarterly financial reports and cash advance statements will be prepared by LTSP, which upon review and approval of the NPD will be submitted by the Wetlands Division to GEF agency); g) maintain a log of main issues that may require direction from NPD and NPSC; and, h) maintain a log of risks that may affect project implementation and require intervention of the NPD and NPSC.

The project will engage a Gender Specialist will bring experience to enable the project to achieve its gender mainstreaming approach. The specialist will provide input into work plans and training methodologies and content. The Specialist will be a key resource for the State Implementing Units  to guide and support them in implementing work plans and developing strategies to maximize participation of women in the project activities. The Project Manager will be responsible for monitoring and reporting progress on gender and power equity related indicators in the two pilot sites and knowledge and capacity components of the project.

*National Project Director:* Joint Secretary (Wetlands), MoEFCC, GoI will be the National Project Director (NPD). The NPD post which is co-financed, will coordinate project implementation on behalf of GoI and ensure its quality and timely delivery. Project implementation will be overseen by UNEP.

A Technical Coordination Committee, chaired by the NPD will be formed, comprising the SIUs, technical partners and other organisations as appropriate. The Committee will guide approaches in the planning and implementation of landscape-scale activities, integration of operations and engagement with stakeholders, and discuss progress and challenges encountered

*Lead Technical Support Partner (LTSP)*: Wetlands International South Asia will be the Lead Technical Support Partner (LTSP) for the project. The LTSP will be responsible for:

1.    staffing and administering the PMU

2.    establishing and ensuring fulfilment of subcontracts with technical partners, consultants and State Implementation Units (SIU);

3.    delivering specific tasks related to project implementation at National level: a) develop draft National NCA roadmap under the guidance of EA ( output 1.1.1); b) develop draft policy analysis and position paper on system design for linking NC accounts and SEEA based indicators with SDG reporting (Output 1.1.2); c) develop draft thematic coastal SDG report incorporating SDG indicators suite linked with NC accounts (output 1.1.2); d) develop synthesis report on SEEA adapted NES GRIDSS (output 1.2.1); e) support drafting of strategy report  for tourism, fisheries and infrastructure sectors (Output 1.2.2); f) support ENVIS for continuous application and reporting on NC indicators (output 1.2.3); g) Finalisation of NC accounts (Output 2.1.1); h) prepare SEEA compliant wetlands NC accounts for two states (Output 2.1.2); i) develop landscape plans for 2 coastal landscapes integrating NC, BD and ES (Output 2.1.3); j) develop database of NC practitioners and establish NCA community of practice(Output 3.1.1); k) provide support to National wetland portal for aggregating and sharing wetland natural capital values knowledge (output 3.1.2); l) Support development and publication of knowledge products and establishment of web-enabled knowledge management platform (output 3.1.2); m) support development of training modules (output 3.2.1); n) support development of programme framework development for GSDP for NCA using NES-GRIDSS (output 3.2.2)

The project management and implementation organogram are provided in the Figure below

***State Implementation Units (SIUs):*** State Wetland Authority of Kerala and Forest, Ecology and Environment Department of Karnataka will be the nodal agencies regarding the implementation of field programs and pilots. State Implementation Units will be set up within these two institutions at the two coastal landscapes to facilitate local partnerships and execution of the project activities. The staffing shall include two consultants to be stationed at the project sites responsible for landscape planning, maintenance of NES-GRIDSS and other data hubs, conducting capacity building and outreach programmes.

***Technical Partners:*** Technical support to the implementation of activities under components 1 and 3 of the project will be made available through subcontracts with technical partners. Specifically, these organisations will provide support to SIUs and EA in the adaptation of existing ENVIS NES-GRIDSS to generate NCA and its replication and staff training in SEEA-based NES-GRIDSS. The following have been identified during the FSP development: ENVIS centres for adaptation of NES-GRIDDS,  National Centre for Sustainable Coastal Management (NCSCM), National Institute for Public Finance and Policy (NIPFP), Institute of Economic Growth (IEG); Madras Institute of Development Studies (MIDS); World Resources Institute-India Office (WRI-India); Madras School of Economics (MSE); Ashoka Trust for Research on Ecology and Environment (ATREE) and others as capacity building institutes. Within the Vemaband Kol landscape, the Center for Water Resources Development and Management (CWRDM) and Kerala Institute of Local Administration (KILA) will provide the required capacity development and knowledge support to the SIUs. In Aghanashini Estuary, the Indian Institute of Science (Energy and Wetlands Research Group) will provide this function. The project will also draw on the networks such as South Asia Network for Development Economics and the Indian Society for Ecological Economics for specific expertise related to NCA and ES valuation. The list is likely to be expanded during the development of the annual detailed work plans.

***Financial Management***: The EA will be assisted in administrative and financial management by the LTSP. LTSP will manage GEF project expenses with approval of and as per directions of EA, and under the direct supervision of NPD. LTSP will prepare the draft expenditure, cash advance and project progress reports on behalf and with the approval of EA (MoEFCC), and as per directions of the NPD, who will provide the certifying signatures. Under its subcontract with the EA, Wetlands International South Asia will open a separate bank account for the project and ensure adherence to MoEFCC, UNEP and GEF accounting standards

***Audit:*** Project shall be subject to annual audits in accordance with the procedures of UNEP and MoEFCC, and as per the annual audit plan drawn in consultation with the Department of External Affairs (DEA), GoI. The project shall be informed of audit requirements by January of the following year.
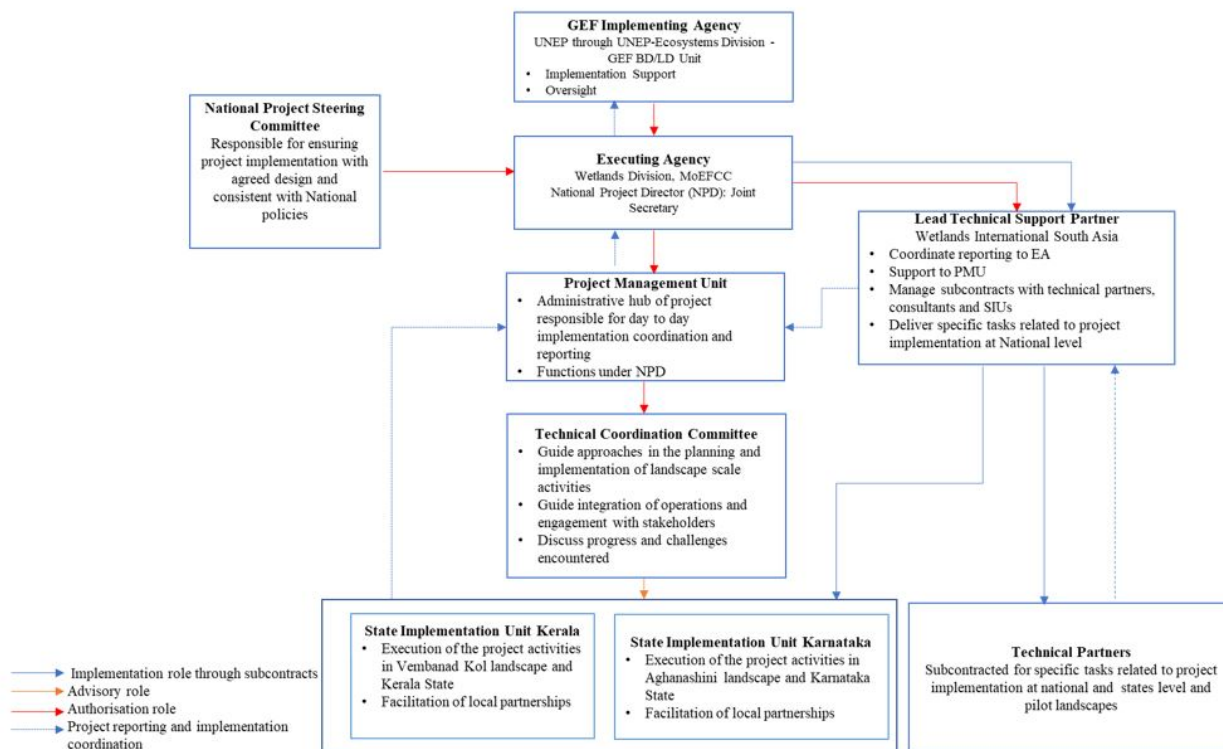
**Project Management and Implementation Organogram**

**7. Consistency with National Priorities**

Describe the consistency of the project with national strategies and plans or reports and assesments under relevant conventions from below:

NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

?     National Action Plan for Adaptation (NAPA) under LDCF/UNFCCC

?     National Action Program (NAP) under UNCCD

?     ASGM NAP (Artisanal and Small-scale Gold Mining) under Mercury

?     Minamata Initial Assessment (MIA) under Minamata Convention

?     National Biodiversity Strategies and Action Plan (NBSAP) under UNCBD

?     National Communications (NC) under UNFCCC

?     Technology Needs Assessment (TNA) under UNFCCC

?     National Capacity Self-Assessment (NCSA) under UNCBD, UNFCCC, UNCCD

?       National Implementation Plan (NIP) under POPs

?       Poverty Reduction Strategy Paper (PRSP)

?       National Portfolio Formulation Exercise (NPFE) under GEFSEC

?       Biennial Update Report (BUR) under UNFCCC

?       Others

The BluNatCap through its overarching goal of ?enhancing biodiversity conservation and environmental sustainability of critical coastal landscapes in India by integrating NC and ES values in District-level blue economy strategy and spatial planning processes, and coastal sector operations? will be supporting achieving India?s commitments under international Conventions and Treaties ? notably the Convention on Biological Diversity, the Ramsar Convention on Wetlands, the Conservation of Migratory Species of Wild Animals, United Nations Framework Convention on Climate Change, United Nations Convention to Combat Desertification, and frameworks such as Sustainable Development Goals, and the Sendai Framework for Disaster Risk Reduction.

The project framework is aligned with Convention on Biological Diversity Aichi Targets[1], notably: Aichi Target 2 - By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems; Target 4: By 2020, at the latest, governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits; Target 8: By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity; Target 11 - By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes; and, Target 19 - By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied. Of the 12 National Biodiversity Targets, the BluNatCap directly contributes to:

Target 2: By 2020, values of biodiversity are integrated in National and State planning processes, development programmes and poverty alleviation strategies;

Target 3: Strategies for reducing rate of degradation, fragmentation and loss of all natural habitats are finalized and actions put in place by 2020 for environmental amelioration and human well-being;

Target 6: Ecologically representative areas on land and in inland waters, as well as coastal and marine zones, especially those of particular importance for species, biodiversity and ecosystem services, are conserved effectively and equitably, on the basis of PA designation and management and other area-based conservation measures and are integrated into the wider landscapes and seascapes, covering over 20% of the geographic area of the country, by 2020;

Target 8: By 2020, ecosystem services, especially those relating to water, human health, livelihoods and wellbeing, are enumerated and measures to safeguard them are identified, taking into account the needs of women and local communities, particularly the poor and vulnerable sections.

As a signatory of the Ramsar Convention, India has committed to the wise use principles for not just the designated Ramsar sites but all its wetlands. India has put in place the largest network of Wetlands of International Importance (Ramsar Sites) within South Asia, and as many as seven of the 49 wetlands

designated as Ramsar Sites are coastal wetlands. In addition to the formally designated Ramsar sites, approximately 30 Important Bird Areas (IBAs) are present around the coastline. These sites range in size from small areas, such as the Burnt Islands (Bandra) Vengurla Rocks off the coast of Karnataka which covers some 6ha, to extensive mosaics of coastal ecosystems, such as the Sundarbans Biosphere Reserve in West Bengal which extends over more than 133,000 ha. The mainstreaming of NC within planning and implementation for sustainable blue economic growth has the potential to be an exemplar of wise use. The Ramsar Convention recognises the interdependence of man and his environment and the significant economic resource that wetlands provide. In the Global Wetland Outlook conducted in 2018, several responses to the ongoing degradation and loss of wetlands need to be addressed to ensure appropriate implementation of the international commitments adopted by India under the Ramsar Convention. These include the integration of wetlands into planning and implementation of the SDG, applying economic and financial incentives, promoting sustainable production and consumption practices, and incorporating wise use and public participation in wide-scale development planning. The BluNatCap project shall address several of these drivers of adverse change by factoring in NC and ES interdependencies in landscape-scale planning.

The Convention on Conservation of Migratory Species of Wild Animals (also known as the Bonn Convention) provides a global platform for the conservation and sustainable use of migratory species and their habitats. India is a signatory to the Convention since 1983 and has also acceded to several agreements within the framework of the Convention, such as for Siberian Crane, birds of prey (raptors) and others. In 2018, the MoEFCC adopted a National Action Plan for Conservation of Migratory Waterbirds and their Habitats along the Central Asian Flyway[2]. The long-term goal of the National Action Plan is to arrest population decline and secure habitats of migratory bird species. In the short term, the action plan seeks to halt the downward trends in declining meta-populations and maintain stable or increasing trends for healthy populations by 2027. The BluNatCap will strengthen the management of coastal wetlands identified as critical habitats under the National Plan by supporting the integration of NC and ES values in management plans, and ensuring cross-sectoral partnerships for their implementation.

India is also highly active influential across the region in protecting key areas of coastal NC and BD hotspots. Through the IUCN?s World Commission on Protected Areas (WCPA), India is collaborating with other states in South Asia to build capacity across park professionals and to mainstream conservation concerns in development planning at a landscape scale. In February 2021, MoEFCC became the co-chair of the Asia Protected Areas Partnership (APAP). The Government of India in the role of co-chair will be uniquely placed to assist member countries in meeting their protected areas targets that will be critical elements within the Convention of Biological Diversity?s post-2020 Global Biodiversity Framework.

Conservation of coastal ecosystems as envisaged under BluNatCap shall also contribute to India?s commitments under United Nations Framework Convention on Climate Change (UNFCCC). Specifically, the project is well-aligned with India?s following Intended Nationally Determined Contributions (INDCs): a) creating an additional carbon sink of 2.5 to 3 billion tonnes of $CO_2$ equivalent through additional forest and tree cover by 2030; and b) better adapting to climate change by enhancing investments in development programmes in sectors vulnerable to climate change, particularly agriculture, water resources, Himalayan region, coastal regions, health and disaster management. Through conservation and sustainable management of coastal ecosystems and influencing sectoral investments and programmes, the BluNatCap is also aligned with elements of Prime Ministers?s Panchamrita commitments at CoP26: a) reducing projected carbon emission by one billion tonnes by 2030; b) reducing the carbon intensity of its economy by 45 per cent by 2030; and c) achieving net-zero by 2070.

India has ratified the 2030 Agenda for Sustainable Development. Adopting an approach of cooperative and competitive federalism, the SDG Vertical in NITI Aayog works towards accelerated adoption, implementation, and monitoring of the SDG framework and related initiatives at the national and sub-national levels. The BluNatCap by strengthening management of coastal landscapes shall contribute to India?s progress towards several of the Global Targets articulated under SDG Goal 6, target 6.6.1 ? Change in the extent of water-related ecosystems over time; SDG Goal 14, Target 14.1 ? Prevent and significantly reduce marine pollution ? and Target 14.5 ? Conserve at least 10 per cent of coastal and marine areas.

Under the Sendai Framework for Disaster Risk Reduction 2015-2030 (?Sendai Framework?), India has formulated a National Disaster Management Plan[3] with an imperative to mainstream disaster risk reduction in developmental planning and to adopt an inclusive approach towards risk reduction to ensure the sustainability of developmental initiatives and to widen its reach to cover every citizen. The National Disaster Management Plan takes into account several non-structural measures for flood and cyclone risk reduction measures and makes direct reference to coastal ecosystems such as wetlands. The BluNatCap shall support the inclusion of coastal ecosystems into disaster risk reduction planning as nature-based solution.

India is also highly active and influential across the region in protecting key areas of coastal NC and BD hotspots. Through the IUCN?s World Commission on Protected Areas (WCPA), India is collaborating with other states in South Asia to build capacity across park professionals and to mainstream conservation concerns in development planning at a landscape scale. In February 2021, MoEFCC became the co-chair of the Asia Protected Areas Partnership (APAP). The Government of India in the role as co-chair will be uniquely placed to assist member countries in meeting their protected areas targets that will be critical elements within the Convention of Biological Diversity?s post-2020 Global Biodiversity Framework

The BluNatCap complements the MoEFCC programmes on conservation of coastal wetlands, mangroves, coral reefs and maintenance of ecological and environmental quality in coastal waters. This includes the flagship programme for the conservation of wetlands - the National Plan for Conservation of Aquatic Eco-systems (NPCA). As part of Outcome 2.1, the GEF project proposes to prepare 3,000 wetlands health cards in coastal districts, directly upscaling the MoEFCC ?Wetlands Rejuvenation? programme on 1,000 wetlands on condition assessment and management planning to address specific threats as stipulated by the Wetlands (Conservation and Management) Rules, 2017. The project site Vembanad is one of the sites selected by the MoEFCC for implementing a central assisted scheme on the Conservation and Management of Mangroves and Coral Reefs.

The GEF project draws traction and is aligned with the tenets of the national statutes on environment conservation viz. Provisions of the Indian Forest Act, 1927 and the Indian Wildlife (Protection) Act, 1972, the Biological Diversity Act, 2002 and the Coastal Regulation Zone (CRZ) Notification (2019). Coastal Regulation Zone notification 2019 asks the states and UTs to demarcate and conserve Ecologically Sensitive Areas (ESAs) such as wetlands and the geo-morphological features that play a vital role in maintaining the functions of the coast and prepare Coastal Zone Management Plan as per the guidelines highlighting the conservation and protection of ESAs. The delivery of enhanced incorporation of the value of NC including biodiversity, in state and district government planning and corporate decisions under Component 2 aligns with government priority for integrated management of the coastal zones and strengthens SICOM actions towards implementation of the Integrated Coastal Zone Management Planning project and the proposed ENCORE project.

