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United Nations Development Programme
Country: SOCIALIST REPUBLIC OF VIET NAM
PROJECT DOCUMENT

Project Title: Conservation of Critical Wetland Protected Areas and Linked Landscapes

UNDAF Outcome 1
Government economic policies support growth that is more equitable, inclusive and sustainable

UNDP Strategic Plan Environment and Sustainable Development Primary Outcome:
Mobilizing environmental financing
UNDP Strategic Plan Secondary Outcome: Mainstreaming environment and energy

Expected One UN Plan Outcome(s):
Outcome 1: Government economic policies support growth that is more equitable, inclusive and sustainable. Specifically, Outcome 1.4: By 2016, key national and sub-national agencies, in partnership with the private sector and communities, implement and monitor laws, policies and programmes for more efficient use of natural resources and environmental management, and to implement commitments under international conventions

Expected One UN Plan Output (s)
Output 1.4.2: Coherent and consistent policies and plans formulated or updated, and operationalized for establishment of a wetlands protected areas (PA) system, more effective management of three protected areas systems (terrestrial, marine & coastal, and wetlands), and biodiversity conservation at national and community levels

Executing Entity/Implementing Partner: Ministry of Natural Resources & Environment (MONRE)
Implementing Entity/Responsible Partners: Institute of Strategy and Policy on Natural Resources and Environment (ISPONRE) and Biodiversity Conservation Agency (BCA) of MONRE

Brief Description: An estimated 30% of Viet Nam's national land area comprises inland and coastal wetlands. These harbour considerable globally significant biodiversity and generate a vast array of ecosystem services. However, these wetlands are under increasing threat from a range of economic activities, particularly conversion for agriculture and aquaculture, overexploitation of biotic resources and pollution. While Viet Nam has established an extensive national system of protected areas (PAs) to conserve its biodiversity, wetlands are currently poorly represented within the national PA system. Under Viet Nam's 2008 Biodiversity Law and the associated Decree 65, state management responsibility for wetlands has been assigned to the Ministry of Natural Resources and Environment (MONRE). However, MONRE currently has relatively limited capacity for the planning, establishment and administration of wetland conservation areas or for developing the capacity needed on the ground for effective wetlands management, including the ability to address threats to local wetlands that arise from economic activities in the wider landscape. The project seeks to develop systemic, institutional and operational capacity for effective wetlands biodiversity management in Viet Nam nationally and at provincial level at selected sites. The project's immediate objective is to establish new wetland protected areas and create capacities for their effective management to mitigate existing and emerging threats from connected landscapes. Component 1 of the project will address gaps and weaknesses in the current PA system, institutional capacity and the current policy and regulatory framework in relation to wetlands conservation. Component 2 seeks to ensure that the wetland values are better understood and appreciated and that the principles and know-how for conservation and sustainable use of wetlands are enshrined both at the local level, by strengthening incentives for conservation-friendly livelihoods, and at the landscape level, by promoting wetlands-friendly land use and development planning.

Programme Period:	2014- 2017
Atlas Award ID:	____00076965__
Project ID:	____00088048__
PIMS #	____4537_____
Start date:	____2014_____
End Date	____2017_____
Management Arrangements	_____NIM____
PAC Meeting Date	_____

Total resources required (US$)	18,071,887
Total allocated resources:	
• Regular	
• Other:	
o GEF	3,180,287
o Government	12,871,600
o UNDP	1,000,000
o Other	1,020,000

Agreed by Ministry of Environment & Natural Resources of Viet Nam (MONRE):

Date/Month/Year

Agreed by Institute of Strategy and Policy on Natural Resources and Environment (ISPONRE) & Biodiversity Conservation Agency (BCA):

Date/Month/Year

Agreed by UNDP Viet Nam:

Date/Month/Year

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ACRONYMS AND ABBREVIATIONS

AIT	Asian Institute of Technology
APR	Annual Project Review
AUSAID	Australian Agency for International Development
AWP	Annual Work Plan
BCA	Biodiversity Conservation Agency
BOD	Biochemical Oxygen Demand
CBD	Convention on Biological Diversity
CBNRM	Community Based Natural Resources Management
CCI	Cambridge Conversation Initiative
CEPF	Critical Ecosystem Partnership Fund
CIP	Co-Implementing Partners
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CO	Country Office
COD	Chemical Oxygen Demand
CPC	Commune People's Committees
CRES	Centre for Natural Resources and Environmental Studies
DARD	Department of Agriculture and Rural Development
DCFRP	Department for Capture Fisheries and Resource Protection
DOCST	Department of Culture, Sport and Tourism
DDNRE	District Divisions of Natural Resources & Environment
DDT	Dichlorodiphenyltrichloroethane
DNPD	Deputy National Project Director
DOF	Directorate of Fisheries
DONRE	Department of Natural Resources and Environment
DOST	Department Of Science and Technology
DPC	District People's Committee
DPI	Department of Planning and Investment
DWMEP	Department of Waste Management and Environment Promotion
DWRM	Department of Water Resources Management
EEG	Environment and Energy Group of uNDP
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
EPD	Environmental Protection Division
ERC	Evaluation Resource Center
FA	Fisheries Association
FAO	Food and Agriculture Organization of the United Nations
FD	Fisheries Division

FIPI	Forest Inventory and Planning Institute
FPD	Forest Protection Department
GAA	Global Aquaculture Alliance
GDLA	General Department of Land Administration
GDP	Gross Domestic Product
GEF	Global Environment Facility
GIS	Geographic Information System
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (German Cooperation Agency)
GMS	General Management Support
GoV	Government of Viet Nam
GPS	the Global Positioning System
GSO	General Statistics Office
HACT	Harmonized Approach to Cash Transfers
HCH	Hexachlorocyclonehexane
HDI	Human Development Index
HPPMG	Harmonized Programme and Project Management Guidelines
HRBMB	Huong River Basin Projects Management Board
IBA	Important Bird Area
ICM	Integrated Crop Management
IEBR	Institute for Ecology and Biological Research
IMER	Institute for Marine and Environmental Research
IMHEN	Vietnam Institute of Meteorology, Hydrology and Environment
IMOLA	Integrated Management of Lagoon Activities
IPM	Integrated Pest Management
ISPONRE	Institute of Strategy and Policy on Natural Resources and Environment
IUCN	International Union for Conservation of Nature
ISS	Implementation Support Service
IT	Information Technology
IWCA	Inland Water Conservation Area
JICA	Japan International Cooperation Agency
LEP	Law on Environmental Protection
LF	Law on Fisheries
LFPD	Law on Forest Protection and Development
LMB	Lower Mekong Basin
LoA	Letter of Agreement
LWWG	Local Wetlands Working Group
MAB	Man and Biosphere

MARD	Ministry of Agriculture and Rural Development
MCD	Marine Life Conservation and Community Development
MDG	Millennium Development Goals
METT	Management Effectiveness Tracking Tool
MOCST	Ministry of Culture, Sport and Tourism
MOF	Ministry of Finance
MONRE	Ministry of Natural Resources and Environment
MOST	Ministry of Science and Technology
MPA	Marine Protected Area
MPI	Ministry of Planning and Investment
M&E	Monitoring and Evaluation
MTI	Ministry of Trade and Industry
NBSAP	National Biodiversity Strategy and Action Plan
NCD	Nature Conservation Division
NGO	Non-Governmental Organization
NIM	Nationally Implementation Modality
NIP	National Implementing Partner
NPD	National Project Director
NPM	National Project Manager
NPSI	National Project Secretary/ Interpreter
NRE	Natural Resources
NSB	National Strategy on Biodiversity
NWWG	National Wetlands Working Group
OP	One Plan
PA	Protected Area
PAMB	Protected Area Management Board
PARC	PAs for Resources Conservation
PCD	Pollution Control Department
PES	Payment for Ecosystem Services
PFES	Payment for Forest Environmental Services
PIMS	Project Information Management System
PIR	Project Implementation Review
PM	Project Manager
PMU	Project Management Unit
POP	Persistent Organic Pollutants
POPP	Programme and Operations Policy and Procedures
PPCs	Provincial People's Committees
PPR	Project Progress Reports

PSC	Project Steering Committee
RAMSAR	Ramsar Convention on Wetlands of International Importance
RRDBR	Red River Delta Biosphere Reserve
RTA	Regional Technical Advisor
SBAA	Standard Basic Assistance Agreement
SDS	Vietnam Sustainable Development Strategy
SEA	Strategic Environmental Assessment
SEDS	Socio-Economic Development Strategy
SUF	Special Use Forest
TGCH	Tam Giang-Cau Hai
TOR	Terms of Reference
TSS	Total Suspended Solid
TT	Thai Thuy
TTH	Thua Thien Hue
TTH RMBO	Thua Thien Hue River Basin Management Organization
TWG	Technical Working Group
UK	United Kingdom
UN	United Nations
UNDAF	United Nations Development Action Framework
UNDG	United Nations Development Group
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNFCCC	United Nations Framework Convention on Climate Change
US	United States
USD	United States Dollar
VACNE	the Vietnam Association for Conservation and Nature
VASI	Vietnam Administration of Seas & Islands
VAST	Vietnam Academy on Science and Technology
VEA	Vietnam Environment Administration
VEPA	Vietnam Environmental Protection Agency (former VEA)
VietGAP	Vietnamese Good Agricultural Practices
VNCC	Viet Nature Conservation Center
VND	Vietnam Dong
VNFOREST	Vietnam Administration of Forestry
VNWA	Vietnam Wetlands Association
WCA	Wetland Conservation Area
WPA	Wetland Protected Area

WWF	World Wide Fund for Nature

I SITUATION ANALYSIS

1.1 Wetlands Biodiversity Context and Global Significance

1. The Socialist Republic of Viet Nam lies at the crossroads of two major biogeographic realms: the Palaearctic realm's Himalayan and Chinese sub-regions and the Indo-Malayan realm's Sundaic sub-region. The country extends over 1,650 km from north to south between 23°30'N and 8°30'N covering a total area of 329,314 km^2, with a maximum width of approximately 600 km and a minimum width of little more than 50 km. The country shares its border with China to the north, Laos to the northwest, Cambodia to the southwest and the East Sea to the east. Three quarters of the country is hilly or mountainous, while its lowland areas include two major river deltas: the Red River in the north and the Mekong River in the south. A narrow coastal plain runs along much of the country's 3,260 km coastline.

2. Viet Nam's biogeographic location combined with the great variation in topography, climate[1] and soils across the country, has given rise to Viet Nam's diverse and distinct biodiversity. The country is estimated to harbour some 10% of the world's known species and is considered among its ten most biologically diverse countries. Viet Nam includes six of WWF's Ecoregion 200: the Annamite (Truong Son) Range Moist Forests; Indochina Dry Forests; Mekong River; Northern Indochina Subtropical Moist Forests; Southeast China-Hainan Moist Forests; and Xi Jiang Rivers and Streams. Plant endemicity is high and three main regions of floral endemicity have been noted. [2] Some 10,300 animal species have been recorded so far, including 275 mammal species, 840 bird species, 167 amphibian species, 317 reptile species, over 500 freshwater fish species and 2,000 marine fish species (1995 estimates) and over 7,700 insect species.[3] Viet Nam is particularly well known in conservation circles for relatively recent discoveries of new large mammal species in the 1990s such as the sao la (*Pseudoryx nghetinhensis*) in 1992, the giant muntjac (*Megamuntiacus vuquangensis*), the Truong Son muntjac (*Caninmuntiacus truongsonensis*) and the Pu Hoat muntjac (*Muntiacus puhoatensis*). Many more species new to science have been discovered, including 21 species of reptile, five amphibian species, eight plant species including five orchids, as well as around 100 freshwater fish and invertebrate species.

3. Viet Nam's exceptionally diverse inland and coastal wetlands contribute significantly to its biological richness. Wetlands cover an estimated 30% of Viet Nam's total land area (around 10 million hectares) and are extremely diverse. The Ramsar Convention, to which Viet Nam became a party in 1989, classifies wetlands into 42 types globally, of which at least 39 are found in Viet Nam, including natural and converted or artificial wetlands; as well as inland freshwater wetlands and coastal brackish and marine wetland systems. The inland freshwater wetlands of the Indo-Burma 'Biodiversity Hotspot' (within which Viet Nam is located) have been identified as among the world's most species-rich areas.[4] The diversity of such wetlands may be even

[1] Viet Nam has a tropical monsoonal climate dominated by the south-westerly monsoons from May to October and north-easterly monsoons during the winter months. Annual rainfall averages between 1,300 mm to 3,200 mm, but can be as much as 4,800 mm in some areas and as little as 400 mm in others. Snow occasionally falls in the higher elevations in the north. In the south, temperatures rarely drop below 20^{o}C; in the north, they seldom drop below 10^{o}C.

[2] These 3 sites include the Hoang Lien Mountain Range, Central Highlands and the Northern Annamite Mountains. It has been estimated that up to 40% of all plant species in the country may be endemic.

[3] MONRE 2011. *National Report on Biodiversity*.

[4] Allen, D.J., Smith, K.G, and Darwall, W.R.T. 2012. *The Status and Distribution of Freshwater Biodiversity in Indo-Burma.*

higher than we realise as the Indo-Burma region is relatively under-surveyed and our knowledge of species diversity in this system is more limited.

4. Wetlands occur in all ecological regions of Viet Nam and are extremely diverse in terms of type, morphology, resources, biological value and functions. Natural wetlands include permanent and seasonal rivers and streams, freshwater lakes, peatlands, swamps, mountain wetlands, geothermal wetlands, marshes and underground rivers and lakes in karst caves. Viet Nam has some 2,500 rivers of which 2,360 rivers have a length of more than 10 kilometres. The species composition of underground rivers and lakes in karst caves is yet to be fully investigated and it is likely that these too will harbour numerous species that are new to science. Additionally, human-modified and constructed or artificial wetlands also contribute to the maintenance of biodiversity and the provision of other vital ecosystem services such as flood control, nutrient control and water purification. These include converted inland wetlands such as rice fields and other cultivated wetlands, aquaculture ponds, reservoirs, ponds and canals. There are more than 4,000 reservoirs of varying size in Viet Nam.

5. Coastal wetlands are also significant given Viet Nam's long coastline of 3,260 km. These coastal and marine areas range from sub-temperate ecosystems in the north to tropical ecosystems in the centre and the south, with the Southeastern Region having particularly high biological diversity due. There are a large number of estuaries along the coast here, which include around 100 large river estuaries (roughly one every 20 kilometres). The estuaries of the larger rivers are of particular significance as these cover extensive areas, encompassing a range of wetland types and habitats. Around 41% of Viet Nam's wetlands are located in the Mekong and Red River Deltas, which together cover 17% of the country. The Mekong River system has the largest discharge volume into the country, accounting for 61.4% of the total national runoff volume and the Mekong Delta alone has a total area of approximately 3.9 million hectares, representing around 12% of the country's total land area. Some 386 species of birds, as well as several species of plankton, benthic fauna and fish have been recorded here. The Red River Delta has a total area of 229,762 ha and although much smaller than the Mekong Delta, nevertheless has a range of wetland types. Estuarine wetlands are among the most important wetland types of Viet Nam both from a biodiversity and economic point of view. These are especially important sites for mangroves, mudflats, salt marshes and algal beds and are used by a variety of specialized species and migratory species, notably providing critical habitats and feeding areas along the migration route of numerous bird species including the critically endangered Spoon-billed Sandpiper (*Eurynorhynchus pygmeus*) and the endangered black-faced spoonbill (*Platalea minor*).

6. Viet Nam's other significant coastal wetland types include coastal lagoons, seagrass beds, coral reefs and marine areas (with a depth not exceeding six metres at low tide) as well as numerous nearshore islands. Lagoons are present mainly along the coastline of central Viet Nam, from Thua Thien Hue to Ninh Thuan, and have a total area of about 44,770 ha. The biggest lagoon is the Tam Giang-Cau Hai system, which is more than 67 km in length with an approximate area of 21,600 ha. Seagrass beds, although covering a relatively small area, recorded at 12,380 ha in 2009 - 2010, have high biological productivity and their species richness may be two to eight times higher than that found in other coastal habitats. This habitat

IUCN, Cambridge, UK and Gland, Switzerland.

type is particularly important for the endangered dugong *(Dugong dugon*), which relies on shallow seagrass meadow habitats, such as those found in the sea around Con Dao Island. The vast majority of the country's seagrass beds are found around its largest island, Phu Quoc, to the south (10,000 ha). Tam Giang-Cau Hai lagoon has a further 1,000 ha of seagrass beds. Coral reefs are distributed in the coastal area of south-central Viet Nam, with species diversity increasing from the north to the south. The most important areas of coral reefs are in fact around the offshore islands in Hạ Long Bay, the coast of Khánh Hòa, Ninh Thuận, and Bình Thuận and Con Dao and Phu Quoc islands in the South. These offshore areas are also thought to provide important habitats and staging points along the migration routes of several notable species, including whales, whale sharks and sharks. Viet Nam's numerous offshore islands have a total land area of 1,720 km^2, but most of these 2,773 islands are very small; only 84 have an area greater than 1 km^2 although these together account for 93% of the total area of islands.

7. The diversity of Viet Nam's wetland types supports a wealth of species of both global and national significance, notably numerous fish, bird and invertebrate species, including many endemic and globally threatened species. To date, 1,028 fish species and 800 invertebrate species have been recorded in freshwater ecosystems in Viet Nam. Of the 79 species of carp fish *(Cyprinidae*) found in the country, there is one endemic sub-family comprising 40 species and sub-species. The particular significance of wetlands for birds is well demonstrated by the Đồng Tháp Mười area in the Mekong Delta (or "Plain of Reeds"), which harbours 138 bird species from 49 families, representing 25% of all bird species found in Viet Nam, including 16 globally threatened species. Wetlands are also home to 39 endemic Crustacean species (particularly shrimps and crabs) and 4 endemic mollusc species.

8. Coastal and marine systems exhibit even higher species diversity with over 11,000 species recorded to date, including 6,300 benthic species, 2,500 fish species, 653 seaweed species, over 300 coral species, 94 mangrove tree species, 15 marine snake species and 25 marine mammal species.[5] Additionally, five globally endangered marine turtle species are found in Viet Nam, namely: the green turtle (*Chelonia mydas*), loggerhead turtle (*Caretta caretta*), Olive Ridley turtle (*Lepidochelys olivacea*), the critically endangered leatherback turtle (*Dermochelys coriacea*) and the hawksbill turtle (*Eretmochelys imbricate*). Fifteen species of dolphin and porpoise and one species of baleen whale have also been recorded, while the endangered dugong (*Dugong dugon*), has already been mentioned.