The Water (Prevention and Control of Pollution) Act, 1974, The Environment (Protection) Act, 1986 lay the legal and regulatory framework to address pollution threats to coastal wetlands. Evidence-based sectoral engagements on the use of NC values and ecosystem services in corporate decision making is expected to promote green investments and trigger the corporate sector to seek environmentally friendly and green technology alternatives for sustainable infrastructure, fisheries and tourism development. The National Green Tribunal, vide its order dated 26.09.2019 has directed the preparation of District Environment Plans. The GEF project will support the integration of wetland conservation actions in the plans to improve wetland health through Outcome 2.1.

NC accounting mechanisms for coastal ecosystems developed under Outcome 1.1 will help measure status and trends towards achieving SDG targets. Natural Resource Accounting support measurement of several SDG indicators, especially those related to natural capital (SDGs 6, 13, 14 and 15) as described in Table 1, but also some related to sustainable production and consumption (SDGs 2 and 12), energy (SDG 7), economic growth (SDG 8) and sustainable cities (SDG 11).

Besides NC accounting will stimulate the national SDG implementation strategies to move beyond monitoring and look at synergies and trade-offs across sectors and SDGs, analyze governance/policy alternatives and create the right institutional environment for SDGs to be achieved thus fostering a system of integrated policy-making.

The GEF project will reinforce central and state governments' developmental initiatives such as ?Jal Jeevan Mission? aimed at providing access to safe drinking water and addressing water insecurity risks, ?AMRUT? and ?Smart Cities missions? for building sustainable urban infrastructure, ?Blue Revolution? aimed at Integrated Development and Management of Fisheries, the ?National Strategy for Sustainable Tourism? and promotion of ecotourism under ?Swadesh Darshan? Scheme and the ?Rebuild Kerala Initiative? towards flood resilience. The NC interdependencies underpinning these various state and central government initiatives will be evaluated to enhance integration through Outcome 1.2.

National Indicator Framework Reports compiled by the MoSPI provide a benchmark for assessing the progress made towards achieving the SDGs. The BluNatCap project will complement the indicator framework by producing a suite of SDG indicators - based on the SEEA-framework, linked with NC accounts supporting Blue Economy for national adoption.

The BluNatCap project is aligned to the objectives of the draft policy framework for India?s Blue Economy, 2020 that advocates for developing a ?National Accounting Framework for the Blue Economy? emphasizing new robust mechanisms to generate and collect reliable data pertaining to the BE accompanied by periodical studies on specific sectors of the BE to assess the composition, growth and trajectory. Through Component 1, BluNatCap will fill this gap by developing a draft national roadmap on SEEA based NCA in the context of BE with mandates, roles of stakeholders and financial arrangements for implementation. The project touches on several aspects recommended by the policy such as establishing a multistakeholder consultative mechanism to bring together sectors and sub-sectors relating to the BE and evolving a framework for the measurement of NC and BD values and developing scientific tools and technologies relevant to blue economy measurement and management.

Integration of NC in climate change mitigation efforts is embedded in India's National Action Plan for Climate Change (NAPCC), with eight sub-missions to mitigate and adapt to the adverse impact of climate change. Comprehensive climate change action plans have been prepared at the state level that takes into a holistic view of greening and focus on multiple ecosystem services, especially biodiversity, water, biomass, preserving mangroves, wetlands and critical habitats along with carbon sequestration as a co-benefit. Wetland conservation and sustainable management are included in the National Water Mission. Similarly, the National Mission for Green India has a target of 0.1 Mha for wetlands conservation and an additional 0.1 Mha for mangroves. Outcome 2.1 will contribute to these missions and initiatives through the enhanced planning and management of two target coastal landscapes.

The BluNatCap will strengthen the management of coastal wetlands identified as critical habitats under the National Action Plan for Conservation of Migratory Waterbirds and their Habitats along the Central Asian Flyway and help to arrest population decline and secure habitats of migratory bird species. In 2018, the MoEFCC adopted a National Action Plan for Conservation of Migratory Waterbirds and their Habitats along the Central Asian Flyway. The long-term goal of the National Action Plan is to arrest population decline and secure habitats of migratory bird species. In the short term, the action plan seeks to halt the downward trends in declining meta-populations and maintain stable or increasing trends for healthy populations by 2027. The BluNatCap will strengthen the management of coastal wetlands identified as critical habitats under the National Plan by supporting integration of NC and ES values in management plans, and ensuring cross-sectoral partnerships for their implementation.

BluNatCap is also aligned with the Government of India and United Nations Sustainable Development Framework (2018-22), specifically contributing to Strategic Priority Area of Sustainability and Resilience and Outcome 5 (By 2022, environmental and natural resource management (NRM) is strengthened and communities have increased access to clean energy and are more resilient to climate change and disaster risks) and results related with National Biodiversity Targets.

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[1] At the time of writing the FSP, discussions were ongoing on Post 2020 Global Biodiversity Framework (GBF). Project implementation will take into account the GBF and its targets once these are been endorsed by the CBD Contracting Parties

[2] MoEFCC. 2018. India?s National Action Plan for Conservation of Migratory Birds and their Habitats along Central Asian Flyway (2018-2023). New Delhi, India: Ministry of Environment, Forests & Climate Change, Government of India.

[3] NDMA. 2019. National Disaster Management Plan. New Delhi,India. Accessible at: https://ndma.gov.in/sites/default/files/PDF/ndmp-2019.pdf

**8. Knowledge Management**

**Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.**

The BluNatCap Knowledge Management approach involves a) development of proof of concept for application NC accounts into improved landscape management outcomes; b) establishment of a knowledge management platform to enable cross-learning on various dimensions of NC accounting science, practice and policy; c) establishment of a community of practice that will support the dissemination of lessons and best practices for wider application; d) building capacity development processes to enable the application of concepts within sectoral plans and programmes particularly at the district level. The knowledge management approach is underpinned by a monitoring and evaluation system that will enable harvesting lessons on mainstreaming NC values in planning for blue economy sectors at the district level. Within all its components, BluNatCap will proactively engage, consult and coordinate with relevant GEF and non-GEF project and programmes being implemented in the area of NCA and SBE. A preliminary listing of these projects at the time of PPG is placed in section 2.7 of the ProDoc.

**Learning from relevant projects, programmes, initiatives and evaluations**

BluNatCap knowledge management actions cut across all components of the project. Component 1 will build upon learnings on designing and implementation of a national roadmap and governance framework for SEEA based SNA.  Lessons from relevant projects, programmes, initiatives and evaluations are proposed to be captured in the draft policy analysis and position paper for National NCA roadmap (Output 1.1.1), policy analysis and position paper on system design linking SEEA based NC accounts with SDG reporting (Output 1.1.2) and development of a suite of SDG indicators linked with NC accounts and relevant to Blue economy ( Output 1.1.2). Lessons relevant to adaptation of national NES-GRIDSS system are to be captured under output 2.1.1 whereas sector review reports will enable capturing lessons from output 2.1.2. Development of draft Ecological Fiscal Transfer (EFT) will build upon lessons from relevant programmes and project under output 1.2.3.  Component 2 will build upon learnings on demonstrating integration of NC objectives in coastal landscape and sector scale planning and development. Lessons pertaining to adaptation of NES-GRIDSS for NC accounting in two landscapes will benefit output 2.1.1. Output 2.1.3 will build upon results of projects relevant to integration of NC values and developmental objectives in landscape planning.  Projects related with scenario planning will be of specific relevance here. Mapping of partnership opportunities under output 2.1.4 will also build upon review of adoption of NC protocols in mapping and prioritisation of interdependencies.

A mapping of relevant projects listed in section 2.7 with the outputs is depicted below:

| Project Outputs | Relevant projects |
|---|---|
| **1.1.1** Governance framework and roadmap established towards SEEA-based NC accounting and its integration into the System of National Accounts (SNA) and the NES-GRIDSS system | Natural Capital Accounting and Valuation of Ecosystem Services (NCAVES)<br><br>World Bank-supported Integrated Coastal Zone Management Project (Phase I), |
| **1.1.2** Policy-analysis and agreement on a position paper on system design towards linking NC accounts and SEEA-based indicators with SDG Reporting available to decision makers | GEF ID 10552 Natural Capital Values of Coastal and Marine Ecosystems in Sri Lanka Integrated into Sustainable Development Planning, Sri Lanka, IUCN |
| **1.2.1** National NES-GRIDSS system adapted to SEEA- EEA for NC -analysis, planning and investments | GEF ID 10552 Natural Capital Values of Coastal and Marine Ecosystems in Sri Lanka Integrated into Sustainable Development Planning, Sri Lanka, IUCN<br><br>Natural Capital Accounting and Valuation of Ecosystem Services (NCAVES)<br><br>World Bank: Wealth Accounting and Valuation of Ecosystem Services project |

| | |
|---|---|
| **1.2.2.** Tourism, fisheries and infrastructure sector review report on NC-based interdependencies, business risks and opportunities for Blue Economy development endorsed by relevant national and state decision-makers through sector roundtables ? in nine coastal districts. | GEF ID 10204 Transforming agricultural systems and strengthening local economies in high biodiversity areas of India through sustainable landscape management and public-private finance<br><br>UNEP and EU-EcoDev funded ? Ecosystem-based Disaster Risk Reduction project<br><br>TEEB for Agriculture and Food, EU (Foreign Policy Investment) (2019-2022)<br><br>World Bank: Wealth Accounting and Valuation of Ecosystem Services project |
| 1.2.3. New NC-supportive budget, fiscal measures and indicators agreed for the development and monitoring of Blue Economy growth in the nine coastal districts, enabled through adapted NES-GRIDSS system and results of BioFIN. | GEF ID 10213 Economic instruments and tools to support the conservation of biodiversity, the payment of ecosystem services and  sustainable development, Chile, UNDP<br><br>GEF ID 10213 Economic instruments and tools to support the conservation of biodiversity, the payment of ecosystem services and  sustainable development, Chile, UNDP<br><br>Biofin India Project |
| 2.1.1. NES-GRIDSS for 9 Districts for two coastal landscapes spanning 0.56 million ha made SEEA - compliant | Biofin India Project<br><br>Protecting and restoring the natural ecosystems of India?s coastal zone to strengthen the climate resilience of coastal communities<br><br>GEF ID 10552 Natural Capital Values of Coastal and Marine Ecosystems in Sri Lanka Integrated into Sustainable Development Planning, Sri Lanka, IUCN |
| **2.1.2** Preparation of SEEA compliant wetlands NC account using NES-GRIDSS for two states and capacity established towards development of Blue Economy  Strategies incorporating NC and BD aspects | GEF ID 5132 Integrated Management of Wetland Biodiversity and Ecosystems Services (IMWBES)<br><br>Biofin India Project<br><br>MoEFCC and GIZ supported TEEB India Initiative<br><br>International Climate Initiative funded Wetlands Management for Biodiversity and Climate Protection Project<br><br>Global Mangrove Watch: The Global mangrove Watch |

| | |
|---|---|
| 2.1.3 Two spatial plans developed - targeting 2 coastal-landscapes spanning 0.56 million by integrating NC values and development objectives (with specific focus on flood mitigation in at least one landscape); threat reduction and sustainable development opportunities identified, in support of the Blue Economy | GEF ID 9148: Securing Livelihood in the Himalayas is a part of the ?Global Partnership on Wildlife Conservation and Crime Prevention for Sustainable Development? (Global Wildlife Program). <br><br> GEF ID 5132 Integrated Management of Wetland Biodiversity and Ecosystems Services (IMWBES) <br><br> GEF ID 10552 Natural Capital Values of Coastal and Marine Ecosystems in Sri Lanka Integrated into Sustainable Development Planning, Sri Lanka, IUCN <br><br> MoEFCC and GIZ supported TEEB India Initiative <br><br> World Bank-supported Enhancing Coastal and Ocean Resource Efficiency Project |
| 2.1.4 Public-private partnership and NC Protocols adopted by 2 corporations leading to start of green investments in the two project sites ? specifically related to sustainable infrastructure, fisheries and tourism development under the Blue Economy Strategies and Spatial Plans. | GEF ID 10213 Economic instruments and tools to support the conservation of biodiversity, the payment of ecosystem services and sustainable development, Chile, UNDP <br><br> World Bank-supported Integrated Coastal Zone Management Project (Phase I), |
| 3.1.1 A gender sensitive communication and engagement strategy for partnership and adoption of SEEA-based NC accounting developed and implemented | Natural Capital Accounting and Valuation of Ecosystem Services (NCAVES) |
| **3.1.2** Knowledge management platform and impact performance M&E developed to support policy makers and practitioners in India in adopting, replicating and mainstreaming NC accounting. | GEF ID 5132 Integrated Management of Wetland Biodiversity and Ecosystems Services (IMWBES) <br><br> Natural Capital Accounting and Valuation of Ecosystem Services (NCAVES) |
| **3.2.1** Staff training in 12 (9+3 coastal districts in SEEA-based NES-GRIDSS system on application to coastal resources, sectors and Blue Economy development. | GEF ID 5132 Integrated Management of Wetland Biodiversity and Ecosystems Services (IMWBES) <br><br> Natural Capital Accounting and Valuation of Ecosystem Services (NCAVES) |
| **3.2.2** National replication of NC-based NES-GRIDSS and Environmental Information System (ENVIS ) development and implementation in 3 additional Districts through the Green Skill Development Programme | Coastal and Marine Protected Areas Project of GIZ <br><br> GEF ID 5132 Integrated Management of Wetland Biodiversity and Ecosystems Services (IMWBES |

**Capturing, assessing and documenting information, lessons, best practice & expertise generated during project implementation**

Component 3 aims at putting in place systems for assessing project performance and knowledge management support for national replication of NC accounting for blue economic growth in India. Output 3.1.1 includes generation of verified evidence on application of NCA to BE sectors resulting in increased recognition of NC-based interdependencies, NC supportive budgets and availability of monitoring indicators. Implementation plans for this output therefore include harvesting lessons from similar projects and programmes as a starting point. Output 3.1.2 will enable putting in place a monitoring and evaluation system at the landscape, state and national scale to track the output and outcomes, indicators in policy support for NCA, use of adapted NES-GRIDSS as data hub, increase in NC supportive budgets and increase in green investments. The monitoring system design will benefit from identification of priority knowledge needs and knowledge management systems used in relevant projects. Capacity development interventions proposed under outcome 3.2 will build on training resources and training effectiveness enhacing instruments used in relevant programmes and projects.

**Knowledge production, exchange, learning and collaboration**BluNatCap will invest into specific tools and methods for knowledge exchange, learning & collaboration. Output 3.1.2 includes establishment of an online knowledge sharing platform to facilitate networking among policy makers and practitioners in India to exchange their knowledge and experiences in mainstreaming NC values into sectoral and spatial planning processes. The online knowledge management platform will be developed and maintained to support and promote networking and exchange of experiences and success stories. At the beginning, the knowledge platform will be hosted within the National Wetlands Portal (https://indianwetlands.in/) and mirrored in NCSCM website. BluNatCap will include a knowledge needs assessment of BE sector policy makers, planners and practitioners (operating within government, non-government and private sectors) to determine priority knowledge needs for supporting the application of NCA in sector operations. The knowledge needs assessment will be responded to by tailor-made knowledge products (in the form of issue briefs, toolkits, case studies, guidance documents, and others) which will be made available through the portal as well as proactively disseminated through direct engagement. The project will also endeavour to ensure that the knowledge products are living documents and incorporate new knowledge as they emerge during the project implementation or from linked initiatives (preliminary list at section 2.7 of the ProDoc). Through out project implemetation information and best practices will be captured in the form of issue briefs, structured evidence building, compendiums and other living knowledge products. By investing in capacity development of key planning and programming personnel at state and district levels, BluNatCap will ensure that expertise generated during the implementation is diffused within BE sectors.

**Plans for Strategic Communication**

A gender sensitive communication strategy will form the basis of strengthened Public-private partnerships for implementing NC accounting at national, state and district levels. Output 3.1.1 therefore includes development of a gender sensitive communication strategy taking into account key elements (target

audiences, context, intended outcomes, key messages, appropriate medium and preferred messengers) supporting mainstreaming NC values into planning and implementation of SBE in Indian coastal districts. This strategy will be put in place as a part of project inception process.

The timelines, deliverables and benchmarks for the major knowledge outputs to be produced and shared with stakeholders are summarized in the table below.

**Project Deliverables and Benchmarks**

| Components/Outcomes/Outputs | Expected Results | Deliverables | Benchmarks |
|---|---|---|---|
| Component 1: National systems support for blue economic growth model incorporating Natural Capital (NC) values | | | |
| Outcome1.1 A national roadmap and governance framework for SEEA based SNA within the NES-GRIDSS endorsed by strengthened government institutions | | | |
| Output 1.1.1. Governance framework and roadmap established towards SEEA-based NC accounting and its integration into the System of National Accounts (SNA) and the NES-GRIDSS system. | 1.1.1.A. Constitute an inter-agency NC accounting working group for the development of national framework | Constitution of working group; Terms of References of working group | Year 2 Q2 |
| | 1.1.1.B. Commission a drafting team for the development of the national NCA roadmap | Terms of references for NCA roadmap | Year 2 Q2 |
| | 1.1.1.C. Conduct NCA roadmap write-shops for the drafting national NCA roadmap | Draft of National NCA roadmap | Year 3 Q2 |
| | 1.1.1.D. Organise stakeholder consultations for review and recommendations on draft NCA roadmap | Report of stakeholder consultation workshop on NCA roadmap | Year 3 Q2 |
| Output 1.1.2 Policy-analysis and agreement on a position paper on system design towards linking NC accounts and SEEA-based indicators with SDG Reporting available to decision makers | 1.1.2.A. Constitute a multi-institutional working group for drafting policy analysis and position paper | Constitution of working group; Terms of References of working group | Year 2 Q4 |
| | 1.1.2.B. Prepare draft policy analysis and position paper on system design linking SEEA based NC accounts with SDG reporting | Draft of policy analysis and position paper available for review | Year 3 Q2 |

| | 1.1.2.C. Conduct a stakeholder consultation for review and recommendations towards finalisation of the policy analysis and position paper. | Review report with recommendations; adaptation of policy analysis and position paper | Year 3 Q3 |
|---|---|---|---|
| | 1.1.2.D. Develop a suite of SDG indicators linked with NC accounts and relevant to Blue Economy | Draft suite of SDG indicators suite linked with NC accounts and relevant to Blue Economy | Year 3 Q2 |
| | 1.1.2.E. Prepare a draft of thematic coastal ecosystems SDG report incorporating results from activity 1.1.2 D | Draft thematic coastal ecosystem report incorporating results from activity 1.1.2 D is available for review | Year 4 Q1 |
| | 1.1.2.F. Conduct a stakeholder review of draft coastal SDG report for recommendations to be incorporated | Review report of stakeholders with recommendation | Year 4 Q2 |
| | 1.1.2.G. Finalise and publish the coastal SDG report incorporating SDG indicators suite linked with NC accounts | Final report incorporating stakeholder comments is available for use of relevant actors and is available on knowledge management platform (Activity 3.1.2C) | Year 4 Q3 |

| Component 3: Project Performance and Knowledge management support for National replication of NC accounting for blue economy growth in India | | | |
|---|---|---|---|
| Outcome 3.1: Strengthened Public-private partnerships implement NC accounting for national, state and district planning through exchange of lessons learned and data collected by the project M&E system | | | |
| Output 3.1.1 A gender sensitive communication and engagement strategy for partnership and adoption of SEEA-based NC accounting developed and implemented | 3.1.1.A. Launch National NCA roadmap (Output 1.1.1) for adoption by central and state government ministries, departments and agencies as well as private sectors. | National NCA roadmap launch | Year 5 Q1 |
| | 3.1.1.B. Develop a database of NC practitioners | Database of NCA practitioners | Year 2 Q4 |

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| | 3.1.1.C. Establish a NCA community of practice to provide an informal knowledge exchange environment | Shared experiences and lessons learnt document | Year 2 Q4 |
| | 3.1.1.D. Compile best practices on NC accounting and application to Blue Economy sectors | Best practices on NC accounting and application document | Year 4 Q3 |
| | 3.1.1.E. Participate ide events at CoPs and regional/global events for the active dissemination of the outcomes of the project | Events organised at regional and global level | Year 2 Q3 onwards |
| | 3.1.1.F. Participate in national workshops | participation in national events, Workshop synthesis reports published | Year 2 Q3 onwards |
| | 3.1.1.G. Participate in international events | participation in international events, Workshop synthesis reports published | Year 2 Q3 onwards |
| | 3.1.1.H. Organise annual learning events to share the lessons learnt under the project as well as allowing infusion of knowledge generated in similar initiatives | Shared experiences and lessons learnt document | Year 2 Q3 onwards |
| Output 3.1.2 Knowledge management platform and impact performance M&E developed to support policy makers and practitioners in India in adopting, replicating and mainstreaming NC accounting. | 3.1.2A. Develop gender and stakeholder engagement plan, indicators and monitoring system | Report on gender and stakeholder engagement | Year 1 Q1-2 |
| | 3.1.2.A. Identify priority knowledge needs and knowledge management system of BE sector policymakers, planners and practitioners for supporting the application of NCA in sector operations | Report on knowledge needs and knowledge systems support needs to support adoption and mainstreaming of NCA | Year 2 Q2 |

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| | 3.1.2.B. Develop and publish knowledge products on different aspects of NCA mainstreaming in BE development on the basis of needs assessment | Knowledge products on different aspects of NCA mainstreaming in BE development | Year 4 Q1 |
| | 3.1.2.C. Establish a web-enabled knowledge management platform to support and promote networking and exchange of experiences and success stories | Functional web-portal on NCA | Year 5 Q1 |
| | 3.1.2.D. Provide support to National wetland portal for aggregating and sharing wetland natural capital values knowledge | National wetlands portal hosts projects outputs and other material related to wetlands NC, BD and ES | Year 6 Q2 |
| | 3.1.2.E. Finalize project monitoring systems to ensure adoption of mid-course correction measures | Results framework, monitoring indicators, measurement protocols | Year 2 Q1 |
| | 3.1.2.F. Monitor the progress of the project output and attainment of outcomes performance | Project monitoring mission reports | Year 2 Q3 onwards |
| | 3.1.2.G. Finalize project reporting system | Reporting systems put in place | Year 2 Q1 |
| | 3.1.2.H. Project reporting | Project Review reports and Project Implementation Reports | Year 2 Q3 onwards |
| **Outcome 3.2: Enhanced application of SEEA-based NC accounts, valuation and other applications to spatial planning, budgeting, and integrated natural resources management for sustainable blue economy development** | | | |
| Output 3.2.1 Staff training in 12 (9+3) coastal districts in SEEA-based NES-GRIDSS system on application to coastal resources, sectors and Blue Economy development. | 3.2.1.A. Conduct a training needs assessment survey to review skill requirements for application of NCA using SEEA-based NES-GRIDSS system | Training needs assessment survey, review of skill required for application of NCA using SEEA-based NES-GRIDSS system | Year 3 Q2 |
| | 3.2.1.B. Develop training modules in SEEA-based NES-GRIDSS system on application to coastal resources, sectors and Blue Economy development | Modular training material produced, training calendar and programme produced, trainers and training locations confirmed | Year 4 Q1 |

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|---|---|---|---|
| | 3.2.1.C. Conduct staff training workshops for district-level planning and programming agencies and individuals on application of NCA using SEEA-based NES-GRIDSS system | Training workshops reports, workshop evaluation | Year 4 Q2 onwards |
| | 3.2.1.D. Conduct training of trainers to create a pool of master trainers | Training workshops reports, workshop evaluation | Year 4 Q2 onwards |
| | 3.2.1.E. Conduct programme effectiveness review for mid course corrections | Cyclic review of trained individuals and trainers, periodic review of requirement of updation of training module and materials | Year 4 Q2 onwards |
| | 3.2.1.F. Provide follow-up support through refresher courses, updated training modules, periodic training needs assessment and budgetary requirement review | Refresher courses, updated training modules, periodic training needs assessment and budgetary requirement review | Year 4 Q2 onwards |
| Output 3.2.2 National replication of NC-based NES-GRIDSS and Environmental Information System (ENVIS ) development and implementation in 3 additional Districts through the Green Skill Development Programme | 3.2.2.A. Develop programme framework for GSDP for NCA using NES-GRIDSS and draft curriculum for wetlands NC evaluation and management integration | Draft training curriculum for GSDP for NCA using NES-GRIDSS; Draft curriculum for wetlands NC evaluation and management integration | Year 4 Q1 |
| | 3.2.2.B. Develop training modules for NC based NES-GRIDSS | Training modules for NCA using NES-GRIDSS | Year 4 Q3 |
| | 3.2.2.C. Develop training module for Wetlands NC values evaluation and management integration | Training module for wetlands NC evaluation and management integration | Year 4 Q3 |
| | 3.2.2.D. Implement training course for NC based NES-GRIDSS through GSDP with selected candidates | Training course implemented with selected candidates | Year 5 Q3 |

| | 3.2.2.E. Implement training course for Wetlands NC values evaluation and management integration through GSDP with selected candidates | Training course implemented with selected candidates | Year 5 Q3 |
|---|---|---|---|
| | 3.2.2.F. Conduct programme effectiveness review for mid course corrections | Programme effectiveness review report | Year 5 Q4 onwards |
| | 3.2.2.G. Provide follow-up support through refresher courses, updated training modules, periodic training needs assessment and budgetary requirement review | Refresher courses, updated training modules, periodic training needs assessment and budgetary requirement review | Year 5 Q4 onwards |

**9. Monitoring and Evaluation**

**Describe the budgeted M and E plan**

The project will follow UNEP standard monitoring, reporting and evaluation processes and procedures. Substantive and financial project reporting requirements are summarized in Appendix 8 of ProDoc. Project monitoring and reporting requirements, and templates are an integral part of the UNEP legal instrument, to be signed by the EA and UNEP, ensuring it is consistent with the GEF Monitoring and Evaluation policy.

The project M&E plan is consistent with the GEF Monitoring and Evaluation policy. The Project Results Framework presented in Appendix 4 of the ProDoc includes SMART indicators for each expected outcome as well as mid-term and end-of-project targets. These indicators along with the key deliverables and benchmarks included in Appendix 6 will be the main tools for assessing project implementation progress and whether project results are being achieved. Additionally, METT (Appendix 15 of ProDoc) will be used to measure the impact of the project. The means of verification and the costs associated with obtaining the information to track the indicators are summarized in Appendix 7. Other M&E related costs are also presented in the Costed M&E Plan and are fully integrated into the overall project budget.

The M&E plan will be reviewed and revised as necessary during the project inception workshop to ensure project stakeholders understand their roles and responsibilities vis-?-vis project monitoring and evaluation. Indicators and their means of verification may also be fine-tuned at the inception workshop. Day-to-day project monitoring is the responsibility of the PMU but other project partners will have the responsibilities to collect specific information to track the indicators. It is the responsibility of the Project Director or LTSP to inform UNEP of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely fashion.

The PMU in consultation with the SIUs will make periodic reports on the progress of the project to the interested central government Ministries and State government departments and will discuss project strategies with them. Based on feedback, the PMU will make recommendations to the EA concerning the need to revise any aspects of the Results Framework or the M&E Plan, firstly for clearance by the NPSC, and subsequently, EA will make recommendations to UNEP concerning the need to revise any aspects of the Results Framework or the M&E plan if applicable. Project oversight to ensure that the project meets UNEP and GEF policies and procedures is the responsibility of the Task Manager in UNEP-GEF. The Task Manager will also review the quality of draft project outputs, provide feedback to the project partners, and establish peer review procedures to ensure adequate quality of scientific and technical outputs and publications. The GEF core indicators (Indicators 4.1 and 11) will be monitored. These will be updated at mid-term and at the end of the project and will be made available to the GEF Secretariat along with the project PIR report

Project supervision will take an adaptive management approach. The Task Manager will develop a project supervision plan at the inception of the project which will be communicated to the project partners during the inception workshop. The emphasis of the Task Manager supervision will be on outcome monitoring but without neglecting project financial management and implementation monitoring.  Progress vis-?-vis delivering the agreed project global environmental benefits will be assessed with the NPSC at agreed intervals. Project risks and assumptions will be regularly monitored both by project partners and UNEP. Risk assessment and rating is an integral part of the Project Implementation Review (PIR). The quality of project monitoring and evaluation will also be reviewed and rated as part of the PIR. Key financial parameters will be monitored quarterly to ensure cost-effective use of financial resources.

In line with the GEF Evaluation requirements and UNEP?s Evaluation Policy, GEF Full-Sized Projects and any project with a duration of 4 years or more will be subject to an independent Mid-Term Evaluation or management-led Mid-Term Review at mid-point. All GEF funded projects are subject to a performance assessment when they reach operational completion. This performance assessment will be either an independent Terminal Evaluation or a management-led Terminal Review.

In case a Review is required, the UNEP Evaluation Office will provide tools, templates, and guidelines to support the Review consultant. For all Terminal Reviews, the UNEP Evaluation Office will perform a quality assessment of the Terminal Review report and validate the Review?s performance ratings. This quality assessment will be attached as an Annex to the Terminal Review report, validated performance ratings will be captured in the main report.

However, if an independent Terminal Evaluation (TE) of the project is required, the Evaluation Office will be responsible for the entire evaluation process and will liaise with the Task Manager and the project implementing partners at key points during the evaluation. The TE will provide an independent assessment of project performance (in terms of relevance, effectiveness and efficiency), and determine the likelihood of impact and sustainability. It will have two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote learning, feedback, and knowledge sharing through results and lessons learned among UNEP staff and implementing partners. The direct costs of the evaluation (or the management-led review) will be charged against the project evaluation budget.  The TE will typically be initiated after the project?s operational completion If a follow-on phase of the project is envisaged, the

timing of the evaluation will be discussed with the Evaluation Office in relation to the submission of the follow-on proposal.

The draft TE report will be sent by the Evaluation Office to project stakeholders for comment. Formal comments on the report will be shared by the Evaluation Office in an open and transparent manner. The project performance will be assessed against standard evaluation criteria using a six-point rating scheme. The final determination of project ratings will be made by the Evaluation Office when the report is finalized. The evaluation report will be publicly disclosed and will be followed by a recommendation compliance process. The evaluation recommendations will be entered into a Recommendations Implementation Plan template by the Evaluation Office. Formal submission of the completed Recommendations Implementation Plan by the Project Manager is required within one month of its delivery to the project team. The Evaluation Office will monitor compliance with this plan every six months for a total period of 12 months from the finalisation of the Recommendations Implementation Plan. The compliance performance against the recommendations is then reported to senior management on a six-monthly basis and to member States in the Biennial Evaluation Synthesis Report. The summary Costed M&E Plan is as follows:

| Type of M&E Activity | Responsible parties | GEF M&E Costs (US$) | Cofinancing (US$) | Time Frame |
|---|---|---|---|---|
| Project inception workshop | PMU  EA | 1,000 | Partner staff time to review report | Within 4 months of project start-up |
| Inception Report | PMU and LTSP | Electronic copies only | Partner staff time to review report | Within one month of Inception workshop |
| M&E Plan development   Measurement of Means of Verification for Project Indicators (outcome, progress and performance indicators, GEF Core Indicators; staff & institutional capacity building scorecards, Training effectiveness; Management effectiveness Tracking) | PMU | 7,305 | Partner staff time to review report | Within 4 months of project start-up |

| | | | | |
|---|---|---|---|---|
| Monitoring and reporting of project progress against annual workplan | PMU and SIU | Included in the costs on workshop under component 3, outcome 3.1 | Partner staff time to review report | Progress/performance Indicators: quarterly |
| Semi-annual Progress Reports to UN Environment Programme | Project Manager, supported by SIUs and LTSP<br><br>UNEP Task Manager (TM) | Included in the costs on workshop under component 3, outcome 3.1 | Partner staff time to review report | Half-yearly, within one month of the end of the reporting period i.e. on or before 31 January and 31 July |
| PIR | Project Manager, supported by SIUs and LTSP<br><br>UNEP Task Manager (TM) | Included in the costs on workshop under component 3, outcome 3.1 | Partner staff time to review report | Annually, on or before 31 August |
| Co-financing reports | Project Manager, supported by F&A Officer and LTSP | Dedicated staff time of PM | Partner staff time to review report | Annually for input to PIR, ie on or before 31 July |
| Project Steering Committee Meetings & Reporting | Project Manager | 5,000 | Partner staff time to participate in meetings and review reports. Partner meeting space, where possible. | Twice a year, |
| METT scores for Ramsar sites and protected areas | SIUs, supported by PMU | Included in the costs on workshop under component 2, outcome 2.1 | Partner staff time to review report | Annually |
| Monitoring visits to the two project landscapes | Project Manager, supported by PMU and SIUs | | Partner staff time to participate in field visits | As appropriate |
| Mid-Term Evaluation (external) | PMU<br><br>External consultant contracted and supervised by UN Environment Programme (Task Manager) | 30,000 | Partner staff time to participate in interviews and field visits | At mid-point of project implementation |

| Project Final Report | Project Manager, supported by SIUs and LTSP | Included in the costs on workshop under component 3, outcome 3.1 | Partner staff time to provide inputs and review draft reports | Within 2 months of the project completion date |
|---|---|---|---|---|
| External Terminal Evaluation | PMU<br><br>External consultant contracted and supervised by UN Environment (Task Manager) | 35,000 | Partner staff time to participate in interviews and field visits | Within 6 months of the project completion date |
| Monitoring and reporting on gender mainstreaming activities and indicators | Project Manager | 1,333 | Partner staff time to provide inputs and review draft reports | Annually |
| Dissemination workshop | Project Manager, supported by SIUs and LTSP | Included in the costs on workshop under component 1, outcome 1.2 | Partner staff time to participate in meetings. Partner meeting space, where possible | Within 1 month of the project completion date |
| **Total M&E Plan Budget (US$)** | Total M&E costs | **79,638** | | |

The detailed project monitoring framework is provided in the table below.