1.2 The Socio-economic Significance of Viet Nam's Wetlands

9. Viet Nam has been undergoing a series of political and economic reforms to move towards a more market-based economy since 1986. Rapid economic growth, especially over the past two decades, has resulted in Viet Nam transitioning to a lower middle-income country (as defined by the World Bank) with a per capita GDP of US$836 in 2007. The country has made significant progress on human development indicators, particularly on education, health and living standards, as reflected in the steady increase of its human development index (HDI) over the last decade. Viet Nam has already achieved five of its ten original MDG targets and is on course to achieve two more by 2015.[6]

[5] MONRE 2011. *National Report on Biodiversity*.

[6] WB 2011. Country Partnership Strategy for the Socialist Republic of Viet Nam for the Period FY12-FY16

10. Viet Nam's wetland systems have contributed greatly to this recent economic development, both directly and indirectly, as they underpin numerous economic activities, notably within the agriculture, fisheries and tourism sectors. Growths in wet rice cultivation and aquaculture have been key elements driving Viet Nam's economic transformation and both these economic activities made a significant contribution to export growth from 1989 to 2009.[7] Paddy cultivation has expanded greatly over the past two decades, with the area under production increasing by around 20%, with some 7 million ha under rice by 2007, nearly doubling national production and making Viet Nam one of the major rice-exporters in the world.[8] Meanwhile, aquaculture production, which is dominated by freshwater production, averaged over 12% growth annually since 1990, contributing more than 40% to total fishery production[9] and accounting for 16% of Viet Nam's GDP in 2006.[10] The total area under coastal and freshwater aquaculture increased from 339,000 ha in 1996 to around 1 million ha, with a total output of over 1 million tons, accounting for over a third of all aquatic production.[11]

11. While the relative importance of these sectors to GDP has declined in recent years, they remain significant and are a major source of rural household employment and income.[12] Many rural people engage in fishing or fish farming seasonally or part-time. Marine fisheries are also an important direct and indirect source of livelihood to an estimated 4 million people. Additionally, at the local household level, wetlands are a source of many types of wild and cultivated foods, fibres and fuel, which are especially important for the rural poor. For example, annual landings from inland capture fisheries alone are estimated at about over 200,000 tons.[13]

12. Viet Nam's estuarine wetlands are also of great economic value - particularly the Mekong River and Red River deltas, where 43% of the country's population of 90 million lives. These two deltas account for around 70% of Viet Nam's total rice production.[14] Fish production in the delta areas is also significant. The Mekong River Commission has estimated that the latter may be between 300,000-900,000 tonnes/year (based on data for fish consumption).[15] More recently, wetlands-based tourism activities to destinations like Ha Long Bay, Nha Trang and Xuan Thuy National Park have become increasingly popular. This has contributed to both the local and the national economy in a variety of ways, including through community-based ecotourism.

13. Wetlands also contribute to the maintenance of critical ecological functions, notably water purification and ground water recharge and discharge, nutrient cycling and accumulation, flood and erosion control, protection against storm surges, regulation of microclimate and

[7] UN 2010. Joint Country Analysis of Viet Nam.

[8] World Bank et al. 2011. *Vietnam Development Report 2011*. Natural Resources Management. p. 57. Coordinated and prepared by the World Bank with inputs from numerous development partners, NGOs and technical experts. http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/EASTASIAPACIFICEXT/VIETNAMEXTN/0,,contentMDK:23086975~pagePK:141137~piPK:141127~theSitePK:387565,00.html

[9] Op cit.

[10] FAO 2008

[11] World Bank 2011. *Vietnam Development Report 2011*. Natural Resources Management. p. 58-59

[12] UN 2010. Joint Country Analysis of Viet Nam.

[13] World Bank 2011. *Vietnam Development Report 2011*. Natural Resources Management. p. 58-59

[14] UN 2010. *Joint Country Analysis of Viet Nam*.

[15] World Bank 2011. *Vietnam Development Report 2011*. Natural Resources Management.

maintenance of habitat for biodiversity. In addition to providing water for irrigation, aquaculture, industrial use and drinking, Viet Nam's rivers and streams contribute to generating one third of the country's national power capacity in the form of hydropower, with the Red-Thai Binh and Dong Nai River basins being especially important in this regard.[16] Additionally, many types of wetlands also act as carbon sinks and contribute significantly to absorbing greenhouse gases, particularly mangroves, seagrass beds and salt marshes.

14. Finally, wetlands have great local cultural significance having been an intrinsic part of many people's lives and the history and development of the nation. Foods and associated products derived from wetlands ecosystems form an important part of traditional local cuisine. Wetlands and elements of wetlands have also long been a source of inspiration to many writers, poets, painters and musicians. The Vietnamese tradition of water puppetry is intimately associated with wetlands. The Demoiselle crane and the mythical dragon, both associated with wetlands, are among Viet Nam's four sacred animals, while the lotus, a typical wetlands species, is a commonly found symbol. In conclusion, wetlands generate innumerable direct and indirect benefits that have contributed to significantly to human wellbeing and economic development across the country and continue to do so.

1.3 The Policy and Legal Context

15. Viet Nam has developed a significant and complex body of environment policies and legislation over the past two decades. This includes various strategies, action plans, laws and numerous associated decrees, decisions, circulars and regulations, although only a few relate directly to wetlands. The *Socio-Economic Development Strategy for Viet Nam 2011-2020 and Vision to 2030* (SEDS) and the Viet Nam *Sustainable Development Strategy 2011 - 2020* (SDS) provide the overall goals and priorities for national development, including associated environmental protection objectives, priorities and programmes. These highlight the importance of achieving Viet Nam's over-riding national goal of attaining industrialized nation status by 2020 in an environmentally sustainable fashion and by moving towards a green economy. The SDS includes specific environmental objectives and targets relating to ensuring reduction in per capita consumption of ground and surface water, reduction in water pollution, mandatory use of environmental standards by selected businesses and production processes to reduce pollution, conservation of biodiversity and restoration of heavily polluted environments. The SDS also emphasizes the harmonisation of social and economic development and environmental protection. This includes ensuring macro-economic stability and food-energy-financial security, "renovating the growth model", using resources effectively and moving the country towards green growth and a low-carbon economy.

16. The *National Strategy for Environmental Protection until 2020 and vision toward 2030* sets the agenda for sustainable environmental management in Viet Nam. It includes amongst its objectives the reduction of biodiversity loss and degradation of artificial and natural wetlands, as well as sustainable use and improved management of water resources and quality. It also proposes a number of specific measures for promoting improved management and conservation of natural wetlands, including proper survey and inventory, planning for establishing wetlands

[16] World Bank 2011. *Vietnam Development Report 2011*, p. 58

protected areas, identifying and addressing underlying drivers of degradation and mobilizing investment to conserve wetlands of international, national and local significance.

17. Viet Nam became a party to the Ramsar Convention in 1989 and ratified the UN Convention on Biological Diversity (CBD) in 1994. However, prior to the enactment of the Biodiversity Law in 2008, biodiversity conservation (including wetlands biodiversity) was mainly addressed under the 1991 Law on Forest Protection and Development (LFPD), the 1994 Law on Environmental Protection (LEP) and the 2003 Law on Fisheries (LF). All three laws along with their associated decrees, decisions and latest revisions have some general provisions of relevance to the management and conservation of wetlands. Table 1 summarizes some of the key laws and policies on environment and natural resource management, highlighting those of greatest relevance to wetlands biodiversity management. Article 9 of the Law on Fisheries, which covers the planning, establishment and management of protected areas (PAs) in inland waters and marine ecosystems, has been of particular significance as it makes reference to certain types of wetlands.

18. More explicit policy guidance for all wetlands was provided in 2003 through **Decree 109**/2003/ND-CP "**The Conservation and Sustainable Development of Wetlands"**, which provided legal definition of wetlands in Viet Nam together with guidance on their management and use. Additional guidance on the implementation of Decree 109 was provided in 2004 through **Circular No. 18**/2004/TT-BTNMT (Table 1) and through the approval of an **Action Plan on Conservation and Sustainable Development of Wetlands for 2004-2010** developed by the Ministry of Natural Resources and the Environment (MONRE) through a government **Decision 04**/2004/QĐ-BTNMT. The Action Plan included specific objectives and prioritised programmes and projects for the conservation and sustainable use of wetlands to meet multiple policy objectives relating to socio-economic development, poverty reduction, environmental protection and biodiversity conservation.

19. The **National Action Plan on Biodiversity (NBSAP) up to 2010** with orientations up to 2020, which was approved in May 2007, also contains specific targets for the protection and restoration of wetlands including mangroves as well as for the sustainable use of biodiversity more generally. Subsequently, in 2008, Viet Nam passed a dedicated **Law on Biodiversity** (No. 20/2008/QH12), which came into effect on 1st July 2009. This is essentially an umbrella law that is in the process of being clarified through a series of decrees, circulars and guidelines. The Biodiversity Law covers **'natural wetlands**' albeit briefly, principally under **Article 35** on *"Sustainable development of natural wetlands' natural ecosystems"*. Thus, Article 35.1 defines natural wetlands as *"marsh, peaty or permanently or temporarily wet areas, including sea areas of a depth not exceeding six metres at the lowest tide level"*. Additionally, Article 35.2 states that wetlands shall be inventoried and enumerated in accordance with the Land Law.

20. Soon after the passing of the Biodiversity Law, a **Prime Ministerial Decision No. 1479**/2008/QD-TTg **(Decision 1479**) was issued on 13 October 2008 on **"Approving the planning on the system of inland water conservation areas up to 2020**. The decision identifies 45 priority water conservation areas[17] supporting significant biodiversity and rare aquatic resources of scientific and economic significance. These sites include most typical inland

[17] In practice 44 areas, as one area is repeated.

wetland types of Viet Nam, such as rivers, rivers in limestone areas, reservoirs, natural lakes, lagoons, swamps and estuaries. However, some of the identified 'inland water conservation areas' are in fact in coastal areas. Furthermore, four of the proposed areas, Ba Be, U Minh Thuong, Bau Sau and Ca Mau coastal areas, are existing Special Use Forests (SUFs) with management boards, under the jurisdiction of the Ministry of Agriculture and Rural Development (MARD).

21. Decision 1479 does not assign any particular management categories to the identified areas but classifies them into 16 conservation areas at national level and 29 areas at provincial level. The Decision also identifies 40 commercially important fish species for protection in the proposed areas. Whilst the decision refers to the need to survey and protect biodiversity, its primary focus is actually on the conservation, restoration and sustainable use of economically important fish and their habitats.

22. In May 2010, Prime Ministerial **Decision No.742**/QD-TTg approved the planning process for establishing a system of 16 Marine Protected Areas (MPAs) in Viet Nam in the period up to 2020. Planning for this took place between 2008-2010. In June 2010, Decree 65/2010/ND-CP **(Decree 65**) on "*Detailed Guidelines for Implementation of some Articles of Biodiversity Law*" was issued. Amongst other things, this decree clarified MONRE's role in relation to biodiversity management and Protected Areas as describe further in Section 1.4. Finally, in 2011 **Decree 99**/2010/ND-CP on **Payment for Forest Ecosystem Services** came into effect. This is the first national legal framework supporting payments for ecosystem services in the Indo-Burma hotspot and marks a significant addition in potential approaches to the conservation and sustainable use of biodiversity in Viet Nam.

Table 1 Major policies and laws of relevance to wetlands conservation in Viet Nam

Notes: MONRE=Ministry of Natural Resources and the Environment; MARD=Ministry of Agriculture and Rural Development)

Major Laws & Policies relevant to biodiversity & wetlands conservation	Key Associated Decrees, Circulars & Decisions	Lead Agency	Comments
Ramsar Convention on Wetlands		MONRE	Viet Nam joined Ramsar in 1989.
UN Convention on Biological Diversity	Decision No. 79/2007/QD-TTg of May 31, 2007, approving the National Action Plan On Biodiversity up to 2010 and Orientations towards 2020 for implementation of the Convention on Biological Diversity and the Cartagena Protocol on Biosafety	MONRE	Viet Nam ratified the CBD in 1994.
Biodiversity Law 2008	Decree 65/2010/ND-CP: *Detailed Guidelines for Implementation of some Articles of Biodiversity Law*	MONRE	Clarifies MONRE's mandates in relation to biodiversity, PA management & related regulatory provisions
Law on Environmental Protection (last revised 2005)	Decree 80/2006/ND-CP : *Detailed Guidelines for Implementation of some Articles of Law on Environmental Protection*	MONRE	Guidelines for implementation of articles relating to environmental quality standards, Strategic Environmental Assessment (SEA), Environmental Impact Assessment (EIA), waste management and environmental database
Decree 109/2003/ND-CP: *The Conservation and Sustainable Development of Wetlands*	Circular No. 18/2004/TT-BTNMT of 23 August 2004	MONRE	This is the first legislation on wetlands in Viet Nam. It provides a definition of wetland; assigns state management mandate of wetlands to MONRE; and also clearly defines activities allowed and not allowed in wetlands to ensure the conservation and sustainable use of this ecosystem.
Law on Forest Protection and Development (last revised 2004)	Decree 23/2006/ND-CP: *Guiding Implementation of Law on Forest Protection & Development*	MARD	Guidelines for implementation of articles relating to forest protection and development, including articles about state management mandate of MARD on monitoring of forest trend, planning and organization of SUFs, development and conservation of endangered species,
	Decree 117/2010/ND-CP: *Establishment, Organization and Management of Special Use Forests*	MARD	Clarifies MARD's mandate in relation to biodiversity and PA management and allows for increased decentralization to local authorities.
	Decision No.62/2005/QD-BNN&PTNT : *Regulations on Special Use Forest Classification Criteria*	MARD	The Decision defines in detail the categories under the SUF system in Viet Nam and their roles and functions, as well as the criteria to classify SUFs. Based on these criteria, a National Park, Nature Reserve or Landscape/Species

			Conservation Area can be established.
Law on Fisheries (last revised 2003)	Decree 27/2005/ND-CP: *Detailed regulations and guidelines for Implementation of Certain Articles in the Law on Fisheries*	MARD (from 2008)	Formerly responsibility of Ministry of Fisheries, which was absorbed by MARD in 2008. Contains provisions for the establishment of PAs in inland waters and marine areas
	Decree 57/2008/ND-CP: *Management of Marine Protected Areas of National and International Importance*	MARD (after 2008)	This regulations set out criteria for classification, organisation, management, protection and development of Viet Nam MPAs
	Decision 82/2008/QD-BNN&PTNT *promulgating List of rare and endangered aquatic species in need of protection, recovery and development*	MARD	The List covers 71 inland freshwater species which are listed in the Red Book of Viet Nam
	PM Decision 485/QD-TTg dated 2 May 2008 *approving Programme "Protection of endangered aquatic species to the year 2015 and vision to 2020"*	MARD	This Programme aims to prevent the further decline of endangered aquatic species and promote rehabilitation of rare and endemic species. The Programme includes 19 prioritized projects to be implemented from 2008 to 2020 through various measures, i.e. policies, science and technology; education and training
	PM Decision No. 1479/2008/QD-TTg (or Decision 1479): *Approving the planning on the system of inland water conservation areas up to 2020*.	MARD	44 areas are planned in this system, which fall within 2 categories: national and provincial levels. A list of 40 aquatic species in need of protected is attached. The management mechanism for the Inland Water Conservation Areas (IWCAs) is not included in the Decision.
	PM Decision No. 742/QD-TTg of 2010: *approving the planning of Viet Nam Marine Protected Areas System to the year 2020*	MARD	16 MPAs are planned for establishment in Viet Nam up to the year 2020
Law on Water Resources 2012	Decree 120/2008/ND-CP: *on management of river basins*	MONRE	This new version of the Law on Water Resources aims at efficient exploitation and sustainable development of water resources based on research, planning, monitoring and application of economic instruments in water resource management. Decree 120 includes detailed provisions for the management of river basins, such as inventory, planning, protection of water quality, allocation of water resources within and between basins. Issues relating to establishment of River Basin Organisation are also included in this Decree.

1.4 The Institutional Context

23. The Viet Nam State and society are under the leadership of the Communist Party of Viet Nam. The Party leads the State through Politburo resolutions that define the overall direction of the country and its policies. Policies are detailed further through a system of legal regulations. The highest leadership body is the Party Congress, which meets every five years to assess the implementation of the resolutions of the previous term, decide Party directions and policies during the next term, elect the Central Party Committee and supplement and modify the Party's political programme and rules if needed. The Central Committee is the Party leadership body during the period between Party Congresses. The Central Committee elects the Politburo and selects the General Secretary from the Politburo members.

24. The National Assembly is the highest representative organ of the people, the highest organ of State power of the Socialist Republic of Viet Nam, and the only organ with constitutional and legislative powers. The National Assembly meets twice a year and issues laws. Laws are further clarified through decrees, which may be issued by either the Prime Minister or the Government. Decrees may also be issued as a stand-alone policy statement. The Standing Committee of the National Assembly is its permanent committee. The duties and powers of the Standing Committee of the National Assembly include the enactment of decrees on matters entrusted to it by the National Assembly. Decrees generally require some advance preparation by the concerned Ministries and usually take around two years from formulation to approval. Decrees in turn may be further clarified through ministerial and inter-ministerial circulars. Additionally, the Prime Minister also has the power to respond to urgent issues quickly and make important legally-binding decisions through the Prime Minister's Office. Ministers may also issue Decisions on issues that fall within the mandate of their Ministry. These provide further direction to the implementation of laws and decrees.

25. Responsibility for environmental management, including biodiversity, is divided among several central government institutions, notably the Ministry of Natural Resources and Environment (MONRE), the Ministry of Agriculture and Rural Development (MARD), the Ministry of Science and Technology (MOST), and the Ministry of Planning and Investment (MPI). Under Viet Nam's decentralization policies, Provincial People's Committees (PPCs) also play a major role in environmental management including biodiversity conservation. At the provincial and district levels, national line ministries usually have specialized departments that mirror their parent ministries in administrative structure and function. For example, the provincial agency of MARD, MONRE and MPI are, respectively, Department of Agriculture and Rural Development (DARD), Department of Natural Resources and Environment (DONRE) and Department of Planning and Investment (DPI). These departments receive technical instructions from their national line ministries, but are accountable to the Provincial People's Committees (PPCs). The rest of this section covers the biodiversity conservation and management roles and responsibilities of MONRE, MARD, and the subnational People's Committees. The mandate of other institutions is covered later in Section 1.7.

26. MONRE is the national focal point for various multilateral environmental agreements, including the Ramsar Convention and the Convention on Biological Diversity. Within MONRE, the Viet Nam Environment Agency (VEA) is mandated to advise and assist MONRE on all aspects of environmental management, including the development and promulgation of

environmental laws and policies and overseeing their implementation. Responsibility for wetlands conservation and management was assigned to MONRE in 2003, under Decree 109 on "The Conservation and Sustainable Development of Wetlands". The implementation of Decree 109 and MONRE's responsibilities in relation to wetlands were further clarified through Circular No. 18, which guides the implementation of Decree 109 (see Table 1). MONRE, however, is a large ministry with wide-ranging responsibilities that include the management of air, land and water resources under the amended Law on Environmental Protection (2005) as well as of biodiversity under Viet Nam's first Law on Biodiversity (2008).[18] Within MONRE, the Biodiversity Conservation Agency (BCA) which falls under VEA, has been given the mandate for state management of biodiversity.[19] Thus, wetlands conservation and management falls within the purview of BCA's responsibilities, specifically under its Ecology Division. Additionally, MONRE's Institute of Strategy and Policy on Natural Resources and Management (ISPONRE), which is responsible for policy formulation and advice, also provides guidance on the application of new tools for wetland management.

27. MONRE's roles and responsibilities with respect to wetlands include: to identify globally important wetlands for nomination as Ramsar sites; to develop an action plan for wetland conservation and sustainable use; to establish a national wetlands' database; to develop criteria and monitoring mechanisms; to develop demonstrations on sustainable wetlands management; and to update existing policies and decrees on conservation and sustainable development of wetlands.

28. MARD has long-standing responsibility for forest and fisheries management through its Forest Protection Department (FPD) and its Department for Capture Fisheries and Resource Protection (DCFRP), respectively, and thus also has responsibility for aquatic biodiversity conservation.[20] **Prior to the Biodiversity Law of 2008**, PAs could be established under the Law on Forest Protection and Development as well as under the 2003 Law on Fisheries, whose implementation was the primary responsibility of the PPCs and the then Ministry of Fisheries, now MARD's DCFRP (Section 1.3). Thus, historically MARD has been responsible for developing the national PA system within forest, marine and inland water ecosystems and enforcing wildlife protection regulations.

29. To date, most of Viet Nam's existing PAs have been established within Special Use Forests (SUFs). These include 30 national parks, 69 nature reserves, 45 landscape conservation areas (including cultural and historical conservation sites) and 20 experimental research forests.[21] Together these cover approximately 2.2 million hectares or around 7% of the country's geographic area.[22] The proposed marine protected area (MPA) system will include some 16 MPAs, cover around 270,271 ha and account for 0.3% of Viet Nam's marine territory. So far, 5 MPAs have been formally established by different provinces. Additionally, under Prime

[18] MONRE was established in 2003 through the amalgamation of several existing government departments including Land Administration, Hydrometeorology, Water Resources, Mineral Resources and Environment, and the creation of new agencies and divisions.

[19] Under **Decision No 947**/QD-TCMT, dated 18 August 2009

[20] The earlier Ministry of Fisheries (MoFI) was absorbed by MARD in 2008 and no longer exists.

[21] MONRE 2012. *Implementation of Sustainable Development. National Report to the UNCSD (Rio+20).* P. 38, Hanoi.

[22] Op cit p. 45. Tran The Lien, 2010. Assessment on Planning of Special Used Forests in Viet Nam. Paper presented in " The 3rd National Conference on Environment 2010". 18 November 2010, Hanoi.

Ministerial Decision No. 1479, MARD has been mandated to develop and plan 44[23] Inland Water Conservation Areas (IWCAs)[24], including 15 areas to be managed nationally and 29 provincially. Planning has been underway for the first 5 IWCAs that are representative of the Red River and the Mekong River basins and the Central highlands but none has been established as yet.

30. In recent years, institutional roles and responsibilities for different aspects of biodiversity conservation management have been evolving, especially since the promulgation of the 2008 Biodiversity Law and its associated Decree 65 (see Section 1.3). Thus, under Article 8.1(c) of Decree 65, MONRE has been given responsibility for working with PPCs to establish national-level PAs comprising wetlands, limestone mountains, and mixed ecosystems that occupy at least two provinces and that are not already within a SUF or in the sea, and, under Article 9.3, to manage such wetland PAs. Under Article 9.1 of Decree 65, PPCs are responsible for managing those PAs that lie entirely within their provincial territory, while under Article 9.2, MARD continues to be responsible for national-level PAs that are within terrestrial Special Use Forests (SUFs) and for marine PAs lying within at least 2 provinces. Additionally, Article 11 of Decree 65 requires MONRE, in cooperation with MARD, to review and reclassify PAs established prior to 1st July 2009 according to the criteria defined in the Biodiversity Law and under Decree 65. This process is currently underway under the leadership of MONRE's Biodiversity Conservation Agency (BCA). PAs that do not match these criteria are further required to be modified and adapted such that they fulfil the specified criteria. This will eventually result in a unified national PA system.

31. Given the socioeconomic importance of wetlands ecosystem services, a number of other sectors and agencies also play an important part in the use and management of wetland resources including the water, agricultural, hydroelectric, industrial development and tourism sectors. Water resources management including pollution control are both under the purview of different sections of MONRE (Section 1.7/Table 2), while agriculture and hydroelectric power generation fall under MARD's remit. Industrial development is overseen by the Ministry of Industry and Trade, while infrastructure development may be undertaken by the Ministry of Transport and the Ministry of Construction. Meanwhile tourism planning and development are spearheaded by the Ministry of Culture, Sports and Tourism.

32. At the subnational level, the different People's Committees also have important roles and responsibilities in relation to environmental management, including biodiversity conservation. One of the key principles of Viet Nam's national reform ('renovation') process (Đổi mới) is the decentralization of authority to the lowest appropriate level. Thus, in addition to national government, the State system of governance includes three further tiers: Provincial, District and Commune People's Committees. Viet Nam currently has 63 provinces and cities (under the central government) with approximately 698 districts and over 11,000 communes.

33. The Provincial People's Committees (PPCs) are the executive organizations of the National People's Councils and are the state administrative organs with responsibility for leading and implementing administrative processes and government policy and programmes at the local level together with the District People's Committees (DPCs) and Commune People's

[23] 45 are listed, but one site appears twice.

[24] Sometimes referred to as Inland Water Conservation Zones in English

Committees (CPCs), under the overall guidance of the Central Government in line with its directives. This includes preparing and implementing socio-economic development and conservation programmes. In relation to biodiversity, Article 35.3 of the Biodiversity Law assigns responsibility to the PPCs for the "survey, statistical and inventory reviews and assessment of the current status of biodiversity" and for determining "sustainable development mechanisms for natural ecosystems and locations and areas of natural wetlands on land use maps or their sea coordinates." Article 3 defines sustainable development of biodiversity as "the rational exploitation and use of natural ecosystems, development of genetic resources and species and assurance of ecological balance in service of socio-economic development."

1.5 Threats to Wetlands Biodiversity in Viet Nam and Impacts

34. Despite their multiple benefits, wetlands are among the most abused and neglected ecosystems in the world and Vietnamese wetlands are no exception. Historically, wetlands around the world have typically been viewed as 'wastelands' to be dredged and drained and converted to other uses. Across South-East Asia including Viet Nam, wetlands now cover only a tiny proportion of their original extent, with much of the loss due to conversion to agriculture, mainly rice, over more than a hundred years. More recently, conversion to aquaculture has emerged as a major direct threat to wetlands. Today, wetlands are among the most threatened habitats in Viet Nam. Those that remain still support many nationally and globally threatened species, notably bird species, which are better documented than most other forms of wetlands biodiversity. BirdLife International has found that at least 50% of Viet Nam's globally threatened bird species depend on wetlands habitat.

35. The major direct drivers of wetlands degradation and loss in Viet Nam to date are habitat loss and ecosystem degradation due to land use change, including outright conversion and fragmentation of wetlands, as well as ecological changes due to invasive alien species, pollution and overexploitation of certain species and of water resources. Climate change impacts are growing and are likely to have increasing impact on wetlands biodiversity in the medium to long-term. These threats are described below with further details in Annex 1.

36. **Habitat loss and fragmentation:** The rapid socio-economic development of Viet Nam has been associated with the expansion of agriculture, aquaculture and infrastructure, including roads, bridges, dams, harbours, rights-of-ways for electricity power-lines, sewage and water supply systems. This has resulted in the outright conversion of many natural habitats, including wetlands, into other forms of land use. Natural wetlands have been particularly vulnerable to conversion to agriculture, aquaculture and even forest plantations. For example, between 1943 and 2006, Viet Nam lost at least 200,000 ha of mangrove forest, or about one third of its mangrove area, due to wars, deforestation and aquaculture development.[25]

37. Several coastal wetlands such as floodplains and lagoons have also been impacted by dyke building for flood prevention. Irrigational infrastructure, such as the Thao Long Barrage and the dike system in Phong Dien District, of Thua Thien Hue province, have impacted circulation of water and sediments, prevented aquatic species migration and led to habitat loss and fragmentation. For example, some of the key threats to the endemic and critically

[25] MONRE 2011. *National Report on Biodiversity*

endangered *Sewellia albisuera* include siltation caused by gold mining activities and dam construction. Increased lagoon privatisation with net enclosure for aquaculture have substantially obstructed water flow and is seen as a cause of declining fish catch in some of the wetlands – such as in Tam Giang-Cau Hai lagoon. Other examples are roads through the Plain of Reeds in the Mekong region. Reservoirs are another significant cause of ecosystem loss affecting important protected areas such as Na Hang Nature Reserve.

38. Habitat loss and fragmentation inevitably has many knock-on effects on other associated biodiversity. In southwestern Ca Mau, for example, approximately 20 zoobenthos species were lost one year after conversion of mangrove forests into shrimp ponds, while bird species from Bac Lieu and Dam Doi had migrated to other areas. The IUCN Red List notes that the globally endangered White-winged duck *Cairina scutulata* and the globally endangered otter *Lutra sumatrana* have both been affected by the conversion of wetlands to other uses.

39. Deforestation and the construction of dams and other infrastructure in upper catchment areas are particularly detrimental to downstream wetlands. Wetlands are particularly vulnerable to changes in river flows due to the construction of dams, which can also reduce fish diversity and fishery yields as breeding migrations are obstructed and changes to patterns of flow, water temperatures and other, sometimes subtle, variations. Additionally, modifications in land use due to deforestation, agriculture and urbanization and infrastructure development will all affect surface water run-off patterns, reducing percolation and infiltration of water and increasing surface flow. Deforestation in the upper catchment also increases the sediment load of watercourses in the basin. In order to promote the rapid development of hydro-electric power in Viet Nam, about 2,000 reservoirs have been constructed across the country to date, each with a volume of not less than 0.5 million cubic metres. In Thua Thien Hue province alone, a master plan to build 12 reservoirs by the year 2015 in the upper catchment of Huong and Bo rivers has been approved. Unless properly planned and executed, loss and degradation of these catchments together with changes to river flows, could adversely impact both wetlands biodiversity and people's livelihoods and wellbeing in downstream areas.

40. **Overexploitation of Biotic Resources:** Overharvesting of natural resources, including collection of wetland plants, over-fishing and illegal hunting of birds and other species, is a key threat to many wetland species. This has led to impacts on some globally threatened species. For example, globally threatened otters are hunted for illegal wildlife trade, and also for meat and medical use. Overexploitation is also a key threat to Southeast Asian Softshell Turtle Amyda cartilaginea and the endemic mollusc Protunio messageri (globally endangered) and the weedy seadragon Phyllopteryx taeniolatus. Collection of marine fish in particular for the ornamental pet trade is also threatening their populations, as most cannot be grown in captivity and are therefore wild-caught. For other fish species used as food, destructive methods such as explosives, poisons (cyanide) and electrical shock are often used. The results of over-fishing have led to declines in total catch volume, fish sizes and catch-for-effort statistics, especially for marine fisheries. Some seafood specialties such as lobster (*Panulirus*), abalone (*Halioles*), shellfish (*Chalamys*) and squid (*Loligo*) have experienced extremely significant decline. The exploitation of these species has continued, even though five spotted herring species, four lobster species and two abalone species are listed as vulnerable. Meanwhile mother-of-pearl (*Pinctada margaritifera*) has disappeared in the northern sea in Viet Nam due to over-harvesting.

41. **Water over-abstraction:** The total surface water volume of Viet Nam has been estimated as up to 840 billion cubic metres, of which 60% is generated from neighbouring countries.[26] Total exploitable ground water volume of the country is approximately 20 million cubic metres. Both surface and ground water are being depleted due to overexploitation by different sectors including agriculture, aquaculture, industry and domestic households. Demand from these sectors has been increasing and there is evidence of growing depletion of groundwater aquifers as water use. In North Viet Nam, groundwater is exploited mainly for domestic use while in the South and Central Highland, it is used mainly for crop cultivation. The recommended rate of extraction is about 30% of running volume, but much higher rates have been documented: for instance, Central Viet Nam and Central Highland have exploited over 50% of running volume, and Ninh Thuan province has extracted more than 70%. Surface water and sediment flows are also being continually impacted by upstream developments, notably by various types of dams and associated water extraction.

42. **Pollution:** Agrochemicals, industrial and urban wastes are a major source of pollution to wetlands. A World Bank study[27] on pollution in Viet Nam's rivers found that industrial production, wastewater from mining and mineral sectors, even craft village, urban runoff and domestic wastewater contributed to pollution of rivers and coastal zones. Increased surface run off as a result of land use changes also increases the transportation of pollutants. Water pollution, which is becoming more acute, has serious direct implications for human health, as well as for fisheries and biodiversity conservation. There has been an increase in eutrophication and toxic algal blooms as a result. In 2002, for example, a toxic algal bloom, or 'red tide' occurred in Binh Thuan and Nha Trang causing widespread death of fish and significant economic loss. The Red River Delta, in particular, has been subject to heavy agrochemical pollution. Some globally important species affected by wetland pollution in Viet Nam include the critically endangered and endemic fish species Schistura spiloptera and the endemic globally endangered mollusc Cristaria truncate.

43. **Invasive alien species:** Deliberate and accidental introduction of exotic species that become invasive is a serious threat to many wetlands, including the wetlands in Viet Nam. To date, 94 alien species, of which 42 species are considered invasive, have been recorded in Viet Nam.[28] Examples include the freshwater golden snail (*Pomacea canaliculata*), the red-eared slider (*Trachemys scripta*) and the marsh mimosa (*Mimosa pigra*). The spread of species such as *Mimosa pigra* into the core zone of Tram Chim National Park (a Ramsar site), for example, is considered the most significant threat to the park's biodiversity because it replaces the grassland vegetation, which is habitat for the endangered Eastern Sarus crane (*Grus antigone sharpie*) and the critically endangered Bengal florican (*Houbaropsis bengalensis*). It is estimated that Mimosa pigra could soon cover 4,000 ha or over 50% of Tram Chim National Park if its spread is not controlled. In 2009, MARD also reported a list of 48 aquatic alien species to Viet Nam. Of which, 14 species are identified as very dangerous to biodiversity of watercourses and

[26] MONRE 2010. *National State of the Environment 2010: An overview of Vietnam Environment.* Hanoi.

[27] http://www.wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2007/07/26/000310607_20070726124200/Rendered/PDF/404180VN0Env0M19190001PUBLIC1optmzd.pdf

[28] MONRE 2011. *National Report on Biodiversity.*

aquaculture in Viet Nam, including the red-eared slider, Golden snail and the ornamental fish "peacock bass" (*Cichla ocellaris*).

44. **Climate change:** Viet Nam's second national communication to the UNFCCC[29] has noted that climate change scenarios for the country in the 21st century include projections of temperature rises, changes in rainfall distribution and amount as well as sea-level rise. Given the overall changes in rainfall patterns in the river basin, annual flows of rivers are set to increase in the Northern and Central area, but decrease in the rivers of the Southern area. With rising sea level, the Mekong River Delta would be most impacted, with potential loss of much of the area. Sea-level rise would also result in higher risks of saltwater intrusion of rivers and underground water resources, causing major social and economic losses. Climate change is thus expected to have serious impacts on coastal ecosystems such as mangrove forests and coastal lagoons. By the year 2100, climate change is expected to lead to submersion of 168 km2 of wetland area (aquaculture area). Climate change is also expected to exacerbate dry-season water supply.

45. The main underlying causes of wetlands degradation and loss in Viet Nam are the same as for biodiversity degradation and loss generally, namely the rapid pace of recent economic growth, much of which has been fuelled by the country's natural resource base. Population growth, agricultural expansion and intensification, industrialization and urbanization combined with changing patters of consumption and waste production, have all increased pressure on Viet Nam's biodiversity, including its wetlands biodiversity.

46. At national level, the Red Data Book of Viet Nam (2007) lists 882 species as threatened, including 428 animal and 464 plant species. Of these, 54 species are freshwater animal species and 125 are marine species (119 animal and 6 plant species). Additionally, 71 inland freshwater aquatic species are included in Decision No.82/2008/QD-BNN&PTNT of MARD, which promulgates the List of rare and endangered aquatic species in need of protection, recovery and development.

47. According to a recent report by the Critical Ecosystem Partnership Fund (CEPF), Viet Nam harbours over 40% of all globally threatened species in the entire Indo-Burma Biodiversity Hotspot, including over a 100 species that are found only in Viet Nam. The IUCN 2012 Red List (www.iucnredlist.org) includes over 500 globally threatened species in Viet Nam, including 80 Critically Endangered, 125 Endangered and 307 Vulnerable species. It should be noted that data on the status of many species is lacking, notably for lower taxonomic orders of animals and plants and particularly in certain habitat types, notably wetlands. Analysis of the Red List by three habitat types – Inland Freshwater, Marine Intertidal and Marine Coastal – reveals that there are at least 135 globally threatened species in these three habitat types. Of these 129 are animal species and the remaining 6 plant species. A further 66 species are listed as near-threatened species. Of these, 102 globally threatened species are vertebrates and include the following: 36 *Actinopterygii* (ray-finned fish that occur in both fresh and marine water); 7 *Chondrichthyes* (cartilaginous fish that are mostly marine); 27 birds; 16 amphibians; 9 mammals; and 7 reptiles. The non-vertebrate globally threatened species of Viet Nam comprise 10 athropods and 17 molluscs.

[29] http://unfccc.int/resource/docs/natc/vnmnc02.pdf

48. While the Red List and Viet Nam's Red Data Book provide a useful starting point for prioritising conservation action for many individual species, there is still much work to be done on documenting wetlands biodiversity and establishing the status of its different components. Meanwhile, both government and local communities recognize the many direct and indirect benefits of wetlands as a source of food, water, income and livelihoods, for example through fishing, aquaculture and tourism, as well as the protection that components of wetlands habitats such as mangroves can provide against natural disasters, including climate change impacts.

49. Despite widespread acknowledgement of many of the values of wetlands, measures that would promote the long-term environmental sustainability of these ecosystems are often over-looked or sacrificed, as a result of the combined pressures of individual aspirations to increase incomes and national policies to promote rapid economic growth to achieve priority development goals. Furthermore, the likely cumulative impact of different human activities and pressures on wetlands is often poorly anticipated or managed by both communities and local and national governments, for reasons ranging from lack of sufficient knowledge and understanding about complex and delicate wetlands ecosystems to insufficient capacity and lack of mechanisms for coordinating sustainable use and management locally or for addressing threats that arise from the wider landscape. Additionally, the full value of the many benefits provided by wetlands ecosystem are not always adequately understood by decision-makers and local communities, and consequently, neither are the potential costs and development implications associated with their degradation and loss.