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Mid Term | End Term | | | | | | |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Mid Term | End Term | | | | | | |
| To enhance biodiversity conservation and environmental sustainability of critical coastal landscapes in India by integrating natural capital and ecosystem services values in government and corporate planning and operations for Blue Economy growth path. | O1 ? Area of coastal landscapes under protection (by formal legal designation, or through community practices) | Project landscapes include a total of 566,733 ha land, wetlands and other NC resources, of which 182,760 ha are formally protected. Draft CRZ plans notified for Kerala and Karnataka states, as the key regulatory framework for coastal areas. Vembanad-Kol has been designated as a Ramsar Site. | A suite of landscape integrity indicators is produced | At least 10,000 ha increase in the area protection of the two coastal landscapes (Kerala and Karnataka) to ensure biodiversity conservation and environmental sustainability | Spatial coverage of areas formally notified or under informal conservation arrangements | Mapping of areas under formal or informal arrangements | Annual | Two coastal landscapes | LTSP and PMU | Costs included within Output 2.1.3 and project steering committee meeting and reporting |
| | | | Gaps in protection status of key biodiversity areas critical for supporting NC in the two landscapes are identified | | Number of new coastal wetlands designated to the List of Wetlands of International Importance and OECM | Designation letters | Annual | Two coastal landscapes | PMU and LTSP | Costs included within Output 2.1.3 and project steering committee meeting and reporting |
| | O2 - Area of coastal landscapes effectively managed through mainstreaming natural capital, biodiversity and ecosystem values in Government and corporate sector planning and operations | 8 coastal wetlands have been designated to the network of Wetlands of International Importan | METT scores established for 2 Ramsar sites (designated and potential) and 2 protected areas included in the project | 566,733 ha under improved landscape management | | Computing indicators against the baseline | Annual | Two coastal landscapes | LTSP | |
| | | | SEEA compliant wetlands NCA account for two | In two coastal landscapes, the METT scores for Ramsar sites and protected areas are improved by at least 20% due to measures | Landscape integrity indicators[1] ( such as habitat connectivity, area under sustainable practices) | | | | | Costs included within Output 2.1.1, 2.1.3 |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
| | | | Mid Term | End Term | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | O3- Number of public and private sector plans, projects and investments modified to mitigate externalities to NC, on the basis of NCA and, Blue Economy partnerships and plans, informed by a SEEA compliant NES-GRIDSS | Multiplicity of district planning (which cater to specific objectives such as coastal zone regulation, pollution hazard mitigation, disaster management, development) prevent capture of NC interdependencies and generate externalities; District environment plans only address environmental hazards and do not capture NC, BD and ES Values | At least 2 partnerships established to mitigate NC externalities  NC risk and opportunities screening conducted for at least 8 public and private sector projects using information generated from SEEA compliant NES-GRIDSS | In 8 public and private sector projects, plans and investments are modified to mitigate externalities to NC | Number of instances wherein public and private sector entities incorporate measures for mitigation of externalities to NC on the basis of information provided by NCA and SEEA compliant NES-GRIDSS | Project established corporate partnership in the two States, Desk review of public and private sector plans and programmes reports | Annual | Two coastal landscapes (12 Districts) | LTSP | Costs included within Output 2.1.4 and project steering committee meeting and reporting |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Mid Term | End Term | | | | | | |
| | O4 ? Increased mobilization of NC-relevant finance generated through development convergence and private sector for wetlands-based infrastructure[2] for addressing coastal vulnerability | NPCA guidelines recommend mainstreaming wetlands in developmental planning - states seeking funds are required to provide 40% co-finance for the cost of integrated management plans (10% of northeastern states). There is a recent directive of the NGT to include wetlands in district level environmental plans.

Finance for NC is largely generated through central government grants, in the form of finance to | In at least 20% of the 12 coastal districts, the district environmental plans incorporate wetland values conservation and budgeting estimates

Public and corporate baseline investment values assessed regarding wetland conservation, management and green infrastructure for the two landscapes | Available finance for conserving coastal wetlands is increased by 20% through incremental investment generated through development convergence and private sector engagement. | Number of PPP and amount of green investments[3] applied for conserving wetlands as climate resilient infrastructure


Number of District Environmental Plans incorporating wetlands and triggering development convergence funds for securing their NC and ES values | Desk review of corporates ESG and CSR reports



Desk review of District Environmental Plans and meetings with district authorities | Annual




Annual | 12 coastal districts




12 coastal districts | LTSP




LTSP | Costs included within Output 2.1.4 and project steering committee meeting and reporting




Costs included within Output 2.1.3, 3.1.2 and and project steering committee meeting and reporting |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Mid Term | End Term | | | | | | |
| **Outcome 1.1**: A national roadmap and governance framework for SEAA based SNA within the NES-GRIDSS endorsed by strengthened government institutions. | 1.1.1. Number of public institutions and stakeholders endorsing the roadmap &strategy | Draft Blue Economy Strategy calls for a national accounting framework for the Blue Economy

The National Mission on Biodiversity and Human Wellbeing also seeks integration of ecosystem services and natural capital values of biodiversity in sectoral development planning.

The National Biodiversity Action Plan identifies valuation of ecosystem services | Multi-institutional working group established, including with MoSPI, to draft and negotiate the national roadmap.

A draft national roadmap on SEEA based NCA in the context of Blue Economy with mandates, roles of stakeholder and, financial arrangements for implementation is developed for consideration of National Government

Framework for NES-GRIDSS adaptation to | National Roadmap for SEEA based NCA in the context of Blue Economy adopted in the form of a formal notification of MoEFCC - and endorsed by MoSPI. The roadmap incorporates adapted NES-GRIDSS as the underlying data-hub. | Participation of relevant stakeholders in development of the framework

Endorsement of National Roadmap by MoEFCC and MoSPI | Review of working group reports (including gender representation among the stakeholders)

Review of endorsement records | Once

Once | National

National | LTSP

LTSP | Costs included within Output 1.1.1

Costs included within Output 1.1.1 |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Mid Term | End Term | | | | | | |
| | 1.1.2. SDG indicator suite linked with NCA | SDG dashboard tracks a select set of indicators which are linked with ecosystem condition. Under the NCAVES project, several SDG indicators were tested for calculation using the accounts developed as a part of the project. The NCAVES analysis is particular shows the under-utilization of NC framework in building additional SDG indicators. | A suite of SDG indicators linked with Natural capital accounts supporting Blue Economy is produced for national adoption [building on the outcomes of NCAVES analysis] | A thematic coastal ecosystems SDG report using SEEA-based indicators and linked to NCAs is produced | Availability and completeness of NCA linked SDG indicator suite, disaggregated by gender | Review of dashboard data | Annual | National | LTSP | Costs included within Output 1.1.2 |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Mid Term | End Term | | | | | | |
| **Outcome 1.2**: Nine coastal districts integrate NC-based principles and targets of a sustainable growth path in sector related budgets, fiscal measures and programming indicators | 1.2.1. Number of NC based assessments and valuation of coastal wetlands BD and ES generated through adapted NES-GRIDSS | The MoEFCC has commissioned a NES to support availability and access to data at disaggregated district level and facilitate access to environmental data to empower decision making in the environment sector at all levels of government. The existing ENVIS network is being deployed to implement NES-GRIDSS. However, in the current form NES-GRIDSS is insufficient to generate NCA stock and flow accounts | Two (2) SEEA-adapted NES-GRIDSS district nodes pilot testing wetland NC-based assessments and valuation in 2 coastal districts of the two targeted landscapes | Nine (9) Districts apply SEEA-adapted NES-GRIDSS data to generate NC-based wetlands assessments and valuation | Synthesis report on the assessments and valuation of coastal wetlands NC and ES generated from adapted NES-GRIDSS | Review of synthesis report (including integration of gender dimensions) | Annual | 9 coastal districts | LTSP | Costs included within Output 1.2.1 |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Mid Term | End Term | | | | | | |
| | 1.2.2 Number of strategies for Blue economy incorporating NC values are endorsed by national and state level decision makers and public and private sector stakeholders | IBBI-ITC has adopted NC protocols, and NC action planning framework for corporate sector, however, there have been no applications in coastal landscapes.<br><br>Absence of clear roadmap and specific strategies on the ways in which Blue Economy sectors can integrate NC-based interdependencies, | Draft tourism, fisheries and infrastructure NC sector review report.<br><br>At least two sector round tables are established for developing Blue Economy pathways enabling incorporation of NC interdependencies in business risks and opportunities. | In at least 9 coastal districts, tourism, infrastructure, and fisheries sector strategies for Blue economy incorporating NC values are endorsed by national and state level decision makers and public and private sector stakeholders | Sector strategy papers endorsed by relevant National and State level decision makers<br><br>Participation of relevant stakeholders in sector roundtables ensuring gender balance | Desk review of the sector strategy papers and interviews with select corporates (including gender sensitivity)<br><br>Desk review of sector roundtables reports and gender disaggregated information on participants of the round tables | Once<br><br>Once | National<br><br>National | LTSP<br><br>LTSP and PMU | Costs included within Output 1.2.2<br><br>Costs included within Output 1.2.2 |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Mid Term | End Term | | | | | | |
| | 1.2.3(a). % of increase in NC-supportive budgets in coastal districts | The biodiversity finance gap for 2017-22 (assessed under BioFIN project) of US$ 6.5 billion to achieve NBAP targets can be plugged by mainstreaming biodiversity in public schemes, Corporate Social Responsibility (CSR), Augmenting Public Finance, Ecological Fiscal Transfer (EFT) and Access and Benefit Sharing (ABS). | Public and corporate baseline investment values assessed regarding wetland conservation, management and green infrastructure for the two landscapes | Available finance for conserving coastal wetlands is increased by 20% in the two landscapes (9 Districts) through incremental investment generated through development convergence and private sector engagement. | Availability of NC-supportive budget aligned with Blue Economy at the district level | Commissioned study to track public and private sector NC supportive budgets and their alignment with BE | At the end of 2.5 yrs and 5 yrs | 9 coastal districts | PMU | Costs included within output 1.2.3 |
| | 1.2.3(b) Number of agreements formalised with ENVIS for continuous application and reporting of the agreed NC-indicators using SEEA-adapted NES-GRIDSS | | At least 2 suite of indicators for monitoring Blue Economy growth enabled through SEEA-adapted NES-GRIDSS is produced and pilot tested in 9 coastal districts | 5 Agreements formalised with ENVIS for continuous application and reporting of the agreed NC-indicators using SEEA-adapted NES-GRIDSS | Continuous availability of indicators for monitoring BE | Review of records of agreements formalized with ENVIS partners Review of completeness of indicators (including gender disaggregation) Interviews with ENVIS partners and data users | Annual | 2 coastal landscapes | PMU | Costs included within output 1.2.3 |
| | | EFT has largely focused on forests, and only mangroves are covered. | A draft framework for EFT linked with coastal wetlands is produced | | | | | | | |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Mid Term | End Term | | | | | | |
| Outcome 2.1: Enhanced incorporation of the values of NC including BD and ES in two target coastal landscape planning and implementation by government institutions and key stakeholders which trigger investment aligned with NC | 2.1.1 Number of SEAA compliant NCA [stocks and flows, physical and monetary accounts] implemented<br><br>2.1.2 Number of district plans enhanced through embedding agreed action of the two landscape plans | The ENVIS supported Indian State Level Basic Environmental Information Database (ISBEID) is proposed to be made further sophisticated in the form of NES-GRIDSS, proposed to be piloted in 55 districts, involving 56 ENVIS hubs and resource partners.<br><br>An integrated management planning framework for Vembanad Kol wetlands is available yet it does not fully encapsulate the ecosyste | SEEA-adapted NES-GRIDSS for 9 coastal districts covering the two coastal landscapes provide data towards establishment of ecosystem stock and change account (extent and condition).<br><br>Draft Ecosystem Services flow account (supply and use, physical accounts) established for both landscapes to support landscape scale planning, based on use of 9 GRIDSS District nodes. | 2 SEAA compliant NCA [stocks and flows, physical and monetary accounts developed for two coastal landscapes housed with the State Wetlands Authorities of Kerala and Karnataka<br><br>2 coastal landscape plans integrating NC values and development objectives (with specific focus on flood mitigation using nature-based solutions in one landscape), and climate scenarios developed as a guide to district-level blue | Availability and endorsement of landscape plans by state government | Desk review of landscape plans (including integration of gender dimensions) and interviews with district authorities<br><br>Qualitative review of sector plans on the degree of incorporation of NC, BD and ES values ensuring inclusion of gender-disaggregated data to generate NC accounts<br><br>Review of evidence and intervie | Annual<br><br>Annual | 9 coastal districts<br><br>9 coastal districts | LTSP<br><br>PMU | Costs included within output 2.1.1<br><br>Costs included within output 2.1.1 |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | **Mid Term** | **End Term** | | | | | | |
| | 2.1.2(a). SEEA compliant wetland NC accounts applied in two states to mitigate modify investment plans | A review of economic valuation and NC accounting studies indicated an under-representation of coastal wetlands, and limited efforts made to assess the regulatory and cultural services. Landscape interactions of ES has also been hitherto under addressed in research and practice.<br><br>The databases on wetlands have increasingly incorporated more variables, such as wetlands extent, pollution, threats and health | SEEA compliant wetlands NCA account for two states are developed using NES-GRIDSS (expanding the framework for wetlands extent account developed under NCAVES, and wetland health card system)<br><br>NC risk and opportunities screening conducted for at least 8 public and private sector projects using informati | Management plan implementation of Vembanad and Aghanashini Estuary factors in NC capital interdependencies with sectoral development, and identifies measures for influencing sectoral investment plans<br><br>In 2 states, public investments into conserving coastal wetlands NC, BD and ES increase by 20%<br><br>Wetlands NC, BD and ES monitori | Availability and state government endorsement of SEEA compliant wetlands NCA ensuring inclusion of gender disaggregated data<br><br>Integration of health card data into constructing SEEA compliant wetlands NCA<br><br>Budget allocation at the SG level on wetlands conservation in the two states | Review of wetlands NCA ensuring incorporation of gender disaggregated indicators<br><br>Tracking budget allocations at state level | Annual<br><br>Annual | 2 coastal landscapes<br><br>2 States | LTSP<br><br>LTSP and PMU | Costs included within output 2.1.2<br><br>Costs included within output 2.1.2 |
| | 2.1.2(b). % of increase in investments into effective management of coastal wetlands | | | | | | | | | |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Mid Term | End Term | | | | | | |
| | 2.1.3. % of increase in green investments aligned with BE plans and informed by corporate NC protocols | Much of investment for conservation and management of NC is through public funds, and suffers the risk of continuity. Within the two landscapes, infrastructure investments are planned which will alter NC, BD and ES stock and flows, yet there are no mechanism to systematically assess impacts on NC, and align with Blue Economy outcomes. The CRZ plans focuses largely on the demarcated coastal zone, and are insufficie | Corporate opportunities for green investments for sustainable infrastructure, fisheries and tourism development through are identified

At least 2 corporate sector partnerships established to mitigate NC externalities | At least two corporate partners incorporate NC information into corporate funding protocols and processes

At least 25% increase in corporate ?blue? investments benefitting wetland NC. | Number of PPP on green investments aligned with Blue Economy and also directed towards gender equity | Review of the partnerships on green investments aligned with Blue Economy ensuring gender equity

Review of the corporate funding protocols to ensure incorporation of gender disaggregated information and procedures | Annual


Annual | 2 coastal landscape


2 coastal landscape | LTSP and PMU


LTSP and PMU | Costs included within output 2.1.3


Costs included within output 2.1.3 |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Mid Term | End Term | | | | | | |
| Outcome 3.1: Strengthened Public-private partnerships implement NC accounting for national, State and District planning through exchange of lessons learned and data collected by the project M&E system. | 3.1.1. Increased use of SEEA based NCA by organizations having plans, programmes and investments aligned with BE | An inter-ministerial group has been constituted by MoSPI for supporting compilation of environmental accounts in India (however the group has been discontinued) | An NCA community of practice established as a learning and knowledge exchange platform to help raise awareness of NCA, connect stakeholders and build technical capacity

9 coastal districts capacity development training programmes rolled out | A draft national NCA roadmap reflecting overall vision for NCA in India, its key strategy pillars, institutional arrangements, and sequentially organised objectives, activities and guiding principles on implementation of common national approach is made available for endorsement by MoSPI and MoEFCC

At least 3 organisations align their programmes and investment with the national | Availability of national NCA roadmap ensuring integration of gender dimensions

Instances of organizations having plans, programmes and investments aligned with BE modifying operational plans in line with national NCA roadmap in operational plans | Availability of national NCA roadmap document along with endorsement records

Review of gender sensitiveness of communication and engagement strategy

Review of plans and programmes documents on alignment with SBE | Once

Once

Annual | National

National

National | LTSP

LTSP

LTSP | Costs included within output 3.1.1

Costs included within output 3.1.1 and monitoring and reporting on gender mainstreaming activities and indicators

Costs included within output 3.1.1 |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Mid Term | End Term | | | | | | |
| | 3.1.2. Number of public and private sector stakeholders using the project?s KM tools for landscape and district planning | A national portal on wetlands exists as a knowledge management platform on wetlands. Information on coastal ecosystems is spread across several websites (coastal zone plans are hosted on the website of NCSCM, atlases and inventories on the website of SAC and others). There is no dedicated knowledge management platform to support adoption, replication and mainstreaming of NCA. | Priority knowledge needs and knowledge management systems for supporting adoption, replication and mainstreaming of NCA in BE is identified<br><br>A knowledge management platform on NCA for BE is established<br><br>Midterm review of project performance and impact is used to adapt project implementation | At least 5 knowledge products including monitoring and evaluation tools to support adoption, replication, and mainstreaming of NCA within districts, states and national levels are generated and are used by at least 50 organisations.<br><br>National portal on wetlands aggregates and shares knowledge, lessons and best practices in incorporating wetlands Natural capital values in sectoral economic planning and decision | Number of knowledge products on NCA derived from knowledge management platform<br><br><br><br>Number of instances of use of NCA knowledge products in designing and implementing BE aligned plans and programmes | Review of knowledge management platform gender-disaggregated visitors statistics<br><br>Review of knowledge products to ascertain NCA integration and gender mainstreaming<br><br>Review of BE plans and programmes documents to ascertain use of NCA knowledge products | Annual<br><br><br><br>Annual<br><br><br><br>Annual | National wetlands portal<br><br><br><br>National<br><br><br><br>National | PMU<br><br><br><br>PMU<br><br><br><br>LTSP | Costs included within output 3.1.2 and reporting on gender mainstreaming activities and indicators<br><br>Costs included within output 3.1.2 and reporting on gender mainstreaming activities and indicators<br><br>Costs included within output 3.1.2 |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | | | **Mid Term** | **End Term** | | | | | | |
| Outcome 3.2 Enhanced application of SEEA-based NC accounts, valuation and other applications to spatial planning, budgeting, and integrated natural resources management for sustainable blue economy development | Number of institutions applying SEEA based NCA to support SBE development - | NCSCM has a mandate for capacity development for integrated coastal management. The center has also been designated as a knowledge hub for wetlands management. The Institute of Ocean Management, Anna University has been designated as the ENVIS Center for Coastal Zone Management, whereas the Madras School of Economics is the hub of environmental economics. The Indian Society for Ecological Economics | In at least 1 institution, staff training on application of SEEA based NCA to support blue economy development is institutionalized<br><br>Practitioners of at least 3 coastal districts (outside the two coastal landscapes targeted under comp 2) are trained and demonstrate application of SEEA based NCA in planning budgeting and integrated natural resources management for blue economic | In at least 3 institutions staff training on application of SEEA based NCA to support blue economy is institutionalized<br><br>Practitioners of additional 3 coastal districts (outside the two coastal landscapes targeted under comp 2) are trained and demonstrate application of SEEA based NCA in planning, budgeting and integrated natural resources management for blue economic | Participation of national institutions in design and implementation of training programmes<br><br>Effectiveness of training programmes<br><br>Application of enhanced skills in integration of NCA in BE plans, programmes and investments | Review of training reports<br><br>Follow-up surveys of trainees, disaggregated by gender, on use of acquired skills in application of SEEA based NCA in planning, budgeting and integrated natural resources management decisions | Annual<br><br>Annual | National<br><br>National | LTSP and PMU<br><br>LTSP and PMU | Costs included within output 3.2.1<br><br>Costs included within output 3.2.1 |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | **Mid Term** | **End Term** | | | | | | |
| | 3.2.2. Enhanced use and replication of NES-GRIDSS and environmental Information System (ENVIS) to generate NCA by GSDP trainees | Green Skill Development Programme is a priority for MoEFCC. 25 courses are on offer at present, including one on valuation of ecosystem services and Green GDP. | A framework for Green Skill Development Programme on NC-based NES-GRIDSS is established and pilot tested in 9 districts | At least 100 individuals (of which 50 women) trained in Green Skill Development Programme incorporating NC based NES-GRIDSS is implemented | Gender disaggregated enrollment records of GSDP | Review of enrollment records | Annual | National | LTSP and PMU | Costs included within output 3.2.2 |
| | | | | | Course evaluation by trainees | Review of course evaluation reports of trainees disaggregated by Gender | Annual | National | LTSP and PMU | Costs included within output 3.2.2 |
| | | | A framework for assessing wetlands natural capital values and integration in management planning established and pilot tested in 9 Districts | At least 100 individuals (of which 50 women) trained in Green Skill Development programme on natural capital values of wetlands is implemented | | Post training follow up with a sample of trainees on use of NES-GRIDSS and ENVIS to generate NCA | Annual | National | LTSP and PMU | Costs included within output 3.2.2 |

[2] Green or natural infrastructure as part of climate resilient blue economic development

[3] Green investment refers to investments aligned with environment friendly business practices and the conservation of natural resources. Green investing seeks to support business practices that have a favourable impact on natural environment. Green investments are often placed within the umbrella of socially responsible investing (SRI) or Environmental, Social and Governance criteria (ESG).

**10. Benefits**

**Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?**

The project design is closely aligned with GEF 7- BD Objective 1-3 on ?Mainstream biodiversity across sectors as well as landscapes and seascapes through NC Assessment and Accounting?, with its strong focus on enabling a sustainable blue economic development in coastal districts, by developing NC accounts as well as integrating NC values in spatial planning, coastal and marine sectors operations and decision support system. The information provided by the SEEA-based NC accounting system and a strengthened NES-GRIDSS network, established through the project will be utilized in improving spatial and economic planning, and investment decisions in two selected coastal and marine sectors (tourism and infrastructure development) - involving nine Districts, contributing to the achievement of the selected blue economy strategies.

In particular, the project will contribute towards mainstreaming biodiversity into two coastal landscapes wherein investments in infrastructure, tourism and fisheries sector will be aligned with sustainable blue economy pathways, thus leading to enhanced protection and sustainable management of coastal ecosystems, including watersheds over an estimated maximum of one-third (566,733 ha) of the total of 1,700,200 ha delineated in critical coastal wetland and river basin ecosystems, and ensure their integration in plans, programmes and investments in 9 districts. NC accounts derived from SEEA-EA compliant NES-GRIDSS would form the basis of formulating agreements with public and private sector actors on enabling green investments which are aligned with sustainable blur economy outcomes. The project will also lead to enhanced protection to 10,000 ha area in the two landscapes through enabling designation as Ramsar site or under national regulation (such as Wetlands (Conservation and Management) Rules, 2017) which secure biodiversity habitats and sustain ecosystem service values. Conservation of these areas will also provide nature-based solutions for societal development challenges, such as flood abatement, in at least one of the two landscapes. By enabling embedding with sectoral plans at district levels, the project will sustain livelihood outcomes for coastal ecosystem dependent communities, including indigenous communities.

Through active engagement with the infrastructure agencies, private sector entities and financial institutions that are involved in the Sagarmala and Rebuild Kerala programs, the project will facilitate the integration of NC information into the corporate risk analyses, business plans and sustainability reporting of corporate partners. Furthermore, through the project, specific market-based mechanisms will be identified and applied to two NC-dependent sectors, which will result in the enhanced environmental sustainability of the land/seascape, protection of critical coastal and near-shore habitats, measures to avoid

or reduce water pollution, as well as enhanced environmental sustainability of near-shore fisheries (an ecosystems/habitat approach) in and around the targeted Sagarmala Investment zone. Through these activities, the project is expected to significantly increase financing for NC and biodiversity management activities in targeted Districts and coastal landscapes.

Incorporation of Blue Economy models supported by NCA will directly support sustainable management and in some local cases the conservation of coastal ecosystems in India. Furthermore, the two pilot coastal landscapes of the project, namely Vemaband-Kol in Kerala and Aghanashini in Karnataka form a part of the Western Ghat bio-geographic region which is identified as one of the 25 biodiversity hotspots of the world.

Development of the SEEA national framework and partnership for NC accounting will significantly raise the profile of the value to the economy and environmental stability of NC in India, in general, and biodiversity specifically, through better capture in SDG reporting systems.

Through the development of an enhanced knowledge base relating to the status of NC and improved information on linkages with and contributions to key economic sectors, the project will facilitate improved decision-making to minimize adverse impacts of key sectors on ecosystem service provision at two levels. Firstly, at the district level, the project will allow provincial and local stakeholders to systematically define environmental and economic trade-offs associated with development measures by using the national system of NES-GRIDSS and NC-based assessments and valuation and incorporate ecosystem service-related opportunities and risks into their planning and development strategies, targeted specifically for coastal and marine resources and sectors. Secondly, for the corporate sector, the project will support initiatives by leading enterprises to integrate the value of ecosystem services and biodiversity into their own operations and activities. Such initiatives will contribute not only to long-term business sustainability but also to the standard of the company?s sustainability reporting. Ultimately, participating companies will be able to clearly define their operations as contributing to long-term operational and corporate sustainability, offering competitive advantage through growth, innovation and new market opportunities, while strengthening stakeholder relations and the company?s long-term license to operate. Together these public and private initiatives will help boost the contribution of sustainable management of coastal and marine ecosystem services to the economy, at both national and local levels.

## 11. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

**Overall Project/Program Risk Classification**<span style="color:red">*</span>

| PIF | CEO Endorsement/Approval | MTR | TE |
|-----|--------------------------|-----|-----|
| Low | Medium/Moderate | | |

**Measures to address identified risks and impacts**

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

**Supporting Documents**

Upload available ESS supporting documents.

| Title | Module | Submitted |
|-------|--------|-----------|
| **SRIF PRC - India BluNatCap project-YY signed-CLEAN** | **CEO Endorsement ESS** | |
| **SRIF - India NCA and blue econmy project - ver3 cleared Yunae for PIF resubmission** | **Project PIF ESS** | |

**ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).**

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Mid Term | End Term | | | | | | |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Mid Term | End Term | | | | | | |
| To enhance biodiversity conservation and environmental sustainability of critical coastal landscapes in India by integrating natural capital and ecosystem services values in government and corporate planning and operations for Blue Economy growth path. | O1 ? Area of coastal landscapes under protection (by formal legal designation, or through community practices)<br><br>O2 - Area of coastal landscapes effectively managed through mainstreaming natural capital, biodiversity and ecosystem values in Government and corporate sector planning and operations | Project landscapes include a total of 566,733 ha land, wetlands and other NC resources, of which 182,760 ha are formally protected. Draft CRZ plans notified for Kerala and Karnataka states, as the key regulatory framework for coastal areas. Vembanad-Kol has been designated as a Ramsar Site.<br><br>8 coastal wetlands have been designated to the network of Wetlands of International Importan | A suite of landscape integrity indicators is produced<br><br>Gaps in protection status of key biodiversity areas critical for supporting NC in the two landscapes are identified<br><br>METT scores established for 2 Ramsar sites (designated and potential) and 2 protected areas included in the project<br><br>SEEA compliant wetlands NCA account for two | At least 10,000 ha increase in the area protection of the two coastal landscapes (Kerala and Karnataka) to ensure biodiversity conservation and environmental sustainability<br><br>566,733 ha under improved landscape management<br><br>In two coastal landscapes, the METT scores for Ramsar sites and protected areas are improved by at least 20% due to measures | Spatial coverage of areas formally notified or under informal conservation arrangements<br><br>Number of new coastal wetlands designated to the List of Wetlands of International Importance and OECM<br><br>Landscape integrity indicators[1] ( such as habitat connectivity, area under sustainable practices) | Mapping of areas under formal or informal arrangements<br><br>Designation letters<br><br>Computing indicators against the baseline | Annual<br><br>Annual<br><br>Annual | Two coastal landscapes<br><br>Two coastal landscapes<br><br>Two coastal landscapes | LTSP and PMU<br><br>PMU and LTSP<br><br>LTSP | Costs included within Output 2.1.3 and project steering committee meeting and reporting<br><br>Costs included within Output 2.1.3 and project steering committee meeting and reporting<br><br>Costs included within Output 2.1.1, 2.1.3 |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Mid Term | End Term | | | | | | |
| | O3-Number of public and private sector plans, projects and investments modified to mitigate externalities to NC, on the basis of NCA and, Blue Economy partnerships and plans, informed by a SEEA compliant NES-GRIDSS | Multiplicity of district planning (which cater to specific objectives such as coastal zone regulation, pollution hazard mitigation, disaster management, development) prevent capture of NC interdependencies and generate externalities;  District environment plans only address environmental hazards and do not capture NC, BD and ES Values | At least 2 partnerships established to mitigate NC externalities  NC risk and opportunities screening conducted for at least 8 public and private sector projects using information generated from SEEA compliant NES-GRIDSS | In 8 public and private sector projects, plans and investments are modified to mitigate externalities to NC | Number of instances wherein public and private sector entities incorporate measures for mitigation of externalities to NC on the basis of information provided by NCA and SEEA compliant NES-GRIDSS | Project established corporate partnership in the two States, Desk review of public and private sector plans and programmes reports | Annual | Two coastal landscapes (12 Districts) | LTSP | Costs included within Output 2.1.4 and project steering committee meeting and reporting |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Mid Term | End Term | | | | | | |
| | O4 ? Increased mobilization of NC-relevant finance generated through development convergence and private sector for wetlands-based infrastructure[2] for addressing coastal vulnerability | NPCA guidelines recommend mainstreaming wetlands in developmental planning - states seeking funds are required to provide 40% co-finance for the cost of integrated management plans (10% of northeastern states). There is a recent directive of the NGT to include wetlands in district level environmental plans.<br><br>Finance for NC is largely generated through central government grants, in the form of finance to | In at least 20% of the 12 coastal districts, the district environmental plans incorporate wetland values conservation and budgeting estimates<br><br>Public and corporate baseline investment values assessed regarding wetland conservation, management and green infrastructure for the two landscapes | Available finance for conserving coastal wetlands is increased by 20% through incremental investment generated through development convergence and private sector engagement. | Number of PPP and amount of green investments[3] applied for conserving wetlands as climate resilient infrastructure<br><br>Number of District Environmental Plans incorporating wetlands and triggering development convergence funds for securing their NC and ES values | Desk review of corporates ESG and CSR reports<br><br>Desk review of District Environmental Plans and meetings with district authorities | Annual<br><br>Annual | 12 coastal districts<br><br>12 coastal districts | LTSP<br><br>LTSP | Costs included within Output 2.1.4 and project steering committee meeting and reporting<br><br>Costs included within Output 2.1.3, 3.1.2 and and project steering committee meeting and reporting |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | **Mid Term** | **End Term** | | | | | | |
| **Outcome 1.1**: A national roadmap and governance framework for SEAA based SNA within the NES-GRIDSS endorsed by strengthened government institutions. | 1.1.1. Number of public institutions and stakeholders endorsing the roadmap &strategy | Draft Blue Economy Strategy calls for a national accounting framework for the Blue Economy<br><br>The National Mission on Biodiversity and Human Wellbeing also seeks integration of ecosystem services and natural capital values of biodiversity in sectoral development planning.<br><br>The National Biodiversity Action Plan identifies valuation of ecosystem services | Multi-institutional working group established, including with MoSPI, to draft and negotiate the national roadmap.<br><br>A draft national roadmap on SEEA based NCA in the context of Blue Economy with mandates, roles of stakeholder and, financial arrangements for implementation is developed for consideration of National Government<br><br>Framework for NES-GRIDSS adaptation to | National Roadmap for SEEA based NCA in the context of Blue Economy adopted in the form of a formal notification of MoEFCC - and endorsed by MoSPI. The roadmap incorporates adapted NES-GRIDSS as the underlying data-hub. | Participation of relevant stakeholders in development of the framework<br><br>Endorsement of National Roadmap by MoEFCC and MoSPI | Review of working group reports (including gender representation among the stakeholders)<br><br>Review of endorsement records | Once<br><br>Once | National<br><br>National | LTSP<br><br>LTSP | Costs included within Output 1.1.1<br><br>Costs included within Output 1.1.1 |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Mid Term | End Term | | | | | | |
| | 1.1.2. SDG indicator or suite linked with NCA | SDG dashboard tracks a select set of indicators which are linked with ecosystem condition. Under the NCAVES project, several SDG indicators were tested for calculation using the accounts developed as a part of the project. The NCAVES analysis is particular shows the under-utilization of NC framework in building additional SDG indicators. | A suite of SDG indicators linked with Natural capital accounts supporting Blue Economy is produced for national adoption [building on the outcomes of NCAVES analysis] | A thematic coastal ecosystems SDG report using SEEA-based indicators and linked to NCAs is produced | Availability and completeness of NCA linked SDG indicator suite, disaggregated by gender | Review of dashboard data | Annual | National | LTSP | Costs included within Output 1.1.2 |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Mid Term | End Term | | | | | | |
| **Outcome 1.2**: Nine coastal districts integrate NC-based principles and targets of a sustainable growth path in sector related budgets, fiscal measures and programming indicators | 1.2.1. Number of NC based assessments and valuation of coastal wetlands BD and ES generated through adapted NES-GRIDSS | The MoEFCC has commissioned a NES to support availability and access to data at disaggregated district level and facilitate access to environmental data to empower decision making in the environment sector at all levels of government.<br><br>The existing ENVIS network is being deployed to implement NES-GRIDSS. However, in the current form NES-GRIDSS is insufficient to generate NCA stock and flow accounts | Two (2) SEEA-adapted NES-GRIDSS district nodes pilot testing wetland NC-based assessments and valuation in 2 coastal districts of the two targeted landscapes | Nine (9) Districts apply SEEA-adapted NES-GRIDSS data to generate NC-based wetlands assessments and valuation | Synthesis report on the assessments and valuation of coastal wetlands NC and ES generated from adapted NES-GRIDSS | Review of synthesis report (including integration of gender dimensions) | Annual | 9 coastal districts | LTSP | Costs included within Output 1.2.1 |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | **Mid Term** | **End Term** | | | | | | |
| | 1.2.2 Number of strategies for Blue economy incorporating NC values are endorsed by national and state level decision makers and public and private sector stakeholders | IBBI-ITC has adopted NC protocols, and NC action planning framework for corporate sector, however, there have been no applications in coastal landscapes.<br><br>Absence of clear roadmap and specific strategies on the ways in which Blue Economy sectors can integrate NC-based interdependencies, | Draft tourism, fisheries and infrastructure NC sector review report.<br><br>At least two sector round tables are established for developing Blue Economy pathways enabling incorporation of NC interdependencies in business risks and opportunities. | In at least 9 coastal districts, tourism, infrastructure, and fisheries sector strategies for Blue economy incorporating NC values are endorsed by national and state level decision makers and public and private sector stakeholders | Sector strategy papers endorsed by relevant National and State level decision makers<br><br>Participation of relevant stakeholders in sector roundtables ensuring gender balance | Desk review of the sector strategy papers and interviews with select corporates (including gender sensitivity)<br><br>Desk review of sector roundtables reports and gender disaggregated information on participants of the round tables | Once<br><br>Once | National<br><br>National | LTSP<br><br>LTSP and PMU | Costs included within Output 1.2.2<br><br>Costs included within Output 1.2.2 |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Mid Term | End Term | | | | | | |
| | 1.2.3(a). % of increase in NC-supportive budgets in coastal districts | The biodiversity finance gap for 2017-22 (assessed under BioFIN project) of US$ 6.5 billion to achieve NBAP targets can be plugged by mainstreaming biodiversity in public schemes, Corporate Social Responsibility (CSR), Augmenting Public Finance, Ecological Fiscal Transfer (EFT) and Access and Benefit Sharing (ABS). | Public and corporate baseline investment values assessed regarding wetland conservation, management and green infrastructure for the two landscapes | Available finance for conserving coastal wetlands is increased by 20% in the two landscapes (9 Districts) through incremental investment generated through development convergence and private sector engagement. | Availability of NC-supportive budget aligned with Blue Economy at the district level | Commissioned study to track public and private sector NC supportive budgets and their alignment with BE | At the end of 2.5 yrs and 5 yrs | 9 coastal districts | PMU | Costs included within output 1.2.3 |
| | 1.2.3(b) Number of agreements formalised with ENVIS for continuous application and reporting of the agreed NC-indicators using SEEA-adapted NES-GRIDSS | | At least 2 suite of indicators for monitoring Blue Economy growth enabled through SEEA-adapted NES-GRIDSS is produced and pilot tested in 9 coastal districts | 5 Agreements formalised with ENVIS for continuous application and reporting of the agreed NC-indicators using SEEA-adapted NES-GRIDSS | Continuous availability of indicators for monitoring BE | Review of records of agreements formalized with ENVIS partners | Annual | 2 coastal landscapes | PMU | Costs included within output 1.2.3 |
| | | EFT has largely focused on forests, and only mangroves are covered. | A draft framework for EFT linked with coastal wetlands is produced | | | Review of completeness of indicators (including gender disaggregation)  Interviews with ENVIS partners and data users | | | | |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Mid Term | End Term | | | | | | |
| Outcome 2.1: Enhanced incorporation of the values of NC including BD and ES in two target coastal landscape planning and implementation by government institutions and key stakeholders which trigger investment aligned with NC | 2.1.1 Number of SEAA compliant NCA [stocks and flows, physical and monetary accounts] implemented

2.1.2 Number of district plans enhanced through embedding agreed action of the two landscape plans | The ENVIS supported Indian State Level Basic Environmental Information Database (ISBEID) is proposed to be made further sophisticated in the form of NES-GRIDSS, proposed to be piloted in 55 districts, involving 56 ENVIS hubs and resource partners.