1.6 The Long-term Solution and Barriers to its Achievement

50. Without the project, under the 'business-as-usual' scenario, wetlands biodiversity in Viet Nam will continue to be undervalued and subject to the multiple threats identified in Section 1.5. Unique wetlands biodiversity and associated ecosystem services, including globally significant biodiversity, will continue to be degraded and lost. Unless MONRE, the lead agency on wetlands, develops greater capacity for supporting the establishment and management of wetlands conservation areas, these will continue to remain under-represented in the national PA system.

51. The Government of Viet Nam recognizes that the long-term solution to addressing the continuing degradation and loss of wetlands biodiversity in Viet Nam is to ensure greater biogeographic representation of wetlands within the national PA system and to create adequate national and local systemic capacity for their effective management, including the capacity to address threats that emanate from the wider landscape as this is particularly crucial in the case of wetlands given their vulnerability to changes in landscape-level connectivity and upstream developments (see Section 1.5). However, two major barriers and several related obstacles currently prevent the achievement of this ideal solution. These are discussed further below.

Barrier 1: Critical wetland sites across the country remain outside legal protection and are under rapidly growing threat from other economic sectors that compete for land and water resources

Gaps in the National PA System

52. Although the establishment of a national PA system has been a major cornerstone of Viet Nam's biodiversity conservation efforts, historically the emphasis has been on conserving high-

biodiversity forest areas, with a particular emphasis on conserving the diversity of higher vertebrates. Indeed, all terrestrial PAs were created from existing SUFs, some of which contain areas of wetland including coastal areas. Overall, however, wetland ecosystems remain poorly represented within the existing national PA system, especially freshwater systems. Only 18 of the 69 wetland sites listed in Decree 109 that are recognized as being of national and global importance are included within SUFs. These include all 5 Ramsar sites in Viet Nam, i.e. Xuan Thuy, Tram Chim, Mui Ca Mau National Parks, Ba Be lake in Ba Be National Park and Bau Sau wetland in Cat Tien National Park. However, a major concern regarding wetlands within SUFs is that these have been primarily managed for their forest values, rather than wetlands biodiversity values, and that the management requirements for maintaining and enhancing the latter are not always well understood or applied properly. Classic examples of the latter include the tendency to afforest ecologically important inter-tidal mudflats with mangroves, regardless of whether these areas originally had mangroves or not and without assessing the uniqueness or ecological importance of maintaining these mudflats.

53. A key technical constraint to ensuring the systematic representation of Viet Nam's unique wetlands biodiversity within the PA system is the absence of a single nationally applied wetlands classification system. Currently, MONRE, MARD and scientific experts in Viet Nam have applied a number of different wetland classification systems, including those of the Ramsar Convention, IUCN and Mekong River Commission for different purposes. MONRE and many wetland experts have tended to favour the Ramsar wetland classification system, but there is need to rationalize the application of different classification systems and potentially to further refine the Ramsar classification system, which some experts consider to be too broad for national purposes. A single unified wetlands classification system is needed to enable MONRE to undertake effective state management of wetlands biodiversity as it is required to do under the Law on Biodiversity and to avoid sector-based approaches to classifying wetlands. This in turn will greatly facilitate wetlands zonation and mapping for preparing an updated baseline national inventory of wetlands, which is also a pre-requisite for effective wetlands PA planning.

54. Another constraint to increasing wetlands coverage within the national PA system is that while the Government recognizes the importance of doing so, this can be very challenging given the many competing demands on wetlands resources (Section 1.2) and the high intensity of their use to sustain local livelihoods. As discussed in Section 1.3 and further below, the main development priority of the Government of Viet Nam is to maintain high levels of economic growth in order to achieve a range of social and economic development goals. Similarly, individual rural households also aspire to continually increase their income, well-being and living standards. The immediate and longer-term socio-economic implications of establishing wetlands PAs could be quite significant, especially if these areas are strictly protected and exclude all forms of consumptive use of wetlands resources. There is thus some reluctance to enclose more land within conventional PAs, which are often perceived as areas where access to land and resources is restricted. Consequently, there is need to explore new approaches to wetlands conservation in Viet Nam, ones that included greater sustainable use and community engagement in management and conservation than has hitherto been the case in existing PAs.

55. Finally as noted earlier, wetlands are especially susceptible to the impacts of activities that occur in the wider landscape, particularly in relation to developments in the catchment areas of the water sources that sustain the wetlands. For example, many wetland aquatic species

migrate across the wider landscape for spawning, while numerous migratory bird species, including globally important species, require feeding and breeding grounds during the course of their migration that may require protection on a seasonal if not more permanent basis. Thus, effective management of wetland systems requires that these be managed as a part of linked landscape and not just at site level. However, there are currently no mechanisms or tested models for wetlands biodiversity protection and management across production landscapes in Viet Nam, i.e. outside actual PAs, and the existing policy and legal framework for PA establishment and management does not explicitly account for such wetlands-related specificities. There are also no specific policies or laws prescribing a landscape-level or ecosystem approach to wetlands conservation and management and existing requirements for EIAs for major development projects rarely consider off-site biodiversity impacts.

Lack of clarity over mandates, roles, responsibilities and priorities for wetlands conservation

56. Viet Nam's policy, legal and institutional context for biodiversity management, including wetlands, is complex and sometimes unclear (Sections 1.3 and 1.4). The development of laws and policies in a partly sector-based/ecosystem-based fashion (i.e. with different Government agencies having primary responsibility for different ecosystems) has also led to some overlap, as well as gaps, in mandates, roles and responsibilities. This has contributed to a lack of direction and clarity over who is to do what in relation to wetlands conservation and management. Thus, although MONRE has primary responsibility for wetlands conservation under the Law on Biodiversity, MARD is already managing some wetland areas directly or indirectly where these occur in SUFs and has also begun planning for some Inland Water Conservation Areas under Prime Ministerial Decision 1479. There is thus an urgent need to clarify and harmonize responsibilities for wetlands conservation and management. Equally, there is a need to agree a single national nomenclature of wetland PA categories. Both these things need to also be clearly reflected in the policy and legal framework, for example through revising and updating Decree 109 on Conservation and Sustainable Development of Wetlands and associated circulars (Section 1.3). Additionally, there is need for a new National Action Plan on Wetlands as the last one came to an end in 2010. As yet, there has not been any systematic review of achievements and challenges encountered and lessons learned during the implementation of the first plan. Such an exercise would serve as a valuable input to further planning for wetlands biodiversity management and conservation, including priority-setting and alignment with the new Law on Biodiversity and the new National Biodiversity Strategy.

Weak Institutional Capacity for Wetlands Conservation and PA Management within MONRE

57. Wetlands management requires specific kinds of technical knowledge and expertise including the skills needed to undertake a landscape-level approach to managing wider threats to the ecological integrity of wetlands ecosystems. Current capacity at national and local levels is not commensurate with the ambitious goals and targets that have been set for wetlands conservation under existing national policies and laws. For example, MONRE, which is the designated national lead agency for biodiversity conservation including wetlands biodiversity, has multiple major mandates (Sections 1.4 & 1.7), including primary responsibility for the state management of land, water and mineral resources. Furthermore, MONRE's Biodiversity Conservation Agency (BCA), which is tasked with state management of biodiversity, is a relatively young institution, with little experience of establishing or managing a PA system, as historically this has occurred mainly in forest areas under the aegis of MARD (Section 1.4).

58. A capacity assessment of MONRE was undertaken by BCA/ISPONRE during project preparation using UNDP's Capacity Development Scorecard. This generated a total baseline score of 32 out of a total possible score of 96 or 33% (see Annex 2). Associated discussions confirmed that the current institutional and staff capacities within the Ministry are low relative to what is required for the effective administration of wetlands conservation, particularly within BCA, which, for example, has only some 45 staff out of VEA's 600-plus staff. This situation reflects the wider picture of staffing and capacity for biodiversity management in Viet Nam. Thus, out of nearly 42,000 government officers working in the natural resources management and environmental protection sectors in Viet Nam, over 52% work on land administration, while only some 3% are concerned with biodiversity conservation, water resources management, hydrometeorology, geology and minerals. It is therefore not surprising that there are relatively few staff with wetlands planning and management experience within the Ministry.

59. In particular, MONRE needs to establish capacity to deliver state-level wetland PA management functions (e.g. national-level planning, budgeting, financial administration of a wetlands PA subsystem; compliance monitoring of management norms and standards). There is also need for capacity development in areas such as assessment and valuation of wetlands ecosystem services, threats assessment, spatial planning, including integrated landscape-level planning, and landscape-level management of wetlands ecosystems. Additional skill sets are also required within MONRE, specifically within BCA, to develop strategic linkages with sub-national institutions (local governments, civil society and research organizations for example) to enable it to influence their actions.

60. Under Viet Nam's decentralization policies, most planning and budgeting take place at sub-national levels (at provincial and district levels). Thus, site-level management of PAs is primarily the direct responsibility of the PPCs (other than in the case of PAs that span more than one province, i.e. interprovincial PAs, which are managed nationally)[30]. However, DONRE and the District Divisions of Natural Resources & Environment (DDNRE), which are the Provincial and District "arms" of MONRE respectively, also currently lack capacity for biodiversity management at local levels as they are largely concerned with issues pertaining to land administration and pollution control. Indeed, apart from Ho Chi Minh City, which has a dedicated division for environmental risk management and biodiversity conservation, there are no particular divisions or staff under DONRE with responsibility specifically for biodiversity conservation. Existing human resources within DONRE are also limited. In general, there are approximately 20 permanent staff in each province within DONRE's Environmental Protection Agency (EPA), which mirrors the same functions as MONRE's VEA (see Section 1.7). For example, in the two provinces targeted under this project, Thua Thien Hue and Thai Binh, there are 20 and 13 EPA staff, respectively. At district level, there are generally some five permanent DONRE staff within the DDNREs, but to date there are no staff at this level with specific biodiversity-related duties, let alone wetlands conservation-specific responsibilities. Furthermore, there is a shortage of staff with adequate higher-level training on environmental management. There is thus a severe lack of direction and capacity on wetlands conservation and sustainable management at the local level.

[30] There are six interprovincial PAs that are managed directly by MARD.

61. As a result of the PPC's and DONRE's limited capacity for biodiversity management and given also that most PAs (128 in total) are in areas previously designated as SUFs, MARD continues to play a major role in the management of these PAs. Thus, in practice, the PPC generally requests MARD's provincial department, DARD, to carry out PA management on their behalf and to head the Protected Area Management Board (PAMB), either directly or through its Forest Protection Division (FPD) or Fisheries Division (FD). DONRE may be part of the PAMB, but is not generally actively engaged in the design, establishment or management of PAs as it has neither the experience nor any dedicated biodiversity management staff. However, local planning and budget allocation is still decided by the local bodies, which do not generally prioritize conservation, particularly PAs, due to many competing development priorities (Sections 1.2 & 1.3).

62. MONRE's Human Resources Strategy for 2011-15 highlights the need to further develop the country's capacity for natural resources and environmental management. Capacities and institutional arrangements are slowly being built to support nationwide outreach to fulfil the Ministry's mandate on biodiversity conservation. While developing institutional capacity for state management of wetlands is also a priority, there are many competing demands on MONRE's existing resources as the ministry covers so many important environmental subsectors. MONRE has approved its Human Resources Development Plan for 2012-2020, which foresees an additional 8,000 staff for land administration and 10,000 additional staff for environmental protection. The plan does not specifically identify human resources development for dedicated biodiversity management staff. Furthermore, currently the Central Government allocates less than 0.4% of the state budget to biodiversity conservation and only 1% of the state budget goes towards environmental management (including biodiversity).[31] Thus, very limited human and financial resources are currently available within MONRE for wetlands management. However, different kinds of capacity relevant to wetlands management are available within MONRE, particularly in relation to coastal zone management, water resources and pollution control. Each of these subsectors is currently administered by a separate division or department (Section 1.7/Table 2) and there is currently little formal coordination and collaboration among the different specialized divisions of MONRE on wetlands management, including limited exchange of relevant information and knowledge.

Weak national and subnational coordination and cooperation on wetlands planning, management and conservation within and between sectors

63. As foregoing sections have shown, there are many competing sectoral interests and pressures on wetlands. Thus, the effective management of wetlands requires an integrated multi-sectoral approach, both at site-level and within the wider landscape that is currently lacking.

64. Within MONRE itself, there are a number of other departments with a role to play in the management and sustainable use of wetlands management, including: the Directorate of Land Administration, which is in charge of land use planning; the Department of Water Resources Management (DWRM), which is in charge of water resources management; and the Institute of Strategy and Policy on Natural Resources and Management (ISPONRE), which is responsible for policy formulation and developing guidance on the application of new tools for natural

[31] MONRE, 2005. *Vietnam State of Environment Report - Biodiversity*

resources and environmental management, including wetlands management. While BCA and ISPONRE already work closely together, including leading the design and implementation of this project, there is considerable scope to improve collaboration of these two agencies and the other divisions and agencies of MONRE.

65. At an intersectoral level, there has been increasing cooperation between MONRE and MARD, but this needs to be further strengthened and clarified, particularly, as noted earlier, in relation to roles and responsibilities over wetlands management and perhaps even more importantly with regard to mitigating threats to wetlands that arise from agriculture, fisheries, aquaculture and other economic activities that fall within MARD's purview. Many threats to wetlands also emanate from the development activities of other sectors, such as those of the Ministry of Industry, the Ministry of Transport, the Ministry of Construction and the Ministry of Culture, Sports and Tourism. However, at present there is no national mechanism to champion wetland conservation objectives and strengthen intersectoral coordination and collaboration on wetlands management at the national level.

66. The above situation is mirrored at the provincial level although there is closer cooperation and interaction for provincial planning and budgeting purposes. However, as at the national level, there is currently little formal cooperation for taking forward the wetlands conservation and sustainable use agenda.

Barrier 2: There are limited government and stakeholder capacities to ensure that site level conservation of critical wetlands is supported through wider landscape management for biodiversity

Insufficient understanding of the full value of wetlands or their vulnerability to threats arising from wider landscape

67. Viet Nam's overriding development goal is to attain industrialized nation status by 2020 and there are intense direct and indirect pressures on the country's natural resource base as a result, especially given the country's large population relative to area (Section 1.4 & 1.6). Viet Nam is the 8th most populous nation in Asia and the 13th most populous nation in the world with a population of nearly 90 million in 2011. Annual population growth rate was 1.2% between 1999-2009 and despite higher rates of population growth in urban areas (3.4%) compared to rural ones (0.4%) in this same period, over 70% of the population was classified as rural in 2009. Furthermore, some 43% of the population is concentrated in the Mekong and Red River Deltas, although these two areas account for only c.17% of Viet Nam's land area. While at national level there are several laws, policies and plans to support and promote sustainable natural resource use and biodiversity conservation (Section 1.3), at subnational levels, where governments are much closer to their electorate, many of whom form part of the rural poor, there is a natural tendency to prioritise short-term development benefits over long-term sustainability.

68. There is broad recognition of the values of certain types of wetlands among government and local communities, particularly of more obvious ecosystem services such as the provision of fresh water, fishery resources and coastal protection. However, there is less understanding about the indirect benefits of vital ecosystem regulating services, such as ground water recharge and purification, flood control and carbon sequestration. Nor is it always easy to grasp the many linkages between human activities and development that take place across the larger landscape and the combined and cumulative impacts these may be having on wetlands ecosystem services,

especially when these activities may be taking place quite far from the wetlands that they are impacting. Although the Government of Viet Nam fully recognizes the importance of conserving its scarce water resources and maintaining freshwater quality, the full consequences of transformations taking place in the wider watershed, including physical modification of rivers, are not always understood. Additionally, some types of wetlands are still viewed as unproductive 'wastelands', notably swamps, marshes and intertidal mudflats. The former are often drained for agricultural purposes or other forms of land use, while the latter are frequently converted to aquaculture, or planted with mangroves as a coastal defence measure.

69. A key obstacle to changing perceptions about wetlands is the lack of systematic information about the range and relative importance of the ecosystem services provided by wetlands, including their full economic value. It is especially at provincial and district levels, where there is greatest immediate pressure to bring about tangible development benefits, that there is greatest need for better appreciation of the vital nature of many wetlands ecosystem services to people's immediate and longer-term wellbeing, both directly and by sustaining a range of livelihood sources. While the direct economic benefits obtained from wetlands through aquaculture, fisheries, farming and other forms of direct exploitation are well understood, the costs of unsustainable use are generally neither perceived nor well understood. The national government has conducted some very effective awareness raising campaigns on Viet Nam's vulnerability in terms of freshwater and of the need for better water conservation and management to reduce pollution. However, there are few incentives in place for local businesses, industries or individuals to voluntarily change their behaviour to reduce the negative impacts of their activities on wetlands. There is also need for far greater awareness about the role of wetlands ecosystem services and how these support economic development, especially at subnational levels, within both the public and private sectors and within civil society. For example, consultations held during the project preparation revealed that local stakeholders from both government and local communities did not perceive any major environmental problems related to either the Tam Giang-Cau Hai lagoon or the Thai Thuy coast. Yet, the secondary literature and consultations with experts suggest that both wetlands experience a range of threats arising from both site-based human activities and developments in the wider landscape (Section 2.4).

70. Ecosystems services assessment and valuation is a useful tool for increasing understanding of the benefits associated with different ecosystem services and the implications of degradation or loss of such services. Such assessments can be particularly informative where these are conducted in a participatory manner that encourages stakeholders to engage directly in evaluating the benefits they and others receive from wetlands and also assessing some of the risks and trade-offs associated with degradation or loss of these services. Past valuation studies of wetlands in Viet Nam have generally focused on particular components or ecosystem services, notably the fishery resources of its river deltas, particularly the Mekong, carbon sequestration by mangroves and tourism revenues generated by selected parks. Most are also carried out by external experts with relatively little direct engagement of ecosystem users. Results from these valuation studies are normally only exchanged amongst a relatively small community of conservation and development practitioners, government and researchers with limited dissemination to other key actors or the wider public. Thus, wetlands values are rarely adequately taken into account in development planning at the provincial and district levels, either because of insufficient understanding or because competing interests take priority. In principle,

legal requirements for Strategic Environmental Assessments (SEA) and Environmental Impact Assessments (EIA) under the Law on Environmental Protection (LEP, 2005) and Decree No 29/2011/ND-CP should serve to minimize the adverse impacts of new development projects on wetlands. Furthermore, the provisions of Appendix III of Decree 29 actually requires MONRE to review and approve EIAs in a number of situations of relevance to wetlands such as for projects that: encroach the sea by 20 ha or more; impact watershed protection forests; use 20 ha of land currently cropped with rice twice a year; build aquaculture establishments on sand of a 100 ha or larger; or exploit water resources to supply water for production, business, service and daily-life activities with a daily capacity of 250,000 m^3. In practice, however, the potential negative impacts of developments on biodiversity including wetlands biodiversity and ecosystem services are rarely given adequate consideration.

71. Failure to take wetlands values into account in development planning is further compounded by sector-based planning with short-term planning horizons and sector-based targets, which may conflict with the conservation or sustainable use targets of another agency. The problem is further exacerbated by the earlier mentioned lack of mechanisms at both national and subnational levels to promote intersectoral coordination and cooperation on wetlands conservation and sustainable use. While some policies and plans have been developed in the past to promote greater intersectoral planning on river basin management and coastal zone management, these are mostly yet to be implemented due to lack of funds. This in turn is due to these being viewed as a lower priority. Where initiatives have been developed to promote integrated environmental planning, there is a tendency to implement environmental strategies in parallel, rather than ensuring that these are properly integrated into government development planning at provincial and district levels. There are also no mechanisms or institutions at provincial level to champion the cause of wetlands conservation and sustainable use or to promote greater intersectoral coordination and cooperation, both vertically and horizontally.

Lack of capacity to reduce threats to biodiversity from local livelihoods

72. As noted earlier, local governments are under great pressure to deliver development benefits to local people at commune, district and provincial levels. They are thus often reluctant to restrict economic activities, even when these may be detrimental to the environment or indeed the long-term sustainability of particular livelihoods. Additionally, there is often limited knowledge and technical know-how about the options for reducing the negative impacts of economic activities on wetlands ecosystems, especially those relating to the livelihoods of rural communities. There is thus need to demonstrate workable alternatives in order for governments and communities to be willing to modify existing practices that are harmful to wetlands or substitute these with ones that are more biodiversity-friendly. In Tam Giang-Cau Hai lagoon, for example, the IMOLA/FAO project has successfully demonstrated how aquatic reserves can greatly increase the productivity of economically important species. The project was also able to show that individuals can benefit more through collaborative management of fishery resources rather than by individuals excluding each other by means of enclosing sections of the lagoon. However, such examples of effective community-based sustainable natural resource are still relatively rare in Viet Nam. Furthermore, from a biodiversity conservation perspective, there is also need to go beyond the current aquatic reserves concept in Tam Giang-Cau Hai to more integrated ecosystem-based approaches that addresses a range of threats to the full spectrum of wetlands biodiversity, including pollution from overuse of agricultural fertilizers and pesticides,

medicines and foods used in aquaculture and sewage, as well as other forms of degradation and overexploitation of wetlands resources.

73. The Government of Viet Nam is increasingly interested in exploring opportunities for community-based management and conservation of natural resources, partly as a result of the new Biodiversity Law. However, as MONRE is still working out many of the details of the implementation of this framework law, there has been little testing as yet of ways to make wetlands-based livelihoods more conservation friendly, for example, through the provision of incentives-based measures and opportunities to diversify and transform existing livelihood practices that are detrimental to biodiversity. For example, Viet Nam has considerable untapped ecotourism potential. Tam Giang-Cau Hai, which is the largest coastal lagoon in South East Asia, currently has only two organized tours for visitors, although the lagoon is only a short distance from the much visited provincial capital of Hue. The Thai Thuy coast, the other wetland proposed as a Conservation Area under this project, is hardly visited at all, despite its proximity to Xuan Thuy National Park and the importance of its rare and threatened migratory bird species. Similarly, there are opportunities to improve existing agricultural, fishing and aquacultural practices to make them more biodiversity-friendly.

1.7 Stakeholder Analysis

74. Table 2 lists the key government agencies, research institutions, NGOs and civil society organisations that play a significant role in wetlands biodiversity management and conservation in Viet Nam or have the potential to do so. The specific ways in which these stakeholders are likely to be engaged in the project are explained in more detail under specific project outputs in Section 2.4 and summarized in the Stakeholder Involvement Plan in Annex 3.

75. Important institutional stakeholders at national level include MONRE, particularly BCA and ISPONRE, and MARD, particularly its Directorate of Fisheries and the Viet Nam Forest Administration (VNFOREST). MONRE as described in Sections 1.3 and 1.4 has been tasked with the state management of wetlands. However, MARD has the longer history and greater experience of establishing and managing PAs in Viet Nam as well as having responsibility for key economic sectors of relevance to wetlands management such as fisheries production, aquaculture and wetlands-based agriculture such as rice production. More recently MARD has also been involved in establishing marine protected areas, which include coastal areas that fall within the Ramsar definition of ‘wetlands’. The provincial and district level divisions of these two ministries (DARD and DONRE and their respective district-level staff) play an important role on general wetlands management and conservation at the subnational levels as do the PPCs and the District and Commune People’s Committees given Viet Nam’s decentralized planning and budgeting. Local communities who rely on numerous wetlands ecosystem services directly and indirectly for their immediate well-being and their livelihoods are also major stakeholders of wetlands conservation. This includes a significant proportion of the rural population, which is engaged in various wetlands-based livelihood activities such as rice production, aquaculture and fishing and to a lesser extent ecotourism. The interest of most local communities is rarely to maintain biodiversity per se, but rather to sustain the stream of economically valuable products and services. Nonetheless, interventions that promote sustainable resource use and more environmentally-friendly practices are often beneficial to both biodiversity and overall ecosystem productivity and resilience. Thus, communities in many different parts of Viet Nam

are increasingly engaging in such approaches. Key community-based organizations include the local Fishery Associations, Farmers' Union and Women's Union.

76. A number of other national institutions also play an important role in wetlands management albeit not explicitly in terms of wetlands biodiversity conservation. These include the agencies tasked with sectors such as the oversight of water resources management, water management and pollution control and integrated coastal zone management, all of which are within MONRE. Several government research institutes, universities and independent research organizations also undertake valuable work on different aspects of wetlands of relevance to their conservation and management. These include the Institute of Ecology and Biological Resources within the Viet Nam Academy of Science and Technology (VAST), and the Forest Inventory and Planning Institute (FIPI) of MARD as well as Universities and other research institutes that MONRE may partner with as needed.

77. Additionally a number of international and national NGOs and bodies have been actively engaged in wetlands research and conservation action, including IUCN, which supported the development of the first National Wetlands Action Plan of Viet Nam 2004-2010 and the national MAB committee, which has oversight of the Red River Delta Biosphere Reserve (RRDBR) for example. Additionally BirdLife International has been active in identifying IBAs across the country, many of which occur in wetlands.[32] Other national NGOs that are active with regard to wetlands sustainable use and conservation include MCD (Marine Life Conservation & Community Development), who have been promoting ecotourism and other sources of sustainable livelihood and are particularly active in some coastal areas of the RRDBR. The Viet Nam Association for Conservation and Nature (VACNE) is also an important national NGO that works on many different aspects of sustainable environmental management and has also established the Viet Nam Wetlands Association (VNWA). The latter, however, is still a relatively young institution.

[32] The former BirdLife Viet Nam programme is currently in the process of transitioning into an independent national NGO, the Viet Nature Conservation Centre (VNCC), which will in due course become the national BirdLife International partner.

Table 2 Roles and responsibilities of key stakeholders of relevance to wetlands biodiversity conservation in Viet Nam

STAKEHOLDER	ROLES & RESPONSIBILITIES
NATIONAL LEVEL	
Ministry of Natural Resources & Environment (MONRE)	MONRE has many responsibilities and functions, including responsibility for performing state management of biodiversity, including wetlands conservation. Since the passage of the 2008 Biodiversity Law, MONRE is also responsible for overseeing the establishment and administration of wetland PAs. MONRE's Biodiversity Conservation Agency (BCA) was established in 2008 to implement the Biodiversity Law, while its Institute of Natural Resources & Environment (ISPONRE) undertakes research and develops policy.
Within MONRE:	
Institute of Policy on Natural Resources & Environment (ISPONRE)	ISPONRE is the policy advice unit of MONRE, in charge of strategy and policy development and research activities. ISPONRE mandate covers all sectors within MONRE. The Institute has lead responsibility for conducting research and related work on reviewing, revising and developing environmental protection laws and regulations, policies and management mechanisms, planning, and biodiversity conservation issues as directed by the Minister of MONRE. Amongst other things, ISPONRE was assigned responsibility to develop important legal documents including the Law on Environmental Protection (2005), the Law on Biodiversity (2008), the National Strategy for Environmental Protection until 2020 and vision toward 2030, Resolution of the Party on responding to climate change (Resolution 24). Currently ISPONRE is responsible for development of National Strategy for Sustainable Marine Resources and the 5 Year Plans for Natural Resources & Environment, Government Action Plan for Implementing Resolution 24. ISPONRE will be implementing agency of the project together with BCA of VEA. ISPONRE will also provide technical support to project activities relating to policy revision and development, ecosystems services valuation and institutionalisation new models for wetlands PAs in the policy framework for wetlands conservation.
Viet Nam Environment Administration (VEA)	VEA is a subsidiary body under MONRE, headed by MONRE's Vice-Minister established to advise and assist the Minister of MONRE in the field of environment management and to provide public services in compliance with the laws (Decision No. 132/2008/QD-TTg). Regarding biodiversity, VEA is implementing nationwide survey, inventory, monitoring, and assessment of biodiversity; assessing trans-provincial or transboundary degraded ecosystems and proposing measures to conserve, rehabilitate and maintain sustainable use of biological resources. VEA's Biodiversity Conservation Agency will jointly implement this GEF project. VEA is also responsible for coordinating related stakeholders within VEA and supporting the overall implementation of the project.
Within VEA:	
Biodiversity Conservation Agency (BCA)	BCA is responsible for the implementation of the biodiversity conservation provisions of the Biodiversity Law in cooperation with other ministries. BCA is the focal point of the CBD, Ramsar Convention, Cartagena Protocol on Biosafety, and Nagoya Protocol on ABS. Institutionally BCA is the agency authorized for preparation of NBSAP, biodiversity master planning, and reporting of biodiversity. BCA will implement this project together with ISPONRE.
Pollution Control Department (PCD)	The main tasks of PCD are to advise VEA and MONRE on state management of the overall environment and to develop and issue policy and legal documents on pollution control that apply nationally, including to protected areas. This includes the

STAKEHOLDER	ROLES & RESPONSIBILITIES
	application of water pollution standards. PCD is also an important source of information on environmental pollution and existing and potential measures to prevent and minimize the negative impacts of pollution from economic activities on wetland and biodiversity conservation.
Department of Waste Management and Environment Promotion (DWMEP)	DWMEP focuses on supplying guidance and implementing the mission under the scope of responsibilities assigned in the sewage controlling, environmental protection in river basin and coastal areas, improving the environment. DWEMP is also a source of valuable on river basin management.
Other MONRE agencies	
Viet Nam Administration of Seas & Islands (VASI)	VASI is the state agency responsible for managing activities related to exploitation and utilization of seas and islands, including coastal areas; conducting research in coastal, marine, and island environment and resources monitoring and control. VASI is mandated to undertake and guide local government in implementation of integrated coastal management. VASI is an important source of information on wetland policies, regulations and best practices for coastal environmental monitoring and management.
Department of Water Resource Management (DWRM)	The main duty of DWRM is the execution of the State administration on water including wetland, surveying and mapping and some other fields in the whole country. Given the critical importance of water for wetlands, DWRM is an important stakeholder in the long-term sustainable management of wetlands, and has a particularly important role to play given that it's mandate covers the wider landscape of importance to a given wetland. However, there is currently no integration of biodiversity values in DWRM's work.
The Viet Nam Institute of Meteorology, Hydrology and Environment (IMHEN)	IMHEN does not currently play any direct role in wetlands management, but is clearly relevant given its mandate to undertake research and development on science and technology in the fields of meteorology, hydrology, oceanography, water resources and environment. IMHEN is thus likely to be an important source of information on water resources, meteorology and hydrology which is vital for effective wetlands management planning.
Ministry of Agriculture & Rural Development (MARD)	MARD has primary and long-standing responsibility for forest and fisheries management including forest and marine biodiversity. MARD has also been responsible for developing the national protected area (PA) system, including the more recent establishment of 'marine PAs', some of which include coastal wetlands. Some earlier PAs included wetlands as well, notably Xuan Thuy National Park, which is also a Ramsar Site. MARD has also been given responsibility for establishing Inland Water Conservation Areas. Additionally, MARD is responsible for enforcing wildlife protection regulations and thus play an important role in preventing overexploitation of a range of species, including wetland species.
Within MARD:	
Directorate of Fisheries (DOF)	DOF is a state agency under MARD responsible for managing fishery activities including marine biodiversity and thus plays an important role in formulating and implementing fisheries policy and regulations, both of which have implications for wetland biodiversity management.
Department for Capture Fisheries and Resources Protection (DCFRP)	DCFRP is particularly key to wetlands management and conservation as the state agency responsible for managing fishery resources including conservation and protection of endangered fish species, inland habitats and marine protected areas. Since 2008, DCFRP has been responsible for planning the development 45 Inland Water Conservation Areas, which focus on protection and conservation of fishery resources. DCRF has experience of testing and promoting best practices for sustainable fisheries and aquaculture management, which are key to conserving

STAKEHOLDER	ROLES & RESPONSIBILITIES
	wetlands biodiversity in Viet Nam.
Viet Nam Administration of Forestry (VNFOREST)	VNFOREST takes overall responsibility for the management and development of forests in Viet Nam including protected areas established in SUFs. Furthermore, VNFOREST is the REDD and CITES focal points for Viet Nam and implementing agency for Viet Nam Conservation Fund which provides financial supports to protected areas with high biodiversity values. Within VNForest, the Forest Protection Department (FPD) and the Nature Conservation Division (NCD) within FPD play a particularly important role in relation to wetlands biodiversity conservation. The FPD is the state agency that is specifically responsible for managing forest resources, including six National Parks. The FPD is also the national focal point for CITES and the implementing agency for the Viet Nam Conservation Fund which provides financial support to protected areas of high biodiversity value. Within the FPD, the Nature Conservation Division (NCD) has responsibility for biodiversity conservation in the forestry sector.
Research Institute for Forest Ecology and Environment (RIFEE)	Research Institute for Forest Ecology and Environment (RIFEE) is a research institution under MARD's Forest Science Institute of Vietnam (FSIV). RIFEE's mission is to address current issues in the forestry sector, predict threats in the future and develop solutions for such problems. RIFEE's strategic research and development program is focused around three central themes (i) sustainable uses of forests and forestland including wetland (ii) forest and wetland ecology and physiology and (iii) monitoring and assessment of forest biodiversity. The Institute carried out studies and training on forest ecosystem, wetlands and mangrove that are relevant to the feasibility study on the establishment of Wetland Conservation Areas (WCAs), and capacity building for WCA management.
UNESCO Man & Biosphere National Committee (MAB Viet Nam)	MAB Viet Nam, which has an office within the Hanoi University of Education, is a coordinating agency for national and international exchange amongst biosphere reserves and sister-systems of nature reserves, including research results, management methods and experiences relating to biosphere reserves. The committee facilitates cooperation in scientific research, monitoring, environmental education and training. Through these activities, it provides advice and recommendations to the Government on important issues concerning nature conservation and sustainable use in the Viet Nam's Biosphere Reserves, many of which encompass important wetlands, such as the Red River Delta Biosphere Reserve where one of the project's demonstration sites is located.
Local Government	
Provincial People's Committees (PPCs)	PPCs are headed by a Chairman and supported by Vice-Chairmen for each major sector including a Vice Chairman for Natural Resources & Environment. PPCs play a major role in provincial development and sector planning and implementation. They are responsible for coordinating the biodiversity conservation activities of various line departments at the provincial (and city) level. PPCs currently have management responsibility for most SUFs and MPAs. PPCs also have an important role in ensuring that biodiversity is integrated into sectoral plans and programs at the local level. The project will be working with Thua Thien Hue PPC and Thai Binh PPC to establish wetlands conservation areas in Tam Giang-Cau Hai and Thai Thuy, respectively. PPCs of selected sites will be also responsible for coordination the activities of provincial departments to implement the management mechanism in newly established WL conservation areas.
District and Commune People's Committees (DPCs / CPCs)	District and Commune PCs are important in supporting local socio-economic development and being closest to local communities play an important role in overseeing and supporting development activities in their districts and communes. Thus, DPCs and CPCs have a key role to play in terms of ensuring environmental

STAKEHOLDER	ROLES & RESPONSIBILITIES
	sustainability, particularly in relation to activities such as fishing, aquaculture, rice and other forms of agricultural production and overexploitation that are known to negatively impact wetlands. DPCs and CPCs will be key project partners at site level, particularly in relation to implementing activities targeting at reducing threats to biodiversity arising from current livelihood practices.
Provincial Departments:	
Department of Natural Resources & Environment (DONRE)	DONRE is the provincial arm of MONRE and the thus the state agency responsible for managing natural resources and environment at the provincial level (including issues related to biodiversity. Currently a key part of DONRE's responsibilities are on land administration. DONRE also undertakes activities on pollution monitoring. DONRE will now have to play an increasing role in supporting biodiversity management generally and in this instance in assisting PPCs to establish and manage new wetlands conservation areas. DONRE is the primary technical government partner of this project at local level along with DARD.
Department of Agriculture and Rural Development (DARD)	DARD is the provincial arms of MARD and thus critically important for wetlands management given its responsibilities for the agricultural and fisheries and aquacultural sectors. DARD also has considerable experience of managing PAs cross Viet Nam and of establishing aquatic reserves in one of the project demonstration sites. DARD also has greater manpower and is thus very important at the local level for ensuring wetlands biodiversity conservation. They will be a key project partner at the local level along with DONRE.
Local communities & Community-based Organizations, e.g. Fisheries Associations (FA), Farmers Unions, Women's Unions and Youth Union	Local communities will be key participants and beneficiaries of the project. Their involvement will be sought in the planning and management of the new wetland PAs to be established in Tam Giang-Cau Hai and Thai Thuy. At the local level in Tam Giang-Cau Hai lagoon, a number of local Fishers Associations exist, which had been active in several aspects of wetland management and conflict resolution. They will be actively involved in the project. Viet Nam also has social organisations such as Farmer Union, Woman Union, Youth Union, and Veteran Union at community level and their involvement will be sought for appropriate activities at both sites. If required, the project will also facilitate the establishment of relevant community groups to support conservation and sustainable livelihoods actions and ensure their participation in protected area management boards.
Government & Academic Research Institutions	A number of universities and institutes have strong environmental research units with knowledge and experience relevant to this project. These include universities and institutions at provincial level and are detailed further in the Stakeholder Involvement Plan. For example, the **Viet Nam Academy of Science & Technology (VAST)** conducts multi-disciplinary studies in socio-economic development, ecology and environmental management, policy analysis, culture. Two VAST Institutes are of particular relevance to this project, namely the Institute of Ecology and Biological Resources (IEBR) and the Institute of Marine Environment and Resources (IMER). **IEBR** has a number of wetlands experts, while **IMER** has considerable experience of working in the Tam Giang-Cau Hai area and will be an important partner in relation to seagrass conservation zone establishment and monitoring. College of Economics under Hue University has been involved in different projects on economic valuation of wetland and sustainable financing mechanism for wetland conservation in Thua Thien Hue province.
Local & International NGOs supporting Wetlands Biodiversity Conservation in Viet Nam	The project will also build on the good work being done on wetlands conservation in Viet Nam by both local and international NGOs. The latter includes IUCN, Birdlife International and WWF, who have a long history of engagement in biodiversity conservation in Viet Nam, including on protected areas management and wetlands conservation.