An integrated management planning framework for Vembanad Kol wetlands is available yet it does not fully encapsulate the ecosyste | SEEA-adapted NES-GRIDSS for 9 coastal districts covering the two coastal landscapes provide data towards establishment of ecosystem stock and change account (extent and condition).

Draft Ecosystem Services flow account (supply and use, physical accounts) established for both landscapes to support landscape scale planning, based on use of 9 GRIDSS District nodes. | 2 SEAA compliant NCA [stocks and flows, physical and monetary accounts developed for two coastal landscapes housed with the State Wetlands Authorities of Kerala and Karnataka

2 coastal landscape plans integrating NC values and development objectives (with specific focus on flood mitigation using nature-based solutions in one landscape), and climate scenarios developed as a guide to district-level blue | Availability and endorsement of landscape plans by state government | Desk review of landscape plans (including integration of gender dimensions) and interviews with district authorities

Qualitative review of sector plans on the degree of incorporation of NC, BD and ES values ensuring inclusion of gender-disaggregated data to generate NC accounts

Review of evidence and intervie | Annual

Annual | 9 coastal districts

9 coastal districts | LTSP

PMU | Costs included within output 2.1.1

Costs included within output 2.1.1 |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Mid Term | End Term | | | | | | |
| | 2.1.2(a). SEEA compliant wetland NC accounts applied in two states to mitigate modify investment plans | A review of economic valuation and NC accounting studies indicated an under-representation of coastal wetlands, and limited efforts made to assess the regulatory and cultural services. Landscape interactions of ES has also been hitherto under addressed in research and practice. | SEEA compliant wetlands NCA account for two states are developed using NES-GRIDSS (expanding the framework for wetlands extent account developed under NCAVES, and wetland health card system) | Management plan implementation of Vembanad and Aghanashini Estuary factors in NC capital interdependencies with sectoral development, and identifies measures for influencing sectoral investment plans | Availability and state government endorsement of SEEA compliant wetlands NCA ensuring inclusion of gender disaggregated data | Review of wetlands NCA ensuring incorporation of gender disaggregated indicators | Annual | 2 coastal landscapes | LTSP | Costs included within output 2.1.2 |
| | 2.1.2(b). % of increase in investments into effective management of coastal wetlands | The databases on wetlands have increasingly incorporated more variables, such as wetlands extent, pollution, threats and health | NC risk and opportunities screening conducted for at least 8 public and private sector projects using informati | In 2 states, public investments into conserving coastal wetlands NC, BD and ES increase by 20%  Wetlands NC, BD and ES monitori | Integration of health card data into constructing SEEA compliant wetlands NCA  Budget allocation at the SG level on wetlands conservation in the two states | Tracking budget allocations at state level | Annual | 2 States | LTSP and PMU | Costs included within output 2.1.2 |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Mid Term | End Term | | | | | | |
| | 2.1.3. % of increase in green investments aligned with BE plans and informed by corporate NC protocols | Much of investment for conservation and management of NC is through public funds, and suffers the risk of continuity. Within the two landscapes, infrastructure investments are planned which will alter NC, BD and ES stock and flows, yet there are no mechanism to systematically assess impacts on NC, and align with Blue Economy outcomes. The CRZ plans focuses largely on the demarcated coastal zone, and are insufficie | Corporate opportunities for green investments for sustainable infrastructure, fisheries and tourism development through are identified  At least 2 corporate sector partnerships established to mitigate NC externalities | At least two corporate partners incorporate NC information into corporate funding protocols and processes  At least 25% increase in corporate ?blue? investments benefitting wetland NC. | Number of PPP on green investments aligned with Blue Economy and also directed towards gender equity | Review of the partnerships on green investments aligned with Blue Economy ensuring gender equity  Review of the corporate funding protocols to ensure incorporation of gender disaggregated information and procedures | Annual  Annual | 2 coastal landscape  2 coastal landscape | LTSP and PMU  LTSP and PMU | Costs included within output 2.1.3  Costs included within output 2.1.3 |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Mid Term | End Term | | | | | | |
| Outcome 3.1: Strengthened Public-private partnerships implement NC accounting for national, State and District planning through exchange of lessons learned and data collected by the project M&E system. | 3.1.1. Increased use of SEEA based NCA by organizations having plans, programmes and investments aligned with BE | An inter-ministerial group has been constituted by MoSPI for supporting compilation of environmental accounts in India (however the group has been discontinued) | An NCA community of practice established as a learning and knowledge exchange platform to help raise awareness of NCA, connect stakeholders and build technical capacity

9 coastal districts capacity development training programmes rolled out | A draft national NCA roadmap reflecting overall vision for NCA in India, its key strategy pillars, institutional arrangements, and sequentially organised objectives, activities and guiding principles on implementation of common national approach is made available for endorsement by MoSPI and MoEFCC

At least 3 organisations align their programmes and investment with the national | Availability of national NCA roadmap ensuring integration of gender dimensions

Instances of organizations having plans, programmes and investments aligned with BE modifying operational plans in line with national NCA roadmap in operational plans | Availability of national NCA roadmap document along with endorsement records

Review of gender sensitiveness of communication and engagement strategy

Review of plans and programmes documents on alignment with SBE | Once

Once

Annual | National

National

National | LTSP

LTSP

LTSP | Costs included within output 3.1.1

Costs included within output 3.1.1 and monitoring and reporting on gender mainstreaming activities and indicators

Costs included within output 3.1.1 |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Mid Term | End Term | | | | | | |
| | 3.1.2. Number of public and private sector stakeholders using the project ?s KM tools for landscape and district planning | A national portal on wetlands exists as a knowledge management platform on wetlands. Information on coastal ecosystems is spread across several websites (coastal zone plans are hosted on the website of NCSCM, atlases and inventories on the website of SAC and others). There is no dedicated knowledge management platform to support adoption, replication and mainstreaming of NCA. | Priority knowledge needs and knowledge management systems for supporting adoption, replication and mainstreaming of NCA in BE is identified

A knowledge management platform on NCA for BE is established

Midterm review of project performance and impact is used to adapt project implementation | At least 5 knowledge products including monitoring and evaluation tools to support adoption, replication, and mainstreaming of NCA within districts, states and national levels are generated and are used by at least 50 organisations.

National portal on wetlands aggregates and shares knowledge, lessons and best practices in incorporating wetlands Natural capital values in sectoral economic planning and decision | Number of knowledge products on NCA derived from knowledge management platform

Number of instances of use of NCA knowledge products in designing and implementing BE aligned plans and programmes | Review of knowledge management platform gender-disaggregated visitors statistics

Review of knowledge products to ascertain NCA integration and gender mainstreaming

Review of BE plans and programmes documents to ascertain use of NCA knowledge products | Annual

Annual

Annual | National wetlands portal

National

National | PMU

PMU

LTSP | Costs included within output 3.1.2 and reporting on gender mainstreaming activities and indicators

Costs included within output 3.1.2 and reporting on gender mainstreaming activities and indicators

Costs included within output 3.1.2 |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Mid Term | End Term | | | | | | |
| Outcome 3.2 Enhanced application of SEEA-based NC accounts, valuation and other applications to spatial planning, budgeting, and integrated natural resources management for sustainable blue economy development | Number of institutions applying SEEA based NCA to support SBE development - | NCSCM has a mandate for capacity development for integrated coastal management. The center has also been designated as a knowledge hub for wetlands management. The Institute of Ocean Management, Anna University has been designated as the ENVIS Center for Coastal Zone Management, whereas the Madras School of Economics is the hub of environmental economics. The Indian Society for Ecological Economics | In at least 1 institution, staff training on application of SEEA based NCA to support blue economy development is institutionalized<br><br>Practitioners of at least 3 coastal districts (outside the two coastal landscapes targeted under comp 2) are trained and demonstrate application of SEEA based NCA in planning budgeting and integrated natural resources management for blue economic | In at least 3 institutions staff training on application of SEEA based NCA to support blue economy is institutionalized<br><br>Practitioners of additional 3 coastal districts (outside the two coastal landscapes targeted under comp 2) are trained and demonstrate application of SEEA based NCA in planning, budgeting and integrated natural resources management for blue economic | Participation of national institutions in design and implementation of training programmes<br><br>Effectiveness of training programmes<br><br>Application of enhanced skills in integration of NCA in BE plans, programmes and investments | Review of training reports<br><br>Follow-up surveys of trainees, disaggregated by gender, on use of acquired skills in application of SEEA based NCA in planning, budgeting and integrated natural resources management decisions | Annual<br><br>Annual | National<br><br>National | LTSP and PMU<br><br>LTSP and PMU | Costs included within output 3.2.1<br><br>Costs included within output 3.2.1 |

| Project objective | Objective level indicators | Baseline | Target and milestones | | Means of verification | Monitoring methods | Monitoring Frequency | Location | Responsible agency | Budget |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | | | Mid Term | End Term | | | | | | |
| | 3.2.2. Enhanced use and replication of NES-GRIDSS and environmental Information System (ENVIS) to generate NCA by GSDP trainees | Green Skill Development Programme is a priority for MoEFCC. 25 courses are on offer at present, including one on valuation of ecosystem services and Green GDP. | A framework for Green Skill Development Programme on NC-based NES-GRIDSS is established and pilot tested in 9 districts | At least 100 individuals (of which 50 women) trained in Green Skill Development Programme incorporating NC based NES-GRIDSS is implemented | Gender disaggregated enrollment records of GSDP | Review of enrollment records | Annual | National | LTSP and PMU | Costs included within output 3.2.2 |
| | | | | | Course evaluation by trainees | Review of course evaluation reports of trainees disaggregated by Gender | Annual | National | LTSP and PMU | Costs included within output 3.2.2 |
| | | | A framework for assessing wetlands natural capital values and integration in management planning established and pilot tested in 9 Districts | At least 100 individuals (of which 50 women) trained in Green Skill Development programme on natural capital values of wetlands is implemented | | Post training follow up with a sample of trainees on use of NES-GRIDSS and ENVIS to generate NCA | Annual | National | LTSP and PMU | Costs included within output 3.2.2 |

[1] To be agreed upon during project inception

[2] Green or natural infrastructure as part of climate resilient blue economic development

[3] Green investment refers to investments aligned with environment friendly business practices and the conservation of natural resources. Green investing seeks to support business practices that have a favourable impact on natural environment. Green investments are often placed within the umbrella of socially responsible investing (SRI) or Environmental, Social and Governance criteria (ESG).

## ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

**Additional recommendations to be considered by Agency at the time of CEO endorsement/approval.**

Secretariat Comment at PIF/Work Program Inclusion
October 13, 2020 HF:

Among many issues, please address the following comments during PPG as discussed in review sheet:

1.      We note that co-financing ratio for this project is 1:4.7 and especially the investment mobilized ratio 1:0.34 remains low for a project linked to infrastructure investment programs.  Please consolidate and update during PPG.

The project preparation was undertaken during COVID outbreak which prevented face to face consultations with infrastructure investment programmes such as Rebuild Kerala Initiative. We are confident that sizeable co-fiannce will be raised during extended stakeholder consultations planned during the first six months of the project.

2.      Please revise/update beneficiary numbers and profile during PPG based on broader consultations.

The two landscapes directly sustain livelihoods of 0.2 million households ? NC integration into the landscape plans and sectors will directly contribute to their sustenance through effective implementation. The project will also target capacity and competency development of 200 individuals in assessing and applying NC analyses to support sustainable blue economy plans, programmes and investments.

**STAP review**

| Part I:<br>Project<br>Information | Review questions | Response: |
|---|---|---|
| | | The behavior change dimension are envisaged to be addressed through ? a) providing proof of concept in terms of application of NC accounts to landscape planning, b) focusing on bringing improvement in a sector programme (national wetlands programme) by improving site selection, application of scheme funds, and providing alternate financing mechanisms shifting away from complete dependence on public funds, c) capacity development of sector players ? public as well private ? in applying NC accounts to plans, programmes and implementation, and d) having targeted communication and outreach strategy in place, particularly through a national community of practice that can support application of NC accounts information in improving effectiveness of conservation efforts aligned with SBE. |
| GEF ID | 10385 | |
| Project Title | Mainstreaming Natural Capital Values into Planning and<br><br>Implementation for Sustainable Blue Economic<br>Growth in Indian Coastal Districts | |
| Date of Screening | November 13 2020 | |
| STAP member screener | Rosie Cooney | |
| STAP secretariat screener | Virginia Gorsevski | |

| STAP Overall Assessment and Rating | Minor | To address biodiversity mainstreaming efforts beyond projects life span, the BluNatCap places emphasis on: a) enabling national scale policy support for NCA, b) building partnerships to enable application of NC, BD and ES values in BE sectors, c) focusing on embedding NC aligned actions in district level sector plans and programmes. Project implementation will also focus on biodiversity mainstreaming actions by partnering with key government ministeries and agencies, with support of a number of national and state level knowledge partners which can support these efforts. |
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| | STAP welcomes this project from UNEP focused on mainstreaming the consideration and incorporation of natural capital (NC) values into planning and implementation of efforts toward sustainable "Blue Economy" growth in coastal districts of India. | |
| | The focal areas are clearly highly valuable from an ecological and livelihood perspective and are threatened by infrastructure and economic development processes that to date are failing to adequately incorporate ecosystem values into planning. | |
| | This project sets out a suite of targeted activities that seek to embed fuller consideration of the diverse ecological values of these areas into planning. STAP welcomes the well thought- through and clear theory of change, identifying key assumptions that underpin achievement of the steps toward the final impact. | |
| | While generally viewing this as a well-planned and important initiative, STAP recommends that focused attention is given in further project planning to a key assumption underlying the project's logic: that making natural capital values explicit will necessarily change behavior | |
| | There are many (e.g. economic, political) reasons that greater knowledge/visibility on NC values may not change behavior, and strategies to address the incentives faced by major players directly to leverage changes in behavior are recommended. | |
| | Further, STAP notes many biodiversity mainstreaming projects take a long time - well over the lifespan of a single GEF project and recommends considering in planning what approaches can be developed to maintain this area of activity over the longer term. | |
| | Finally, specific points are highlighted in this screen regarding embedding climate change projections for NC values in target areas into planning and articulating what lessons can be learnt from other efforts (GEF-funded or otherwise/in India or elsewhere) for achieving similar objectives. | |

| Part I:<br>Project<br>Information<br><br>B. Indicative Project<br>Description Summary | What STAP looks for | Response |
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| Project Objective | Is the objective clearly defined, and consistently related to the problem diagnosis?<br><br>The objective of the project is ?To enhance biodiversity conservation and environmental sustainability of critical coastal landscapes in India by integrating natural capital and ecosystem services values in District-level blue economy strategy and spatial planning processes, and coastal sector operations". The intervention aims at a paradigm shift in the economic development model, investment portfolio and policy framework to enable a sustainable blue economic growth model in India, with protection and sustianbale use of marine and coastal resoruces as core element. | |
| Project components | A brief description of the planned activities. Do these support the project?s objectives?<br><br>Activities are clearly laid out, and support the project's objectives | |
| Outcomes | A description of the expected short-term and medium-term effects of an intervention. | An updated ToC has been provided in the ProDoc. |
| | Do the planned outcomes encompass important adaptation benefits?<br><br>These are clearly laid out, although a clear (ideally graphic) TOC would considerably help in linking short to medium to long term impacts of this intervention. Many of the benefits from this project are likely to only accrue well after the end of the funding period, so making the scope of the impacts expected at different time scales here would be very valuable. | |