STAKEHOLDER	ROLES & RESPONSIBILITIES
	IUCN has made important contributions to biodiversity conservation and environmental protection in Viet Nam, primarily through support to the development of laws and policies such as the National Conservation Strategy (1984), the National Biodiversity Action Plan (1995), the National Environment and Sustainable Development Plan (1991-2000), the Forest Law (2004), the Environment Law (2005) and the Biodiversity Law (2008). While IUCN has historically focused on policy formulation, it now looks increasingly at policy implementation. IUCN will be a key partner for this project. IUCN is working on revision of laws, policies on biodiversity/wetlands, payment for ecosystem services including mangrove/wetlands, advocacy for sustainable wetland management and biodiversity conservation. IUCN will provide technical advice as needed, particularly on wetlands policy and planning, biodiversity monitoring and sustainable use and will participate in the technical working group. **WWF** was one of the first international non-government organizations working in Vietnam. WWF has worked closely with the Vietnamese government since the 1990s on a diverse range of environmental issues and implemented field activities across the country. WWF has four strategies in Vietnam including (i) securing landscape integrity and climate change resilience, (ii) ensuring sustainable hydropower development, (iii) strengthening law enforcement and protected area management, and (iv) securing sufficient sustainable financing. WWF is supporting a TTH a project on mangrove planting and biodiversity planning (and the establishment of a new Sao La Nature Reserve) in TTH. WWF is also working on communication, education and awareness raising. WWF will be another important source of technical inputs and will also be involved in the technical working group Local conservation NGOs are increasing number and the following are of particular relevance to wetlands conservation generally and to this project. **Marine Life Conservation & Community Development (MCD)** is a civil society organisation focusing on effective management of coastal resources and enhancement of coastal community livelihoods through localising relevant international knowledge and experience into adaptive practical models in the Vietnamese context. MCD has implemented a number of projects in coastal areas of Viet Nam including Thai Binh, Nam Dinh to promote ecotourism development and has cooperated with MAB Viet Nam, provincial authorities and local communities in Red River Delta Biosphere Reserve (RRDBR) and supported the development of the interprovincial management regulation of the RRDBR. The **Viet Nam Wetlands Association** (VNWA) is an organization under VACNE, specializing on sustainable development of wetlands in Viet Nam. While VACNE was established in 1988 and is very active, VNWA is a relatively new organization. The main functions of VNWA are (i) doing research, training, providing consulting services for sustainable management of wetland ecosystems in Viet Nam; (ii) developing, coordinating and implementing projects in the field of rehabilitation and sustainable management of wetland ecosystems; (iii) research and advise on policies, strategies and legislation on the conservation and sustainable management of wetlands and (iv) wetland networking to exchange information and propose appropriate regulatory measures and policy to promote wetland conservation activities in the country. VNWA will be important focal point for networking and information sharing for the Wetland Conservation Area . **Viet Nature Conservation Centre (Viet Nature)** **Viet Nature** is a national NGO that has developed out of Bird Life International's work in Viet Nam over 20 years through its Viet Nam Programme. Viet Nature has considerable experience and knowledge of globally significant birds in Viet Nam through its work on Important Bird Areas and associated bird surveys including at the

STAKEHOLDER	ROLES & RESPONSIBILITIES
	proposed project sites. They also have experience of undertaking ecosystem services assessment. Viet Nature currently focuses on conservation on the ground, biodiversity monitoring and linking biodiversity to human wellbeing in the context of a changing climate. Viet Nature's expertise is particularly relevant to project activities related to developing a bird and wetlands monitoring programme with community engagement as well as ecosystem-services assessment.

1.8 Baseline Analysis

78. The baseline for this project is the **"business-as-usual"** scenario that would take place over the next few years in the absence of the interventions proposed by the project. As described in the preceding sections, the Government of Viet Nam has made considerable baseline investments to address the problem of biodiversity loss and degradation generally by promulgating and adopting a major body of environmental policies and laws, establishing a national PA system, and developing institutional capacity for different aspects of environmental management. However, these investments have been largely targeted at forest-based biodiversity and more recently on marine biodiversity. Environmental management relating to wetlands has focused more on development needs rather than on biodiversity per se, such as ensuring stocks of economically valuable aquatic species are enhanced and ensuring adequate flow and quality of water for irrigation, drinking and generating hydropower. Some investments have also been made in relation to the policy and regulatory framework for wetlands conservation and as a result a few wetlands have been included within the national PA system but primarily in areas that were already SUFs under MARD's control.

79. Baseline investments that support biodiversity conservation have been growing in recent years, also in relation to wetlands. Together these past investments represent a significant foundation for developing national and provincial capacity to plan, establish, administer and manage a subsystem of wetlands PAs in Viet Nam. However, critical gaps and barriers remain to achieving the latter optimal situation (Sections 1.4-1.6) that are unlikely to be addressed over the next few years without additional support. Instead, activities relating to the establishment of wetland PAs and management of threats to wetlands biodiversity, are likely to continue but on a small-scale ad-hoc manner, with different institutions continuing to pursue sectoral agendas without adequate coordination and cooperation. Meanwhile, threats to wetlands biodiversity are likely to keep growing.

80. Specific levels of activity that can be expected without this GEF intervention in key areas where action is needed to overcome the barriers in Section 1.6 are summarized below.

<u>Harmonising and strengthening the policy and legal framework for wetlands conservation</u>

81. While a number of policies and laws exist of varying relevance to wetlands biodiversity conservation, these have been developed at different times by MARD and MONRE (Section 1.3). This has led to different institutions taking responsibility for different aspects of wetlands biodiversity conservation and management, with MARD establishing some PAs that include wetlands and more recently marine PAs that include coastal areas as well as planning for IWCAs that cover both inland areas and coastal areas. While MONRE and MARD have been working together to harmonize and strengthen the overall policy and legal framework for biodiversity

management in Viet Nam since the passage of the new Law on Biodiversity, there are many different priority areas for both Ministries to address and it is unlikely that wetlands will be the main priority for some years. Without this project, the current approach of separate planning and management of these areas by both agencies is likely to continue for several more years. Furthermore, in the absence of a clear agency mandate for wetlands conservation supported by a coherent policy and legal framework, it will not be possible to agree on a single unified classification system for wetlands or to prepare a meaningful updated baseline inventory of wetlands or second National Wetlands Action Plan.

Strengthening institutional capacity for planning and managing a sub-system of wetlands conservation areas

82. Although MONRE has been mandated to undertake the state management of wetlands (Section 1.4), it currently has little experience or capacity for doing this either at national or subnational levels (Section 1.6). While there is a proposal to increase the numbers of dedicated biodiversity personnel at subnational level within DONRE by 1-2 staff, this has yet to be approved. However, given that virtually no DONRE currently has dedicated biodiversity management staff, even if this proposal is approved, capacity for wetlands biodiversity planning and management will remain limited. Thus, the only way capacity for wetlands conservation can be increased is by training existing MONRE and DONRE staff to better fulfil their mandate in relation wetlands management. However, as biodiversity management is a relatively new part of MONRE's mandate, there are no plans for such targeted capacity development over the next few years. Any capacity that is developed in this particular area is likely to be incidental to other forms of biodiversity management capacity development undertaken as part of various donor-supported projects and therefore will not be planned and delivered in a strategic fashion and will still continue to primarily target MARD and DARD given their responsibilities for management of the existing PA system.

83. Major conservation projects relevant to PA management include various GIZ and other donor-assisted projects relevant to biodiversity conservation including some that support wetland biodiversity conservation and sustainable use. While many such project-based investments will continue in the coming years, these do not amount to a strategic or integrated systems-level approach to wetlands conservation and management and will not result in overcoming the barriers identified in Section 1.6.

Sectoral coordination and cooperation on wetlands conservation and management

84. There is growing intersectoral coordination on many aspects of biodiversity conservation and management as a result of the Biodiversity Law. As noted above, MONRE and MARD are working together to harmonize their roles and responsibilities with reference to state management of biodiversity. MONRE is also developing further guidance on the implementation of the biodiversity law. A National Biodiversity Strategy has been prepared and a new National Protected Areas Strategy will be finalised later this year. Both these strategies will have Steering Committees that will include representation from key ministries and sectors. While there is growing coordination on biodiversity generally, many agencies that are relevant to the sustainable management of wetlands are not involved in such discussions as a rule, such as the rural development or agricultural sections of MARD, although their engagement is critical.

Furthermore, there is little intrasectoral coordination between the many relevant sections of MONRE (see Section 1.7 & Table 2). There are also no mechanisms or bodies that bring together relevant decision-makers, actors, experts and users for wetlands conservation to systematically advance the wetlands agenda at national and subnational levels and it is unlikely that such mechanisms will be established in the next few years without external support. Thus, under a business-as-usual scenario, each sector and sub-sector of relevance to wetlands conservation and management will continue to set priorities and implement actions in an isolated and uncoordinated manner. In particular, it is unlikely that there will be any systematic efforts to address threats to wetlands that arise from actions in the wider landscape without greater intra and intersectoral coordination and cooperation.

Mainstreaming wetlands biodiversity conservation into local development planning

85. Although there is increasing recognition of the importance of conserving Viet Nam's water resources and maintaining or improving the quality of these resources by controlling pollution, the pressures of competing demands on these resources is enormous. Thus, while there are investments in certain aspects of wetlands conservation, these are considerably lower than development investments that impact on them. For example, annually, the Central Government of Viet Nam currently allocates 1% state budget for environmental management including wetlands conservation and this is unlikely to increase further any time soon. In contrast, the annual investment in electricity sector of Vietnam is estimated to amount to US$4.88 billion for the period 2011-2020, which is almost 15% of annual state budget.[33] Additionally, average investment in irrigation schemes and drinking water supplies per annum is estimated to total at least US$ 100 million (or 0.3% of the state budget). Meanwhile, the total investment in PAs by the Central government is only some US$21 million per annum. There is also little likelihood of existing budgets for establishing and managing PAs to be increased by increasing flows from the national budget in the foreseeable future.

86. This implies that existing provincial governments will need to be persuaded of the value of wetlands conservation in order to prioritise and increase expenditure on their management through provincial budgets. Several provincial governments are already investing in wetland conservation, such as at Xuan Thuy National Park, Tram Chim National Park, Lang Sen Nature Reserve, Nam Cat Tien National Park, and Ba Be National Park along with some support from MARD. However, these represent only a few local wetland areas and in a business-as-usual scenario, there is no plan or incentive for greater investment in these areas to also address landscape-level threats.

87. While there have been a few valuations of wetlands, these have generally focused on just one or two aspects of the benefits derived from local wetlands with little assessment of wider landscape-level values or ecological connections. In general there is limited understand of the many different ecosystem services provided by wetlands particularly at subnational levels both within government and civil society and of the consequences of many actions on these services. This situation is unlikely to change any time soon in the absence of this project given the many competing demands on wetlands resource and the continuing lack of recognition of wetlands values. Ecosystem assessment and valuation are not currently tools that are widely used within

[33] Decision 1208/QD-TTg from 21 Jul 2011 on Master plan for electricity development for the period 2011-2020, vision to 2030

government. ISPONRE has experience of using these tools and is strongly promoting their application for integrating ecosystem services including and biodiversity conservation considerations into development planning at national and provincial levels. However, an institutional framework for the systematic application of such tools in development planning is yet to be developed. Similarly, while Viet Nam has strong EIA requirements, biodiversity considerations are still not adequately captured through this process at present, again due to insufficient understanding of the values of many types of biodiversity, wetlands being a case in point.

88. Other major government investment related to wetlands currently includes a project on mangrove rehabilitation and development (2008-2015) amounting to US$120 million in 29 coastal provinces and cities covering at least 320,000 ha. Such mangrove afforestation is often related to disaster risk reduction rather than to promote biodiversity conservation per se. Similarly, promoting sustainable use strategies are more often driven by the climate change adaptation agenda rather than biodiversity conservation needs. Other Central government investments in climate change adaptation and disaster risk reduction include the "Building partnerships for Improving Viet Nam coastal communities'' (2012-2014) sponsored by AusAID and implemented by Oxfam through a strategic partnership with the Centre for Marine-life Conservation and Community Development (MCD), and provincial government counterparts such as DARD and DONRE in the Red River delta (Nam Dinh, Hai Phong, Thai Binh provinces) and the Mekong River delta (Tien Giang, Tra Vinh provinces). The overall project objective of the latter is to raise awareness about climate change, reduce disaster risks and improve adaptive livelihoods for up to 21,000 of the most vulnerable coastal people (particularly women) with a focus on community-based adaptation, disaster risk reduction and natural resource management practice and policy.

89. There are also donor-assisted projects that take into account both climate change and ecosystem service values, as for example the partnership with GIZ and AusAID on Climate Change and Coastal Ecosystems Programme in the Mekong Delta with a budget of US$ 37 million. The government has also been undertaking river basin management at river basins of Cau River, Nhue-Day Rivers and Sai Gon - Dong Nai River, with budgets up to US$200 million for each basin for the period 2010-2015. Such interventions may all benefit wetlands conservation indirectly, but these are not strategically planned to do so and therefore do not generate synergies or cost-savings. They can also include actions that are counterproductive to wetlands biodiversity conservation, for example by promoting aquaculture and mangrove afforestation to the detriment of intertidal mudflats.

Promoting sustainable livelihoods

90. There is growing awareness within Viet Nam about the negative impacts of pollution, particularly of water, on both human health and sometimes also on economic production. There is also growing awareness about the negative impacts of overexploitation of wild species in relation to certain sectors, notably fisheries production. Thus, across the country, there are many initiatives by both Central and provincial governments to promote more sustainable farming and fishing practices. This has included promotion of Integrated Crop and Pest Management approaches that emphasize reduced application of fertilizers and pesticides, improved waste management practices through composting and biogas plant development. In other areas,

including one of the proposed project demonstration sites, co-management approaches to fisheries management have been successfully used, which has resulted in restoring fish productivity through changes in fishing practices and the types of gear used.

91. Additionally, there is increasing interest in developing and promoting community-based ecotourism. Such initiatives by both Government and through donor-assisted projects are likely to continue in the coming years. However, these in themselves will not lead to an uptake and replication of specific strategies to reduce major threats to wetlands arising from local livelihoods as they have not been designed and implemented with this goal in mind. However, there is currently limited capacity within MONRE or the PPCs to initiate or support a programme to identify sustainable biodiversity-friendly livelihood practices and develop community capacity to shift towards these from existing unsustainable practices. Thus, in the business-as-usual scenario, wetlands biodiversity is likely to continue to be degraded and lost as a result of the impacts of agriculture, aquaculture, fishing and other economic activities of local communities.

II STRATEGY

2.1 Project Rationale and Policy Conformity

2.1.1 Fit with GEF Focal Area Strategy and Strategic Programme

92. The project is aligned primarily with the GEF-5 Biodiversity Focal Area Objective 1 "Improve Sustainability of PA Systems". Under Component 1, the project will establish two wetland conservation areas (WCAs) covering 35,000 ha as well as strengthen national capacity to design, plan and administer a subsystem of WCAs and develop provincial capacity to establish and manage such PAs. Additionally, the project will develop sustainable financing plans for each WCA. The project will thus contribute significantly to meeting GEF targets under Outcome 1.1: "Improved management effectiveness of (existing and) new protected areas". Achievements will be reflected through changes in METT scores from the updated baselines established at the time of WCA creation and at the end of the project.

93. The project's work under Component 2 also involves the integration of biodiversity considerations into land use management in the critical landscapes linked to each of the demonstration WCAs. Thus, the project is also aligned with GEF Biodiversity Objective 2: "Mainstream Biodiversity Conservation and Sustainable Use into Production Landscapes, Seascapes and Sectors" and will contribute specifically to Outcome 2.1: "Increase in sustainably managed landscapes and seascapes that integrate biodiversity conservation".

94. The project will contribute to the achievement of the following indicators of the GEF-5 Biodiversity Focal Area Strategy.

Table 3: Project contribution to GEF-5 Biodiversity Focal Area Indicators

Relevant GEF-5 BD Strategic Program (SO)	Expected outcomes	Relevant GEF-5 BD Indicators	Project contribution to GEF-5 BD Indicators
GEF Biodiversity Objective 1: Improve Sustainability of Protected Area (PA) Systems	Outcome 1.1: Improved management effectiveness of existing and new PAs	Protected area management effectiveness score as recorded by Management Effectiveness Tracking Tool (METT)	Two new PAs (Wetland Conservation Areas) established totalling 35,316 ha METT scores of the 2 targeted wetland conservation areas (WCAs) increase from a mean baseline to be established at time of establishment by 20%
	Outcome 1.2: Increased revenue for protected area systems to meet total expenditures required for management.	Funding gap for management of protected area systems as recorded by protected area financing scorecards.	Two business plans for the newly-established WCAs
GEF Biodiversity	Outcome 2.1:	Indicator 2.1: Landscapes	Wetlands conservation

Relevant GEF-5 BD Strategic Program (SO)	Expected outcomes	Relevant GEF-5 BD Indicators	Project contribution to GEF-5 BD Indicators
Objective 2: Mainstream Biodiversity Conservation and Sustainable Use into Production Landscapes/ Seascapes and Sectors	Increase in sustainably managed landscapes and seascapes that integrate biodiversity conservation	and seascapes certified by internationally or nationally recognized environmental standards that incorporate biodiversity considerations (e.g. FSC, MSC) measured in hectares and recorded by GEF tracking tool	principles and standards integrated into landuse planning and management of 310,000 ha of multiple-use landscape around two WCAs

95. The project will directly support Viet Nam to achieve a number of the Aichi Biodiversity Targets of the Strategic Plan for Biodiversity 2011-2020, especially those under Strategic Goal B, "Reduce the direct pressures on biodiversity and promote sustainable use" and Strategic Goal C, "To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity, particularly."

96. The project will contribute to the achievement of the following targets under Strategic Goal B:

- **Target 5**: By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.
- **Target 6**: By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits (Components 1 and 2)
- **Target 7**: By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity (Component 2)
- **Target 8**: By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity (Component 2)

97. The project will also help deliver the following targets under Strategic Goal C:

- **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.
- **Target 12:** By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.

2.1.2 Rationale and Summary of GEF Alternative

98. Viet Nam's commitment to PA development and wetlands biodiversity conservation is evident both from its early participation in the Ramsar Convention (1989) and the CBD (1994), the existence of a substantial network of PAs and the recent promulgation of a dedicated Biodiversity Law. However, Viet Nam has only recently become a middle-income country and still faces numerous development challenges that prevent the country from realizing its full ambition in relation to biodiversity conservation due to several factors discussed earlier in the Situation Analysis (Part I). Under the baseline scenario, the globally important biodiversity of Viet Nam's wetlands ecosystems will therefore continue to become increasingly fragmented, degraded and threatened due to the fast pace of development (Section 1.2 & 1.3) and accompanying changes in land use, unsustainable exploitation of wetlands resources, pollution and other direct and indirect threats (Section 1.5). Many globally important wetlands, which are currently under-represented in the PA system, are likely to remain outside the PA system, given the many competing interests over these areas and the need for new management approaches to such areas that are currently lacking.

99. While the Government of Viet Nam has made considerable baseline investments in biodiversity conservation, including support for wetlands conservation, additional support is needed to catalyze the systemic changes needed at national and local levels to engineer a paradigm shift in the way wetlands are valued, managed and used. In the absence of such additional support, valuable wetlands ecosystems will continue to be degraded, while those currently included in the terrestrial PA system will not receive management action and investments tailored specifically to wetlands management requirements, particularly those required to address threats emanating from the wider connected landscape. Although MONRE has been tasked with the state management of wetlands biodiversity, there are no plans or financing in place to develop MONRE's capacity for achieving this objective. Systemic weaknesses in capacity to establish, administer and develop local capacity to manage wetlands will therefore persist in the foreseeable future. This will be further compounded by the current situation where there has been little or no mainstreaming of wetlands ecosystem services into land use, development and sector planning. Thus, interventions on wetlands by different agencies within government will remain ad hoc, uncoordinated and potentially destructive to wetlands biodiversity at both national and provincial levels.

100. The GEF-funded alternative will address the key barriers described in Section 1.7 that currently prevent the effective conservation of wetlands biodiversity in Viet Nam through the national PA system. Specifically, the project will help to reverse the on-going decline of Viet Nam's wetland ecosystems by developing national and provincial capacity to plan, administer and manage a biogeographically representative system of wetland PAs with support from key stakeholders within the wider landscape, supported by adequate laws and policies and sustainable financing. The Government of Viet Nam identified the conservation of wetlands as a priority in its National Portfolio Formulation Exercise for the use of GEF5 STAR resources. The rationale for this project is to provide support to the Government of Viet Nam to overcome the specific barriers identified in Section 1.7 so that effective policies, capacities and practical experience for the establishment and management of wetland protected areas exist in Viet Nam. The project will also contribute to meeting the Government's objectives and priorities for

wetlands conservation as also identified under the new National Strategy on Biodiversity (NSB), which calls for accelerated establishment of wetland conservation areas in line with the provisions of the Law on Biodiversity.

101. Additionally, broader partnerships for conservation will be promoted through GEF involvement, compared to the original "business as usual" scenario. Thus a range of institutions and partners will be involved in the project, including: experts from academic institutes, relevant NGOs, community-based organizations and associations; national, provincial and district-level government departments and officials; and members of the local community living in and around the demonstration Wetland Conservation Areas (see Stakeholder Analysis in Section 1.7). Further details of engagement with stakeholders are given in the Stakeholder Involvement Plan (Annex 3).

2.2 Country Ownership: Country Eligibility & Drivenness

102. Viet Nam ratified the Convention on Biological Diversity on 16th November 1994 and is therefore eligible for GEF financing. Viet Nam also receives development assistance from UNDP.

103. The significance of wetlands conservation has long been recognized in Viet Nam, which joined the Ramsar Convention on Wetlands in 1989. Since then there has been growing recognition of the critical importance of Viet Nam's water-related resources and the role of wetlands in maintaining these. Indeed, the theme of 2013's World Wetlands Day was the critical role of wetlands in preserving water resources.[34] Of particular concern to the Government is Viet Nam's vulnerability due to the fact that nearly two-thirds of its surface water comes from water flows that originate outside its own boundaries.[35] Hence, there is even greater need for better management of the surface and ground fresh water resources that occur within the country's territory. Another major area of concern is the increasing levels of pollution of both fresh water sources and coastal waters.

104. In parallel, there has been increasing recognition of the importance of conserving the country's wetlands biodiversity as already described earlier under the Policy and Legal Context (Section 1.3). The project is clearly aligned with the Biodiversity Law of 2008, which has assigned responsibility for state management of wetlands biodiversity to MONRE. The project will also help pioneer the application of the associated Decree No. 65/2010/ND-CP, which guides the implementation of the Biodiversity Law as well as testing the application of the earlier Decree No. 109/2003/ND-CP on the Conservation and Sustainable Development of Wetland Conservation Areas (Section 1.3). This in turn will lay a solid foundation for any subsequent updating of Decree 109.

105. The project is also aligned with priorities identified in Viet Nam's "National Action Plan on Biodiversity by 2010 and orientations towards 2020" – specifically the priority to "Increase the total area of wetlands and marine reserves of national and international importance" and "Develop, adopt and implement master plans on wetlands and conservation plans for each wetland PA". The two proposed wetland conservation areas, Tam Giang-Cua Hai lagoon in Thua

[34] http://www.monre.gov.vn/v35/default.aspx?tabid=675&CateID=56&ID=125725&Code=ZKIC125725

[35] http://www.monre.gov.vn/v35/default.aspx?tabid=675&CateID=56&ID=126095&Code=OABJ12609

Thie Hue Province in Central Viet Nam and Thai Thuy in Thai Binh province in Northern Viet Nam were selected on the basis of their global and national significance through a process of secondary research and stakeholder consultation and prioritization (Annex 5). As early as 1994, the Viet Nam NBSAP identified Tam Giang-Cau Hai lagoon as a priority wetland area for conservation. There is also a long-standing proposal to establish restore and conserve the area around O'Lau towards the northern end of the lagoon. Similarly, there has been a proposal to establish a nature reserve at Thai Thuy, which also falls within the boundaries of the Red River Delta Biosphere Reserve.

106. While the period of Viet Nam's Action Plan on the Conservation and Sustainable Development of Wetlands came to an end in 2010, several key objectives and priorities of this ambitious plan still stand and will be supported through the implementation of this project. The Action Plan, for example, called for the development and updating of policy and legal framework and the conservation of wetlands of international importance. An evaluation of this plan's implementation recommended the development of specific guidelines for local conservation planning and sustainable development of wetland areas. The project will contribute to this by focusing on tailoring the PA system framework for the specific challenges of wetlands management and by demonstrating wetlands PA operations that combine site specific and landscapes management to effectively mitigate threats to wetland biodiversity.

107. Furthermore, the project will also contribute to the objectives and priorities of Viet Nam's new National Strategy on Biodiversity 2020, Vision 2030 (NSB). The NSB calls for accelerated establishment of Wetland Conservation Areas in line with the provisions of the Law on Biodiversity and capacity building for WCA Management Boards as well as ecosystem services valuation of nature conservation areas. In terms of threats to wetlands, the NSB identifies destructive fishing and overexploitation of biological resources as key threats as well as conversion of intertidal mudflats and natural mangroves to aquaculture in coastal areas. The NSB, however, advocates for conservation approaches that support sustainable natural resource use while at the same time controlling natural habitat conversion and eliminating destructive exploitation of natural resources. Additionally, the NSB identifies the Red River Delta as among the key vulnerable areas that need to be prioritized for biodiversity conservation and sustainable use of ecosystems, particularly in the context of a changing climate.

108. The proposed project will thus contribute significantly to Viet Nam's key policy objectives and targets in relation to both wetlands biodiversity conservation and the country's growing concern regarding the sustainable management of its water and other natural resources.

2.3 Design Principles and Strategic Considerations

2.3.1 Coordination with Related Initiatives

109. The project has been designed to complement a number of related ongoing national initiatives and to avoid duplication of activities. The project will directly complement the on-going Government of Viet Nam/GEF/UNDP project on "Removing Barriers Hindering PA Management Effectiveness in Vietnam", which is working to strengthen management effectiveness and financing of existing protected areas. The value added of this project is the focus on strengthening the current state designated agencies for conservation of wetlands to

establish a new subsystem of wetland conservations areas, including a new model of wetlands conservation management that includes strong participation from a range of subnational stakeholders.

110. The long-running FAO/IMOLA Integrated Management of Lagoon Activities (IMOLA) project in Thua Thien Hue is also of particular relevance to this project. This project assisted the Thua Thien Hue Province to strengthen the sustainability of local fisheries-based livelihoods by introducing strategies to reduce unsustainable use of fishery resources such as protected aquatic reserves and co-management arrangements between local communities and government. Although the IMOLA project has now come to an end, the design of this project's site-based work in Tam-Giang-Cau Hai (TGCH) lagoon has drawn on the knowledge, achievements and lessons learned by this earlier project.

111. GIZ has a number of important programmes in Viet Nam of relevance to this project, including a major project on 'Conservation of biodiversity in forest-ecosystems in Viet Nam', which is being implemented with MARD. The project aims to improve institutional competences, capacities and resources within MARD for protecting and conserving biodiversity in forest ecosystems. The project supports the continuing development of the overarching legal and institutional framework at national level, and runs pilot schemes to introduce regulations and innovative management and financing approaches in selected protected areas. The experience gained feeds into policy advice and the ongoing development of existing policies at national level. At all levels, the capabilities of the players involved in the management of protected areas and maintenance of biodiversity are strengthened. The project's three main components are (i) capacity building; (ii) institutional and legal support and (iii) sustainable financing. This 10 year long project (2010 – 2020) is divided up into 3 phases. The first phase was from August 2010 until July 2013 with a total budget of around USD 4.3 million. Currently, with support from the project, the mandates, roles and coordinating mechanisms of the two ministries involved in biodiversity conservation and protected areas (MARD and MONRE) are being reviewed and reformed to reduce overlap and inconsistencies in roles and responsibilities. This project will amongst other things help clarify the role of each agency with respect to biodiversity conservation and management, which in turn will contribute to greater clarity on wetland biodiversity conservation and management. GIZ is also working in three coastal areas through the following projects: the "Conservation and Development of the Kien Giang Biosphere", in the far south of Viet Nam in the Mekong Delta; the "Management of Natural Resources in the Coastal Zone of Soc Trang Province", and "Sustainable Management of Coastal Forest Ecosystems in Bac Lieu Province". GIZ is also working on climate change adaptation in the Mekong Delta.

112. The project will coordinate particularly closely with GIZ on their work relating to development of institutional capacity and competencies for biodiversity conservation in order to avoid duplication or inconsistencies in approach and to create as much synergy as possible. The project will also ensure there is exchange of knowledge and information between GIZ and the project team as there are many areas in which GIZ's experience of working with the key institutional partners could greatly benefit this project.

113. Additionally, JICA is supporting MONRE to develop a national biodiversity database. The work is still in its early stages, but efforts will be made to ensure that wetlands information

is included in this database. JICA is also supporting a pollution monitoring project in Thua Thien Hue, where one of the project demonstration sites is located. This work is of great importance to the project's objective of reducing threats emanating from the wider landscape and is also of relevance to project activities relating to mainstreaming wetlands biodiversity considerations into wider frameworks for landscape level management (Output 2.2).

114. The objective of the JICA-supported project is to enhance the capacity of DONRE in Thua Thien Hue to control industrial water pollution through use of an industrial pollution inventory focusing on wastewater from industries. An assessment of 104 industrial companies on their compliance with environmental regulations revealed a low rate of compliance. Most of companies do not have a wastewater treatment facility and thus violate exiting regulations on wastewater quality. JICA is supporting the preparation of a system map on industrial pollution inventory focusing on 3 pollution parameters: Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD) and Total Suspended Solids (TSS).

2.3.2 UNDP's Comparative Advantage

115. UNDP has an acknowledged comparative advantage for capacity building and technical assistance in the field of environmental management. In line with UNDP's mandate as chair of the UNDG, the agency plays a key role in leveraging resources from a range of funding sources for Viet Nam. UNDP has been one of the leading government partners in developing national capacity for biodiversity conservation, including establishment and management of the national PA system in Viet Nam as well as providing technical assistance to the design and implementation of numerous biodiversity projects and programmes.

116. The project has been designed on experience and lessons from past UNDP PAs/wetland related projects, notably, UNDP-GEF Mekong River Basin Wetland Biodiversity Conservation and Sustainable Use Program (2004 - 2009); Vietnam PARC - Creating PAs for Resources Conservation (PARC) in Vietnam Using a Landscape Ecology Approach (1999 - 2004); and UNDP-GEF Biodiversity Conservation and Sustainable Use of the Marine Resources at Con Dao National Park (2006 - 2010). UNDP has teamed up with various organizations to promote biodiversity and wetlands conservation, sustainable use of natural resources, ecosystem preservation and environmental education in Viet Nam. UNDP's comparative advantage lies in its capacity to broker funds from national and international sources to assist countries meeting their environmental finance needs. UNDP is also a global leader on PAs through its signature work on PA establishment, management and financing support and fully complies with the comparative advantages matrix approved by the GEF Council.

117. This project fits well under UNDP's Biodiversity and Ecosystems Global Framework 2012-2020, *The Future We Want: Biodiversity and Ecosystems - Driving Sustainability*. Project Outcome 2 is fully aligned with UNDP's **Signature Programme 1** on "*Integrating biodiversity and ecosystem management into development planning and production sector activities to safeguard biodiversity and maintain ecosystem services that sustain human wellbeing.*" Thus, Outcome 2 focuses on influencing policy and planning frameworks at provincial level by mainstreaming wetlands biodiversity considerations into key provincial and sector development plans, including the adoption of specific standards and guidelines for example on responsible fisheries, aquaculture and agriculture and greater application of existing standards on water pollution and the EIA process. It also includes working with local producers at site-level,

primarily small-scale farmers, fishers and aquaculturists to introduce environmentally sustainable practices and increase community involvement in the management of local natural resources. Supplementary conservation-friendly sources of livelihood such as ecotourism will also be explored under this Outcome.

118. The project is also well aligned with UNDP's **Signature Programme 2** on *"Unlocking the potential of protected areas, including indigenous and community conserved areas, to conserve biodiversity while contributing towards sustainable development."* Thus, Outcome 1 is entirely focused on developing systemic capacity at national and subnational levels for the establishment and effective management of wetlands PAs in Viet Nam through new approaches that emphasize sustainable use and wider ecosystem-based approaches. Additionally, under Outcome 2, the project will also promoted greater community engagement in the management of new Wetlands Conservation Areas.

Alignment with UNDAF and One UN Programme

119. The project fits to UNDAF Outcome 1 "Government Economic support growth that is more equitable, inclusive and sustainable" and UN One Plan (OP) Outcome 1: "Government economic policies support growth that is more equitable, inclusive and sustainable", specifically, Outcome 1.4: "By 2016, key national and sub-national agencies, in partnership with the private sector and communities, implement and monitor laws, policies and programmes for more efficient use of natural resources and environmental management, and to implement commitments under international conventions. The project will contribute to the achievement of UN One Plan Output 1.4.2: "Coherent and consistent policies and plans formulated or updated, and operationalized for establishment of a wetlands protected areas (PA) system, more effective management of three protected areas systems (terrestrial, marine & coastal, and wetlands), and biodiversity conservation at national and community levels.

Gender considerations

120. Viet Nam has relatively good statistics for gender equality at the aggregate level. Policies on gender equity have improved over the last few years although challenges remain in policy implementation. Thus, women are still chronically under-represented in positions of authority in both the public and private sectors, and in political positions. Increased education levels for women have also not translated into gender equality in labour markets as more women are involved in vulnerable employment than men, and occupational segregation between women and men still exists. At the household level, there is an unequal sharing of household responsibilities between women and men and this continues to put a heavy burden on women to balance family and work. Vietnamese women struggle against long traditions of subordination and lack of decision-making authority in the household. Women's names continue to be absent from land use certificates and reported levels of domestic violence are also high and require urgent action, not just through legislation and enforcement, but also through attitudinal change in society amongst men towards women and their rights. Finally, the degradation of natural resources and the loss of biodiversity often impacts women disproportionately, as women and children are more dependent on natural resources for households' needs.

121. Men are more directly involved in the fisheries, aquaculture and services sector. Women play a critical role in both coastal development economies and in efforts to conserve coastal

resources but often face significant challenges to contribute to their effective management. Most of Fishery Associations' members and village and Commune People Committees heads are men, Traditionally, women in the project sites work in the rice fields, take care of livestock, collect mollusks and other aquatic products, as well as taking care of elderly people, children, other household members and various other household chores. They generally have a very limited role in decision-making on the livelihood choices and development of their family. They are also not often involved in training courses, social networks (other than the Women's Union), local meetings or micro-credit systems, and so they have limited access to knowledge, skills or inputs to adapt their household and livelihood practices to enhance their own wellbeing.

122. Conservation efforts that fail to take into account gender differences in resource use and management are likely to be unsustainable in the long term and could even contribute to increased poverty, inequality, and resource degradation.

123. The project will develop community capacity for sustainable management and use of local wetlands, thereby also increasing local adaptive capacity. Recognizing the disadvantages faced by women, the project will make a concerted effort to ensure that women are able to participate effectively in project activities that are most relevant to them, including having access to training and being able to engage in the establishment of the WCAs, and the development and implementation of the WCA management plan. The Project will fully integrate both men and women in the operation of the establishment of Wetland CA, and the planning and implementation of the activities at commune and village level. In particular the training for sustainable livelihood will incorporate a gender perspective, to ensure that the needs of women, who frequently form a marginalized group in the fishery and aquaculture sector, are taken into account and that implementation the project could promote gender equality. Thus, benefits made to households and communities should include safeguards to ensure gender equality.

124. The project will work with both groups to enhance their participation in the project activities as well as to promote gender equality in management of wetland protected areas, and in livelihoods improvement, in order to (1) empower women's role in awareness raising and education activities; (2) engage women in adopting more wetlands-friendly practices; (3) awareness raising and capacity building on climate change adaptation and natural disaster prevention for women.

2.4 Project Objective, Outcomes and Outputs/Activities

2.4.1 Project Framework

125. **The project objective is:** To establish new wetland protected areas and to create capacities for their effective management to mitigate existing and emerging threats from connected landscapes. This will be achieved by removing the barriers described in Section 1.6 that currently prevent the effective conservation and sustainable use of Viet Nam's wetlands. Project interventions to overcome these barriers have been organized into two inter-related components that reflect the GEF's focus on system-level solutions and on influencing behavioural change at different levels.