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| | Are the global environmental benefits/adaptation benefits likely to be generated?<br><br>This depends on at least one key assumption, that making NC values explicit and visible will actually change behaviour of public and private actors. The reason these actors act in ways that largely ignore or overlook NC is not just lack of awareness of these values, so there needs to be concrete mechanisms and strategies to actually effect change - see further discussion below. | The project includes several mechanisms to reduce the risk of knowledge of NC values not being acted upon, including: a) demonstrating proof of concept of NC accounts informing landscape plans at two pilots; b) building partnerships to stimulate green investments aligned with sustainable blue economy; c) promoting avenues for incorporation of NC values in district level sector plans; d) building capacities and competencies to assess NC values and apply these to decision-making. In addition, the project MLE incorporates mechanisms for reflecting on the efficacy of intervention stragies and allowing for mid-term course corrections. |
| Outputs | A description of the products and services which are expected to result from the project.<br><br>Is the sum of the outputs likely to contribute to the outcomes?<br><br>Yes, broadly, although see major caveat re achievement of outcome 2.1, and noting some of these processes may take considerably longer than the project duration. | |
| **Part II: Project justification** | A simple narrative explaining the project?s logic, i.e. a theory of change. | |

| 1. Project description. Briefly describe:<br><br>1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description) | Is the problem statement well-defined?<br>Yes. Across these two wetland sites past development has not taken natural capital and ecosystem services into account and has degraded ecosystem services (habitat loss, overfishing, hydrological disruption, pollution, etc). Currently investment and infrastructure initiatives threaten to dramatically upscale these threats | |
|---|---|---|
| | Are the barriers and threats well described, and substantiated by data and references? | The description of threats, root causes and barriers impeding mainstreaming NC values in plans, programmes and investments within the two pilot landscapes and at the national level have been updated and provided in the ProDoc and CEO ER. |
| | The threats are clearly articulated at the two sites. The root causes are rather superficially addressed. The logic of this proposal largely rests on the contention that making NC values in these sites clear and explicit will lead to policy/planning/decision-making that incorporates those values better and thereby reduces the ongoing degradation of ecosystems. Given this, it would be good to see more explicit discussion of how/to what extent this lack of visibility and recognition of ecosystem values does underlie the problems and threats we see. If this link is not clear, then changing<br>this is unlikely to address the problem. Root causes identified also include population and consumption growth - it would be good to see more explicit consideration in the proposal of these dynamics and how the intervention is likely to affect them. There is a lot of overlap between the root causes and the barriers here (e.g. lack of awareness/visibility of NC values feature in both) which ideally should be at least conceptually disentangled. B arriers include lack of systemic support for integration of NC into the SNA, lack of integration of NC info into the national decision-support tools NES and GRIDSS, lack of basic information on ecosystem services and their values, inadequate knowledge and capacity for integrating NC values into development/economic activity (including into risk analysis frameworks, core business models and investment decisions; and lack of partnerships/networks. This section is quite repetitive and could be clarified. | |
| | For multiple focal area projects: does the problem statement and analysis identify the drivers of environmental degradation which need to be addressed through multiple focal areas; and is the objective well-defined, and can it only be supported by integrating two, or more focal areas objectives or programs? | N/A |

| 2) the baseline scenario or any associated baseline projects | Is the baseline identified clearly?<br><br>Other ongoing initiatives that form the backdrop of this project are clearly articulated. I would have liked to see a quantitative or at least qualitative assessment of what the biodiversity loss (in ha or some other metric) would be without this project going ahead compared to with this project, as it looks like the primary impact of this project will be in terms of averted loss of biodiversity rather than actual gain. Re GRIDSS, it will be really important to capture in some way environmental attributes that are not grid-based, such as connectivity and hydrological flows. How will these be captured and reflected in valuation of NC? | Available knowledge on BD and ES decline in the two areas are provided in the revised description of the two pilot landscapes.<br><br>The method proposed to be used for non grid-based attributes are elaborated under Output 2.1.3. |
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| | Does it provide a feasible basis for quantifying the project?s benefits?<br><br>Not quantitative - a qualitative assessment of the project's benefits against baseline (with the ecosystem degradation/biodiversity loss expected) would be possible but is not done. | Project?s results framework provides for measurement of project benefits at output and outcome level. The landscape plans, informed by NC, BD and ES values are aimed at enabling alternate development pathways that address the existing risks of adverse change, as well as prevent creation of new risks ? however, the actual change in the trajectories of ecosystem degradation and biodiversity loss may appear only towards the end of the project. |
| | Is the baseline sufficiently robust to support the incremental (additional cost) reasoning for the project?<br><br>It is not explicit but can be readily inferred. | Baseline analysis and incremental cost reasoning has been strengthened in the ProDoc and CEO ER |
| | For multiple focal area projects: | N/A |
| | are the multiple baseline analyses presented (supported by data and references), and the multiple benefits specified, including the proposed indicators; | N/A |
| | are the lessons learned from similar or related past GEF and non-GEF interventions described; and | N/A |
| | how did these lessons inform the design of this project? | N/A |

| 3) the proposed alternative scenario with a brief description of expected outcomes and components of the project | What is the theory of change? | ToC has been updated and expanded. Component 2 and 3 now include engagement activities that would inform the BE sectors on the business risks created by degrading NC, BD and ES, and through sector roundtables, identify specific activities that can be taken to reduce adverse impacts.

There is considerable experience regarding implementation of EFT in forestry sector in India, which will be useful for designing a similar initiative to support sustainable blue economy growth in the two project States |
|---|---|---|
| | There is a good TOC, which shows the interrelationships between pathways and enables identification of key assumptions - great to see this.

Essentially, the capacity and mechanisms (across a number of domains - technical, financial, institutional) will be set in place to enable analyses and assessments of NC values and the impacts of development on them; ecosystem values will be integrated into planning and development in the Blue Economy context through focused strategy development, spatial planning, and integration of NC protocols by major development players; and this will be scaled up through knowledge-sharing, capacity-building and networking.
There may need to be more explicit consideration of the incentives for major development/economic players to integrate NC into their planning/activities, and how the disincentives can be overcome. Presumably this represents a cost to them compared to business as usual - what will incentivise them to change practice, in the absence of regulatory requirements to do so? The projected financing mechanisms are very vague - they include "voluntary compliance" (not clear how this is a financing mechanism) and "offsets" (which is only a way to compensate for damage occurring, not incentivise better conservation). There is consideration of ecological fiscal
transfers - not clear where the funding to enable these would come from. | |
| | What is the sequence of events (required or expected) that will lead to the desired outcomes? | See above. |
| | What is the set of linked activities, outputs, and outcomes to address the project?s objectives? | See above. |
| | Are the mechanisms of change plausible, and is there a well- informed identification of the underlying assumptions?

See above. Assumptions are not made particularly clear, but there are many here. The core one is that making ecosystem/NC values clearer will actually change practice. There are many reasons why economic or political actors may favour business as usual over integrating NC considerations, even where these are clear and overlooking them has costs to society as a whole. Explicit consideration of the incentives facing different actors, and the power relationships that determine whose interests are likely to prevail, is strongly recommended in further stages of project planning. | Assumptions in ToC have been revised - see ProDoc |

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| | Is there a recognition of what adaptations may be required<br><br>during project implementation to respond to changing conditions in pursuit of the targeted outcomes?<br><br>No. | The project risk assessment and monitoring and evaluation systems will address adaptation required in the course of project implementation. See updated response in the Risk section in the ProDoc. |
| 5) incremental/additional cost reasoning and expected contributions from the baseline, the GEF trust fund, LDCF, SCCF, and co-<br><br>financing | GEF trust fund: will the proposed incremental activities lead to the delivery of global environmental benefits?<br><br>Yes, the benefits aimed at are in the nature of avoided loss rather than actual gains against baseline, but if successful would constitute GEBs. | |
| | LDCF/SCCF: will the proposed incremental activities lead to<br><br>adaptation which reduces vulnerability, builds adaptive capacity, and increases resilience to climate change? | N/A |
| 6) global environmental benefits (GEF trust fund) and/or adaptation benefits (LDCF/SCCF) | They are GEBs and are estimable at least. | |
| | Is the scale of projected benefits both plausible and<br><br>compelling in relation to the proposed investment?<br><br>Yes, if project is successful. | |
| | No - the on-ground benefits are primarily in the nature of avoided losses due to planned infrastructure/economic expansion being made more ecologically sensitive, but this is not made explicit. General terms such as "improved management" do not capture the key dynamic that these habitats/areas are the focus of major infrastructure plans that would have major detrimental impacts on them, and this project will reduce those negative impacts. The project also aims at more diffuse but nonetheless extremely important benefits of ecosystem valuation in government and corporate systems: this is difficult to translate directly into on- ground benefits (like many mainstreaming initiatives), yet these systemic changes arelikely to be very important in the long-term for delivering biodiversity benefits. | The on-ground benefits will result from enhanced competencies and capacities to assess and apply NC, BD and ES values in sector plans, programmes and investments. Interventions for national system support to sustainable blue economy growth will also provide an enabling environment for replication and upscaling. |

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| | Are indicators, or methodologies, provided to demonstrate how the global environmental benefits/adaptation benefits will be measured and monitored during project implementation?<br><br>No, this needs strengthening. | The results framework has been revised to include assessment of GEBs (plus now including improved management effectiveness indicators, and application of capacities and competencies to achieve change in favour of NC values) | |
| | What activities will be implemented to increase the project?s resilience to climate change?<br><br>See below for recommendations on this aspect. | | |

| 7) innovative, sustainability and potential for scaling-up | Is the project innovative, for example, in its design, method of financing, technology, business model, policy, monitoring and evaluation, or learning? The core innovation is making ecosystem/NC values explicit and visible. Whether this will drive the kinds of behaviours envisaged involves some key assumptions (i.e. that this will change government, corporate and consumer behaviour)- addressing these through interventions or highlighting them as key risks to be monitored and managed should be a focus of further planning. | The risk analysis does identify limited uptake of NC analysis in decision-making, or resulting in marginal choices as a moderate risk. The behavior change dimension are envisaged to be addressed through ? a) providing proof of concept in terms of application of NC accounts to landscape planning, b) focusing on bringing improvement in a sector programme (national wetlands programme) by improving site selection, application of scheme funds, and providing alternate financing mechanisms shifting away from complete dependence on public funds, c) capacity development of sector players ? public as well private ? in applying NC accounts to plans, programmes and implementation, and d) having targeted communication and outreach strategy in place, particularly through a national community of practice that can support application of NC accounts information in improving effectiveness of conservation efforts aligned with SBE. The monitoring framework incorporates indicators that capture the application of NC analysis in decision-making in pilot landscapes, and sectors. The midterm analysis will also provide information on the extent that the |

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| | Is there a clearly-articulated vision of how the innovation will

be scaled-up, for example, over time, across geographies, among institutional actors?
Yes, this is quite clear. | |
| | Will incremental adaptation be required, or more fundamental transformational change to achieve long term sustainability?

This project aims at setting in one element of fundamental transformational change, toward an economy that understands and reflects the importance of natural capital in underpinning social and economic wellbeing and resilience. | |
| **1b.** Project Map and Coordinates. Please provide geo-referenced information and map where the project

interventions will take place. | Maps are provided. | |
| **2. Stakeholders**.

Select the stakeholders that have participated in consultations during the project identification phase: Indigenous people and local communities; Civil society organizations; Private sector entities.

If none of the above, please explain why.

In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and

means of engagement. | Have all the key relevant stakeholders been identified to cover the complexity of the problem, and project implementation barriers?

This seems quite comprehensive, although many groups are noted for later consultation rather than having been consulted to date. It is important to highlight the complexity of determining natural capital values, and the need to fully involve and reflect the values of local community stakeholders and user groups whose cultures and livelihoods are directly or indirectly dependent on ecosystem values in this process.

This is not a simple or quick process and needs to be carefully planned in further stages of planning. This IUCN work may be helpful https://www.iucn.org/commissions/commission-environmental-economic-and-social-policy/our-work/people-nature-pin. | The stakeholder consultations have been severely impacted by COVID spread during the formulation of PPG. Wherever feasible, the project preparation has included online consultations, and review and feedback of project proposal. To strengthen the stakeholder engagement plan - full detailed gender and stakeholder engagement planning will be detailed during the first 6-12 months of the project. Provisions have been made in the workplan, project PMU staff ToRs and budget  - see ProDoc Appendices, for this. |

| | What are the stakeholders? roles, and how will their combined roles contribute to robust project design, to achieving global environmental outcomes, and to lessons learned and knowledge? | The project recognizes the long term nature of acting on systemic levers and thereby will be investing strongly in building partnerships with decision-making and planning domains as well as investment domains. Investment into national scale policy support will also be a strategic enabler for using NC analyses. Learning and evaluation actions (Component 3) will also provide insights into the extent to which stakeholder engagement is strategic and long-term, and necessary midcourse corrections will be affected. |
| | Stakeholders are key to project durability - the project is aiming to change some systemic levers in public and private realms, so engaging these stakeholders strongly from the outset will be critical to their full adoption of the changes sought and the impacts of the project after the funding period. It is likely that many of these systems will take much longer than this funding cycle to change so (in line with many mainstreaming projects) planning over a much longer time horizon is recommended. | |

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| **3. Gender Equality and Women?s Empowerment.** Please briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis). Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment? Yes/no/ tbd.<br><br>If possible, indicate in which results area(s) the project is expected to contribute to gender equality: access to and control over resources; participation and decision-making; and/or economic benefits or services.<br><br>Will the project?s results framework or logical framework include gender-sensitive indicators? yes/no<br><br>/tbd | Have gender differentiated risks and opportunities been identified, and were preliminary response measures described that would address these differences?<br><br>Do gender considerations hinder full participation of an important stakeholder group (or groups)? If so, how will these obstacles be addressed?<br><br>The consideration of gender is quite comprehensive - however, it is important to add here that gender-specific perspectives on identifying/defining ecosystem values is an important element to add into further planning. Women and men are likely to have divergent sets of values regarding key ecosystem benefits and values due to gendered roles and responsibilities.<br><br>Yes, see above. | The stakeholder consultations - including gender analysis, have been severely impacted by COVID spread during the formulation of PPG. Wherever feasible, the project preparation has included online consultations, and review and feedback of project proposal. To strengthen the stakeholder engagement plan - full detailed gender and stakeholder engagement planning will be detailed during the first 6-12 months of the project. Provisions have been made in the workplan, project PMU staff ToRs and budget  - see ProDoc Appendices, for this.<br><br>A summary on gender engagement through the project has been added to the ProDoc and CEO ER.  regarding consideration of gender specific perspectives on identifying and defining ecosystem values has been added within Component 2 (Output 2.1.3). |

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| **5. Risks.** Indicate risks, including climate change, potential social and environmental risks that<br><br>might prevent the project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the project design | Are the identified risks valid and comprehensive? Are the risks specifically for things outside the project?s control? Are there social and environmental risks which could affect the project?<br><br>For climate risk, and climate resilience measures:<br>? How will the project?s objectives or outputs be affected by climate risks over the period 2020 to 2050, and have the impact of these risks been addressed adequately?<br>? Has the sensitivity to climate change, and its impacts, been assessed?<br>? Have resilience practices and measures to address projected climate risks and impacts been considered? How will these be dealt with?<br>? What technical and institutional capacity, and information, will be needed to address climate risks and resilience enhancement measures?<br><br><br>Yes, they are largely things outside the project's control. See the key assumption highlighted above - this needs to be addressed within project planning or highlighted as a risk.<br><br>There are social risks which could affect the project. For instance, local communities could oppose the project developments due to livelihood impacts.<br><br>Climate change impacts are identified as a risk, and the project is viewed as contributing to addressing these through enhancing the resilience of the targeted areas. However, it should be noted that climate change to 2050 could lead to rapidly changing NC values over time, spatial plans showing NC values and setting out biodiversity-friendly routes for infrastructure being rapidly out of date, or infrastructure being severely damaged or unviable in these areas (meaning improved practice in Rebuild Kerala or Sagarmala being irrelevant, if these entities are no longer targeting these areas). It is recommended that climate change projections for these areas are integrated from the outset in assessment of NC values, and values are projected out to at least 2050 to ensure that aspects like biodiversity movements, connectivity, and hydrological function are planned to be maintained not under current conditions but in the face of expected climate change.<br><br><br>Climate change projections relevant for these sites, plus interpretation of what they mean for ecosystem values, and then implications of expected changes for planning/management measures, all need incorporation into this<br>project - and the local capacity built to do this. | Available projections for climate change have been incorporated in the baseline analysis. The project recognizes that climate change is likely to induce changes in NC bundles, and thereby the landscape plans (Component 2, Output 2.1.3) include development of a climate impacted scenario along with a business as usual scenario, and then build projections of likely changes in NC, BD and ES. The learning from climate scenarios informed landscape planning will also feed into capacity development interventions under Component 3. It is expected that such analysis will also bring out the limitations posed by infrastructure solutions which are dominated by hard engineering investments, to include investments in conservation of coastal ecosystems as a nature based solutions towards building climate resilience. The project also includes learning mechanisms wherein experiences of initiatives which link NC analysis with climate change will be brought into project implementation.<br><br>Additionally, the SRIF safeguards sheet discusses in detail project approach, mitigation |

| 6. Coordination. Outline the coordination with other relevant GEF-financed and other related initiatives | Are the project proponents tapping into relevant knowledge and learning generated by other projects, including GEF projects?<br><br>No - there is no indication of this, and such knowledge and learning (if there are relevant projects) would be extremely valuable. What other GEF or non GEF projects have tried to achieve similar outcomes? What was learnt from them? | The PPG has looked into relevant GEF-financed and non-GEF initiatives and has identified elements that are of relevance to BluNatCap; and have been summarized in an expanded baseline section of the ProDoc (see e.g. section 2.4.3 and 2.7) and CEO ER |
| | Is there adequate recognition of previous projects and the learning derived from them?<br><br>No ? see above. | |

| | | Have specific lessons learned from previous projects been<br><br>cited?<br><br>No ? see above | The baseline scenario analysis incorporates lessons learnt from projects, and these have been the basis of establishing root causes and barrier analysis; as well as has been captured in a slightly revised Project Framework (see CEO ER with summary table). Some prominent ones are: a) Use of a landscape and scenario analysis as a basis of SEEA-EA (as recommended by NCAVES project, incorporated in Output 2.1.3); b) use of scenarios to evaluate the consequences of alternate development pathways as well as focus on capacity development (as recommended by TEEB, incorporated in Output 2.1.2, 2.1.3 and 3.2.1), c) use of a system of mapping conservation elements within development schemes ( as recommended by BioFIN Phase I project, incorporated in Output 2.1.4) |
| | | How have these lessons informed the project?s formulation?<br><br>No ? see above | See previous response |

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| | Is there an adequate mechanism to feed the lessons learned from earlier projects into this project, and to share lessons learned from it into future projects?<br><br>This is very vague and should be developed further in project planning, particularly regarding clearly articulating lessons and sharing them into future projects. | The project Component 3 is designed to address the aspects of learning from past and ongoing initiatives, as well as feeding into future initiatives. A new summary KM has been provided in the ProDoc. |

| 8. Knowledge management. Outline the ?Knowledge Management Approach? for the project, and how it will contribute to the project?s overall impact, including plans to learn from relevant projects, initiatives and evaluations. | What overall approach will be taken, and what knowledge management indicators and metrics will be used?<br><br>No details are provided at this time. | The project includes setting up a knowledge management platform to enable sharing of information generated from the project, as well as similar initiatives to stakeholders and other actors intending to apply NC values in decision-making. The project also includes setting up a Community of Practice on NC as a key element of knowledge management. The project also proposes to put in place robust peer review mechanism to ensure that knowledge generated under the project is relevant and robust, and gainfully applied in bringing out improvements in decision-making. Knowledge management related indicators have also been built in the updated results framework and monitoring and evaluation framework.<br><br>Text in the relevant sections of the ProDoc has been updated. |

| | | What plans are proposed for sharing, disseminating and scaling-up results, lessons and experience?<br><br>This is only dealt with in very general terms at this stage. | Elements of sharing, disseminating and scaling up results, lessons and experiences will be addressed through activities under Component 3. Output 3.1.1 is directed at putting in place communication and engagement strategy for partnership and adoption of SEEA-based NC accounting developed and implemented (through mechanisms such as Community of Practice, holding learning events and proactively participating in national and international events to showcase project results as well as bring on board experiences from relevant initiatives. Under Output 3.2.2, the project aims at establishing a knowledge management platform, as well as systems for impact performance M&E developed to support policy makers and practitioners in India in adopting, replicating and mainstreaming NC accounting. Outputs 3.2.1 and 3.2.2 further support sharing, replication and scaling up of lessons through embedding in training programmes at district level, including employment orientated skill development programme. |

**Notes**

| STAP advisory response | Brief explanation of advisory response and action proposed |
|---|---|
| 1.      Concur | STAP acknowledges that on scientific or technical grounds the concept has merit. The proponent is invited to approach STAP for advice at any time during the development of the project brief prior to submission for CEO endorsement. |
|  | * In cases where the STAP acknowledges the project has merit on scientific and technical grounds, the STAP will recognize this in the screen by stating that *?STAP is satisfied with the scientific and technical quality of the proposal and encourages the proponent to develop it with same rigor. At any time during the development of the project, the proponent is invited to approach STAP to consult on the design.?* |
| 2.   Minor issues to be considered      during project design | STAP has identified specific scientific /technical suggestions or opportunities that should be discussed with the project proponent as early as possible during development of the project brief. The proponent may wish to: |
|  | (i) Open a dialogue with STAP regarding the technical and/or scientific issues raised; |
|  | (ii) Set a review point at an early stage during project development, and possibly agreeing to terms of reference for an independent expert to be appointed to conduct this review. |
|  | The proponent should provide a report of the action agreed and taken, at the time of submission of the full project brief for CEO endorsement. |

**German Council comments**

Thank you for these valuable comments. The project design now includes activities supporting adoption, implementation and replication of SEEA-based NC in component the three components (through capacity development measures, support to application of SEEA-NCA in sectoral programmes within the two landscapes, and embedding within the SDG indicator suite). The project will, within its implementation time frame, create anchoring mechanisms within specific ENVIS centers and government mandated agencies to ensure that NCA continues being used as a tool to improve policy making for Blue Economy.

11. **India: Mainstreaming Natural Capital Values into Planning and Implementation for Sustainable Blue Economic Growth in Indian Coastal Districts, UNEP, [GEP Project Financing: $3,046,347] [GEF ID 10385]**

✓ ***Germany Comments***

Germany approves the following PIF in the work program but asks that the following comments are taken into account:

Suggestions for improvements to be made during the drafting of the final project proposal:

- Germany very much supports the idea of establishing SEEA-based NC accounting as an important tool for the mainstreaming of biodiversity and natural capital into national policy and planning processes. For the project to be successful, we would like to stress the importance of governmental backing and involvement in the process of establishing the required frameworks. Even more so, it will be crucial to not only draft corresponding frameworks and policies but to actively work towards their adoption and implementation. We would therefor like to suggest that this aspect is particularly paid attention to in the course of project implementation, and involving all necessary stakeholders, considering that development and adoption any governmental policies and frameworks can turn out to be very lengthy and time-consuming.

**ANNEX C: Status of Utilization of Project Preparation Grant (PPG).**
**(Provide detailed funding amount of the PPG activities financing status in the table below:**

| PPG Grant Approved at PIF:  US$ 150,000 | | | |
|---|---|---|---|
| | *GETF/LDCF/SCCF Amount ($)* | | |
| ***Project Preparation Activities Implemented*** | *Budgeted Amount* | *Amount Spent Todate* | *Amount Committed* |
| Personnel Cost (Consultant-International, PPG Team leader, Consultant-Domestic) | 88,600 | 110,600* | 0 |
| Travel (Domestic) | 22,250 | 10,850 | 0 |
| Training/Consultation/baseline meetings | 36,000 | 25,400 | 0 |
| Miscellaneous | 3,150 | 3,150 | 0 |
| **Total** | 150,000 | 150,000 | 0 |

\* Additional costs under personnel were incurred due to higher than planned use of person days to compensate for Covid induced limitations on field travel.

**ANNEX D: Project Map(s) and Coordinates**

**Please attach the geographical location of the project area, if possible.**

Coordinates for the two targeted landscapes have been updated on the portal; and concern for the targeted site  Vembanad Kol Wetland Complex: Latitude: 9.9771 and Longitude: 76.2655, and for Aghnashini Estuary: Latitude: 14.5345 and Longitude: 74.3614

**For Maps**, reference is made to section 1b above
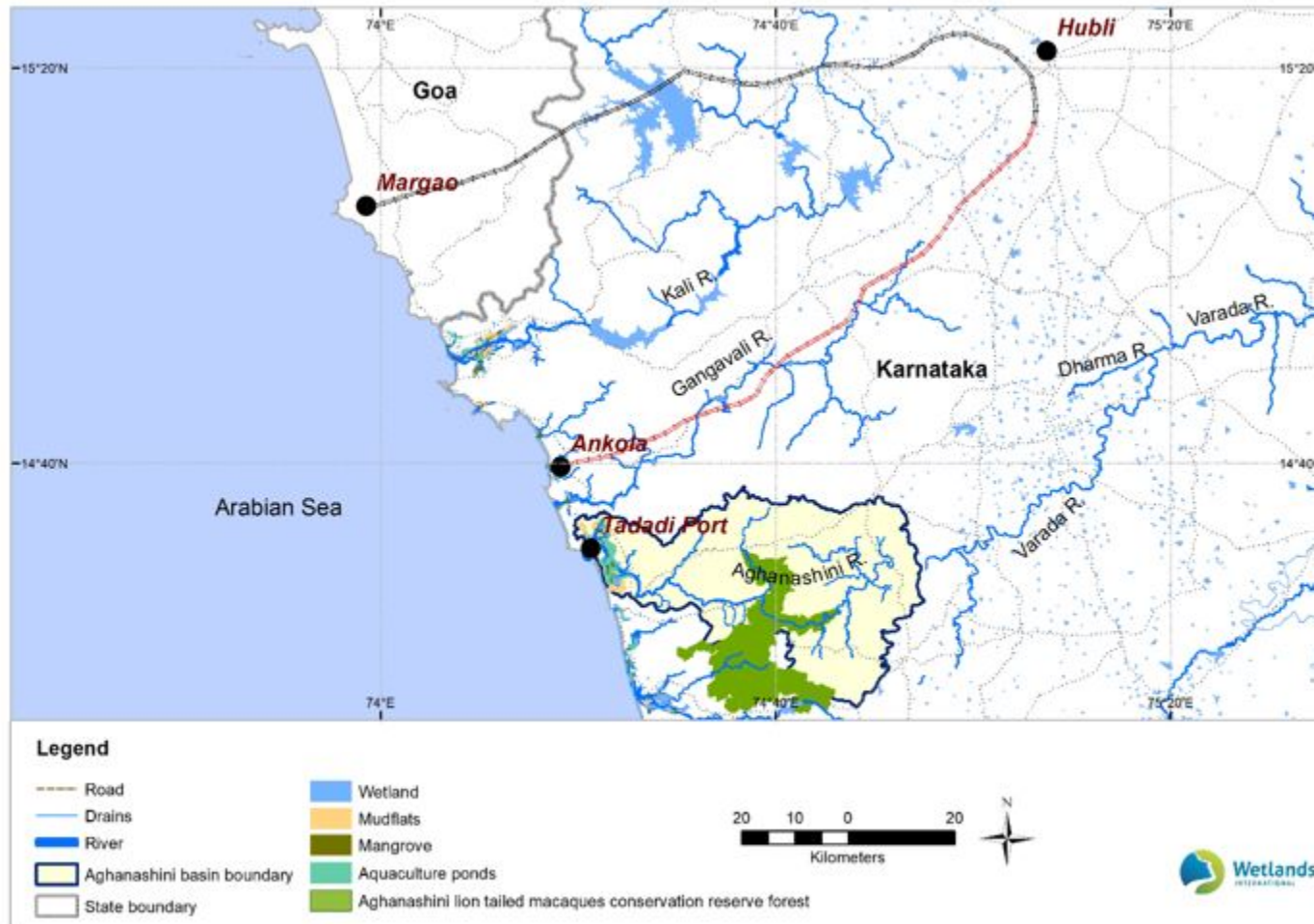


Map 4: Aghanashini Estuary And its River Basin

**Map 5: The Vembanad Kol Wetland Complex and its Basin**

## ANNEX E: Project Budget Table

**Please attach a project budget table.**

# Appendix 1: GEF budget template - by project components

| Expenditure Category | Detailed Description | Component (USDeq.) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Component 1 | | Component 2 | Component 3 | | Sub-Total | M&E |
| | | Outcome 1.1 | Outcome 1.2 | Outcome 2.1 | Outcome 3.1 | Outcome 3.2 | | |
| Goods | Computer, printer, projector, camera | - | - | - | - | - | - | |
| Grants/ Sub-grants | | | | | | | | |
| Sub-contract to executing partner/ entity | ENVIS Centres- NES-GRIDDS data updation and NC accounts | - | $ 95,000 | $ 95,000 | - | - | $ 190,000 | |
| | ENVIS Centres- GSDP | - | - | - | - | $ 66,667 | $ 66,667 | |
| | SWAK- Landscape planning, NC account embedding etc | | - | $ 200,000 | - | - | $ 200,000 | |
| | Forest, Ecology and Environment Department of Karnataka- Landscape planning, NC embedding etc | - | - | $ 200,000 | - | | $ 200,000 | |
| | Knowledge partner support- Landscape 1 | - | - | $ 86,240 | - | $ 86,240 | $ 172,480 | |
| | Knowledge partner support- Landscape 2 | - | - | $ 86,240 | - | $ 86,240 | $ 172,480 | |
| | Knowledge partner support- National NC accounting | $ 40,000 | $ 80,000 | - | $ 40,000 | $ 40,000 | $ 200,000 | |
| | Knowledge partner support- Wetland NC account | - | - | $ 139,639 | - | $ 80,000 | $ 219,639 | |
| Contractual Services – Individual | ... | | | | | | | |
| Contractual Services – Company | ... | | | | | | | |
| International Consultants | National NCA strategy | $ 66,667 | - | - | - | - | $ 66,667 | |
| Local Consultants | NES-GRIDDS data adaptation | - | $ 16,000 | - | - | - | $ 16,000 | |
| | Domestic- SDG suite development | - | $ 16,000 | - | - | - | $ 16,000 | |
| | Capacity development and outreach | - | - | $ 10,400 | - | $ 10,400 | $ 20,800 | |
| | Knowledge management | - | - | $ 10,400 | $ 10,400 | - | $ 20,800 | |
| | Gender Specialist | | | | | | | $ 3,000 |
| Salary and benefits / Staff costs | Project Manager- Blue Economy Specialist | $ 22,760 | $ 22,760 | $ 22,760 | $ 22,760 | $ 22,760 | $ 113,799 | |
| | Landscape Coordinator- Kerala Landcape | | | | | | | |
| | Landscape Coordinator- Karnataka Landcape | | | | | | | |
| | Coastal Landscape Planning Specialist | $ 17,682 | $ 17,682 | $ 17,682 | $ 17,682 | $ 17,682 | $ 88,410 | |
| | Senior Technical Officer- Kerala Landscape | - | - | $ 88,410 | - | - | $ 88,410 | |
| | Senior Technical Officer- Karnataka Landscape | - | - | $ 88,410 | - | - | $ 88,410 | |
| | Technical Officer- Knowledge and Outreach (Kerala) | - | - | $ 35,364 | - | $ 35,364 | $ 70,728 | |
| | Technical Officer- Knowledge and Outreach (Karnataka) | - | - | $ 35,364 | - | $ 35,364 | $ 70,728 | |
| | Project Assistant -1 | $ 9,548 | $ 9,548 | $ 9,548 | $ 9,548 | $ 9,548 | $ 47,741 | $ 5,305 |
| | Accounts Officer | - | - | - | - | - | - | |
| Trainings, Workshops, Meetings | Staff trainings in SEEA-based NES-GRIDSS system | - | - | - | - | $ 26,667 | $ 26,667 | |
| | GSD programme implementation-NC based NES-GRIDSS | - | - | - | - | $ 26,667 | $ 26,667 | |
| | GSD programme implementation-Wetlands NC values evaluation and management integration | - | - | - | - | $ 26,667 | $ 26,667 | |
| | Training-Wetlands NC accounts and health cards | - | - | $ 13,333 | - | - | $ 13,333 | |
| | Training-Integration of NC, BD and ES values in district plans | - | - | $ 13,333 | - | - | $ 13,333 | |
| | Project Inception Workshop (including development of detailed stakeholder and gender engagement plans) | - | - | - | - | - | - | |
| | National Project Steering Committee | - | - | - | - | - | | $ 5,000 |
| | Technical Committee meetings | - | - | $ 4,000 | $ 7,884 | $ 4,000 | $ 15,884 | |
| | NCA policy writeshop and workshop | $ 26,667 | - | - | - | - | $ 26,667 | |
| | Sector Roundtable Meetings | - | $ 20,000 | - | - | - | $ 20,000 | |
| | Landscape planning workshops | - | - | $ 8,667 | - | - | $ 8,667 | |
| | Wetlands NC accounts workshop | - | - | $ 8,667 | - | - | $ 8,667 | |
| | Dissemination workshops | - | $ 20,000 | - | - | - | $ 20,000 | |
| | International Conference | - | - | - | $ 33,333 | - | $ 33,333 | |
| | Outreach events | $ 13,333 | $ 13,333 | $ 13,333 | $ 13,333 | $ 13,333 | $ 66,666 | |
| | Project Closure | - | - | - | $ 16,667 | - | $ 16,667 | |
| Travel | Local travel and subsistence | $ 7,333 | $ 7,333 | $ 9,333 | $ 4,667 | $ 4,667 | $ 33,333 | |
| | International travel | $ 40,000 | $ 26,667 | - | $ 53,333 | - | $ 120,000 | |
| | National travel | $ 8,000 | $ 9,333 | $ 40,000 | $ 13,333 | $ 9,333 | $ 80,000 | |
| Office Supplies | Office Supplies for Project management | - | - | - | - | - | - | |
| Other Operating Costs | Maintenance of office equipment | - | - | - | - | - | - | |
| | Rental of equipment | $ 1,467 | $ 1,467 | $ 1,467 | $ 1,466 | $ 1,467 | $ 7,333 | $ 1,334 |
| | Communications | $ 1,800 | $ 1,800 | $ 1,800 | $ 1,800 | $ 1,800 | $ 9,000 | |
| | Printing and Publication -Outreach | $ 3,333 | $ 3,333 | $ 4,000 | $ 28,333 | $ 26,667 | $ 65,667 | |
| | Printing and Publication - Training Kit | - | - | - | - | $ 13,333 | $ 13,333 | |
| | Printing and Publication - Toolkits | $ 6,667 | $ 6,667 | $ 6,667 | - | - | $ 20,001 | |
| | Printing and Publication - Best Practices and lessons | - | - | - | $ 20,000 | - | $ 20,000 | |
| | Mid-term Evaluation | - | - | - | - | - | - | $ 30,000 |
| | Terminal Evaluation | - | - | - | - | - | - | $ 35,000 |
| | Annual audits | - | - | - | - | - | - | |
| Grand Total | | $ 265,257 | $ 366,924 | $ 1,250,057 | $ 294,540 | $ 644,866 | $ 2,821,644 | $ 79,639 |

**ANNEX F: (For NGI only) Termsheet**

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

**ANNEX G: (For NGI only) Reflows**
Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agencys is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

**ANNEX H: (For NGI only) Agency Capacity to generate reflows**
Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies? capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).