126. **Component 1** focuses on overcoming the existing gap in Viet Nam's otherwise impressive national PA system, namely the inadequate representation of wetlands ecosystems, which are being increasingly threatened by other economic sectors. In order to do so, activities under Component 1 are centred on developing systemic capacity at national and subnational levels for the establishment and effective administration and management of a subsystem of wetlands PAs in Viet Nam, which is currently lacking. For historical reasons, MONRE, the agency with state responsibility for wetlands biodiversity conservation has no experience of establishing, administering or managing PAs either nationally or at site-level through its provincial arm DONRE (see Sections 1.4 & 1.6). There is also limited capacity within the wider provincial governments for planning and managing wetlands specifically to maintain and strengthen biodiversity values, although this is also of critical importance as PAs within a single province's boundaries are established and managed by the concerned PPC. Therefore, under Component 1, the project will develop capacity for effective wetlands conservation planning, administration and management both within MONRE and DONRE as well as within other key sections of provincial and district level-government, through the following inter-related strategies: 1) formal training on selected aspects of wetlands biodiversity planning and management as well as 'learning-by-doing' i.e. through the actual process of establishing two new wetland conservation areas (WCAs); and 2) by improving coordination and collaboration and thus synergies between the work of different government departments and agencies both at national and provincial levels.

127. **Component 2** addresses the lack of capacity among key stakeholders from government to local communities to effectively identify and manage threats to wetlands arising from activities and interventions within the wider landscape, particularly upstream in the catchments of their water sources, but also in terms of key breeding and feeding sites for migratory species. Effective wetlands management requires an approach that explicitly takes into account ecological and economic connections within the wider landscape. However, these critical linkages and the implications of wetlands degradation and loss are often poorly understood. There is also often limited knowledge of the potential tools available for managing and mitigating threats to wetlands biodiversity and promoting sustainable use and conservation. Component 2 seeks to address this particular barrier through a combination of: 1) increasing understanding of the economic benefits of wetlands and the landscape-level linkages critical to their long-term sustainability; 2) developing capacity to apply a range of mechanisms and tools for mainstreaming wetlands conservation and sustainable use principles into broader land use governance and development planning frameworks; and 3) developing the capacity of local agriculturalists and fishers to adopt practices and techniques that are more wetlands biodiversity-friendly with a particular focus on threats arising from rice cultivation, aquaculture and fishing.

128. The project will work at both national level and undertake some pilot work at two sites: Tam Giang-Cau Hai coastal lagoon and surround landscape in Thua Thie Hue Province and Thai Thuy coast and surrounding landscape in Thai Binh Province. These two sites were selected through a process of applying objective criteria validated through national and local stakeholder consultations and field visits (see Annex 4).

129. The delivery of these two components will result in the following two outcomes:

Outcome 1: New wetland PAs and relevant systemic capacities for their effective management established *(Total cost: US$ 11.1 million; GEF US$2.0 million; Co-financing US$ 9.1 million)*

Outcome 2: Integrity of wetland PAs are secured within the wider wetland connected landscapes *(Total cost: US$6.05 million; GEF US$1 million; Co-financing US$ 5.05 million)*

130. Activities under these two outcomes will be focused at three levels of intervention: i) working with national public institutions and agencies, particularly within MONRE, to develop systemic, institutional and individual capacity for establishing and administering a subsystem of wetland PAs, which will be known as Wetland Conservation Areas (WCAs); working with provincial and district level public institutions and agencies to develop institutional and individual capacity for site-based and landscape-level wetlands planning, conservation and management; and site-level engagement with local stakeholders, including local communities, to implement measures for the conservation and sustainable use of two demonstration Wetland Conservation Areas. These outcomes and their associated outputs are discussed further below after a brief description of the demonstration sites selected for the establishment of two new WCAs.

2.4.2 Introduction to Project Demonstration Sites

131. The two sites for establishing new wetland PAs – Tam Giang-Cau Hai lagoon and Thai Thuy coast - were identified through a review of the literature and consultations with experts and key stakeholders at national and provincial level. Criteria for selection included global and national biodiversity significance of the site, representativeness, absence of formal protection and the potential for testing new models for wetlands management and conservation (see Annex 5 for further details). Further information on both sites is given in Annex 6.

The Tam Giang-Cau Hai Lagoon System (TGCH)

Biological significance

132. Located along the coast of Thua Thien Hue (TTH) province in central Viet Nam and covering an area of c. 21,620 ha, Tam Giang-Cau Hai is considered the largest coastal lagoon system in Southeast Asia. The lagoon system runs parallel to the East Sea for c. 70 km and includes diverse habitat types from river deltas to estuaries with inlets surrounded by sand dune barriers as well as shallow open waters and seagrass beds. There are two main outlets to the East Sea, the Thuan An opening to the north and the Tu Hien opening to the south. The Huong, Dai and O Lau rivers all feed into this lagoon system.

133. Tam Giang-Cau Hai (TGCH) is an extremely dynamic system characterized by high levels of diversity due to spatial and temporal variation in ecological conditions across the lagoon complex, particularly differences in salinity levels and between dry and rainy seasons.

Under the Ramsar wetlands classification systems, TGCH is classified as a brackish coastal lagoon (J type) comprising four major wetland habitat types:

- vegetated wetlands, that consist mainly of marshes/swamps;
- non-vegetated wetlands, that comprise mudflats and sandflats;
- permanently submerged wetlands, some of which support seagrass beds;
- artificial wetlands, comprising aquacultural ponds and rice fields.

134. In terms of species richness, 921 species have been documented in TGCH so far, including 287 phytoplankton species and 223 fish species, including one species that is endemic to Viet Nam, *Cyprinus centralis*, and six that are recorded in the Red Book of Viet Nam, which lists nationally threatened species. The lagoon is an important nursery area for both inland and marine fish species and is also important for birds: 73 species of waterfowl have been recorded here including 34 migratory species, including one species, the Asian Dowitcher, (*Limnodromus sesmipalmatus*), a migratory wader that is near-threatened globally and nationally endangered.

135. It is likely that the true number of species found at TGCH is much higher, given that invertebrates and lower plants are generally insufficiently documented. The O Lau river mouth to the north of the lagoon system is exceptionally rich in animal and plant diversity as this is an estuary area where freshwater from the O Lau river and brackish lagoon water mingle. The area is an important breeding ground for aquatic species as well as a staging ground for migratory birds. As a result, there have been earlier proposals to protect O Lau in particular, including a proposal in 2004 to establish a wetlands restoration area around the O Lau river mouth with designated core and buffer zones and a more recent 2008 proposal to establish a co-managed Conservation Area. While some initial steps were undertaken to implement the 2004 proposal in particular, for example, stopping cultivation and aquaculture around the proposed O Lau Core Zone, these proposals have yet to be implemented systematically, mainly due to a lack of clear policy direction.

Local livelihoods

136. TGCH is also an extremely productive and intensively used lagoon system. Aquaculture, fisheries and agriculture are the main sources of local livelihood, with some seasonal and fulltime employment in the trade, construction and services sector. At least, 300,000 people live in and around the lagoon distributed between 1 town and 236 villages grouped into 32 communes spread over 5 districts. It is estimated that around 100,000 people depend directly on the lagoon and engage in capture fisheries and/or various forms of brackish water aquaculture (mainly intensive and semi-intensive tiger shrimp cultivation and some other shrimp, fish, mollusc and crab culture). Aquaculture was introduced in the 1980s, as the lagoon was identified as ideal for this, particularly in areas near the two openings to the sea and in areas connected to muddy low-lying swamps. Extensive areas of soft substrate combined with shallow water are especially favourable for aquaculture and large areas of the land along the edge of the lagoon have been converted to aquaculture ponds along with farming cages.

137. The varied ecological conditions across the lagoon complex have also resulted in a diversity of economically useful naturally occurring fish species and other aquatic resources. Capture fisheries are of a small-scale artisanal nature using many different types of fishing gear according to location, season and target species. Capture fisheries takes place mainly in the

lagoon, but communities living near rivers and closer to the sea, also engage in fishing these areas.

138. The livelihoods of another 200,000 people are based on a combination of coastal agriculture (mainly rice cultivation) and part-time or occasional aquaculture and capture fisheries and some animal husbandry. Some 17,700 ha of land is cultivated around the lagoon, 64% of which is under rice and other food-grains. Other crops include cassava, potato, peanut, green melon, chillis and coriander. Soil suitability for agriculture varies around the lagoon and agriculture is concentrated in areas where soil is not affected by salinity or high levels of aluminium.

139. Poverty incidence (based on a poverty line of US$1/day) in the lagoon communes varies between 55-70% and is much higher than the national average for rural areas of 36%. A small proportion of the local population comprise the Sampan or 'boat' people, who traditionally lived on boats all year round and relied primarily on fishing for their livelihoods. However, the Sampan have been resettled through various government programmes and no longer live on houseboats in the lagoon.

Threats to TGCH's biodiversity and ecological integrity

140. There are a number of direct and indirect threats to the TGCH lagoon complex. Pollution is a major threat to the lagoon and arises from untreated and largely uncontrolled raw sewage, industrial waste and a range of agricultural and aquacultural inputs including fertilizers, pesticides and medicines. A further source of pollution is oil: a number of studies have shown that the lagoons are polluted by oil from boats and ships. Other threats from human activities include land reclamation for urban development, over-exploitation of aquatic resources, such as fish, shellfish, *Gracilaria* algae and seagrass beds, and destructive fishing practices using inappropriate methods and gear. Finally, upstream reservoir construction threatens to reduce nutrient inflows and alter hydrological regimes in the catchments of some rivers that drain into the lagoons, while deforestation threatens to make the rivers of this area more prone to sedimentation and sudden flooding, thereby further increasing turbidity and sediment loads.

141. There are also threats due to natural processes of topographical change caused by sedimentation and erosion. For example, Nguyen Chu Hoi et al. (1998) cite the example of the Tu Hien inlets of Tam Giang lagoon, which were cut off from the sea by storms in December 1994. This led to a decline in salinity, the submergence of 1,000 ha of rice paddies and loss of production from 30 ha of shrimp ponds. There are also growing climate-related impacts, the most visible of these being increasing coastal erosion, which is resulting in greater saline intrusion into the lagoon and altering salinity levels around the two sea inlets.

Thai Thuy

Biological Significance

142. Covering 13,696 ha in Thai Thuy District of Thai Binh Province in northern Viet Nam, the proposed Thai Thuy Wetlands Conservation Area has been identified as one of seven key wetland sites within the Red River Delta Biosphere Reserve (RRDBR), approved by UNESCO

in 2004. The area includes 16 km of coast bounded by the Thai Binh river to the north and the Tra Ly river to the south. To the north, Thai Thuy borders Tien Lang wetlands, also part of the RRDBR. A third river, the Dien Ho, also flows into the area and out to sea. Key habitat types found here include mangrove forests, intertidal mudflats, sandy beaches and aquacultural ponds. The mangrove forests found around the Thai Binh and Tra Ly river mouths, which cover some 300 ha dominated by *Sonneratia caseolaris,* represent the largest remaining tracts of old-growth mangrove in the Red River Delta. Other patches of mangrove found here were replanted with *Kandelia candel*. Most of Thai Thuy District's coastal land has been converted to aquacultural ponds, which cover some 175 ha. Aquaculture ponds dominate on the landward side of a sea dyke that runs parallel to the coast, to the west of the proposed WCA, and around the Tra Ly river mouth. Sedge and other grasses are grown in the ponds to protect these against wave and storm damage and where possible, mangroves may also be planted for the same purpose.

143. The Thai Thuy coast is of particular importance as a wintering ground for migratory birds in the Red River Delta and is consequently classed as an Important Bird Area (IBA) by BirdLife International. Around 100 species were recorded here in a 2005/6 survey, including six globally threatened or near-threatened species. These included the vulnerable Saunders's Gull (*Larus saundersi*), the critically endangered Spoon-billed Sandpiper (*Eurynorhynchus pygmeus*), the endangered Baer's Pochard (*Aythya baeri*), the near threatened Ferruginous Pochard (*A. nyroca*) and two vulnerable raptors, the Greater Spotted Eagle (*Aquila clangai)* and the Imperial Eagle (*A. heliaca*). BirdLife has continued to monitor the site periodically since 2005/6 and the Viet Nature Conservation Centre confirmed during the project preparation that the site remains a globally significant for bird conservation. Further details of the bird diversity of Thai Thuy are provided in Annex 6.

Livelihoods

144. There are 5 communes to the west of the proposed WCA with a total population of a little over 35,000 and a further nearly 10,000 people living in Diem Dien, the main township of Thai Thuy. Local livelihoods are centred on fishing, aquaculture and agriculture. Some households are also engaged in salt production, while a few wealthier households undertake clam farming on the beach. In Thuy Xuan and Thuy Hai communes, c. 70% undertake mainly fishing and aquaculture, while 20% are involved in salt production. In Thuy Truong near the Thai Binh river mount, on the other hand, communities are largely engaged in agriculture, primarily rice production, which is cropped twice a year. Aquaculture in Thuy Truong is carried out outside the main dyke in concrete-banked ponds each c. 5 ha in size and includes fish, crab and shrimp farming. Additionally, local residents undertake some clam farming along the Thai Thuy beach. There is also small-scale local trade that has developed in connection with local aquaculture and agriculture.

Threats to Thai Thuy's biodiversity and ecological integrity

145. A major on-going threat to Thai Thuy's wetlands is the loss of habitat due to conversion to other forms of use, particularly new afforestation of intertidal mudflats with mangroves as a means of coastal defence, the creation of aquaculture ponds and, more recently, conversion to clam culture. Another key direct threat is overexploitation of fish, including use of destructive techniques such as electric fishing. Unregulated shellfish collection on mudflats is another source of disturbance. Hunting of birds using mistnets, airguns and shotguns was a major problem in the

past and is thought to have led to the disappearance of some globally threatened species that were previously recorded here, including the Chinese Egret (*Egretta eulophotes*), Black-headed Ibis (*Threskiornis melanocephalus*) and Black-faced Spoonbill (*Platalea minor*). These activities are now strictly controlled and hunting of birds was not mentioned as a major problem by stakeholders consulted during project preparation. However, pollution remains a key threat. Pollution results mainly from agricultural run-off, inputs used for aquaculture and clam culture (e.g. medicines) and the outflow from two industrial processing units, which flow into the rivers that drain into the area. Additionally, there is some lopping of old-growth mangroves for wood by local communities.

146. Indirect threats include provincial and sector plans to expand the area under mangroves and clam culture in Thai Thuy. There is also on-going interest to expand the area under aquaculture. Additionally, in 2011, the Prime Minister agreed to a proposal by Thai Binh Province to create the Thai Binh Coastal Economic Zone. This will cover 30,000 ha of Tien Hai and Thai Thuy districts and would be included in the Vietnam Coastal Economic Zones Master Plan toward 2020. Currently, the province is preparing detailed planning for this Economic Zone, which includes proposals for a deepwater harbour and additional industrial parks.

2.4.3 Project Outcomes, Outputs and Activities

Outcome 1: New wetland PAs and relevant systemic capacities for their effective management established *(Total cost: US$ 11.1 million; GEF US$2.0 million; Co-financing US$ 9.1 million)*

147. Outcome 1 addresses current gaps in Viet Nam's PA system by strengthening systemic, institutional and individual capacity for establishing, administering and managing a biogeographically representative and ecologically viable subsystem of wetland PAs (i.e. Barrier 1, Section 1.6). The major thrust of project support under this outcome will be to strengthen national and provincial capacities for planning, administering and managing wetland PAs. This will include support to MONRE to develop technical capacity and to institutionalize wetlands-specific PA planning and administration functions at national level. At provincial level, the project will focus on developing technical capacity for site-based and landscape-level wetlands conservation planning and management. The project will also support the development of stakeholder engagement and partnership-building skills to enable both MONRE and provincial governments to approach wetlands management in a more vertically and horizontally integrated fashion, by developing greater buy-in from, and effective collaboration with, all relevant government departments and agencies at national and local levels, as well as the cooperation and support of local communities and the private sector. The project will also support the updating of the national policy and regulatory framework for wetlands conservation.

148. The project emphasizes a 'learning by doing' approach to capacity development: this involves MONRE and local governments working together to establish two new Wetland Conservation Areas (WCAs) that are not only biogeographically important, but also representative of the specific challenges and complexities that planners and managers have to deal with to achieve the policy goals of effective wetlands biodiversity conservation and sustainable use. The practical experience of establishing these WCAs will develop national and

provincial technical capacity that is specific to effective wetlands conservation and management. At national level, this will include learning to assess and analyse Viet Nam's wetlands ecosystems for inclusion in the national PA system; developing the technical skills for analyzing landscape-level threats to wetlands and planning for mitigating these; developing new models for wetlands conservation and sustainable use that recognize and sustain the vital economic services provided by wetlands while also maintaining their globally and nationally significant biodiversity.

149. At provincial level, this will include the development and institutionalization of key PA planning and management functions, such as: a) baseline assessments, consultations, boundary demarcation and legal establishment of a wetlands PA; b) the preparation of PA management plans, sustainable financing plans, biodiversity and threat monitoring plans and community/stakeholder engagement plans; c) the development of the skills and capacity needed to implement vital site-based PA management functions, including adaptive management, monitoring, patrolling and enforcement, stakeholder engagement and conflict resolution; and d) the technical skills and capacity needed to assess and respond to threats arising to the wetland PAs from the wider landscape. This vital "hands on" experience will benefit the wider replication of wetland conservation management measures across Viet Nam.

150. The work undertaken under Outcome 1 will form a solid foundation of technical skills, knowledge, practical experience and a strengthened enabling environment on which MONRE can build to fulfil its mandated role to expand the representation of wetlands in the national PA system and ensure their effective management.

151. The outputs planned to achieve Outcome 1 are described further below.

Output 1.1 New and updated national policy, regulatory and planning frameworks for wetlands conservation

152. This output focuses on delivering key actions needed to strengthen the legal and planning framework for wetlands conservation in Viet Nam, namely a revised wetlands inventory based on a standardized wetlands classification system; a new decree on the conservation and sustainable use of wetlands to replace Decree 109 and associated legal guidance; and new national Wetlands Action Plan. Together these will provide the over-arching support needed to clarify roles and responsibilities for wetlands conservation as well as to identify and fill biogeographic gaps in the existing PA system and address other key priorities in relation to wetlands, particularly for wetlands management capacity development and sustainable financing.

153. The most intensive and comprehensive inventory of wetlands in Viet Nam was undertaken in the late 1980s. There have been further efforts to inventory wetlands since then, but these have been on a smaller scale or for subsets of wetlands. In 2001, VEA (then the National Environment Agency) identified a list of 68 wetland sites of particular biodiversity and environmental significance, while further studies were conducted to identify significant wetlands in coastal areas in 2006/7. Meanwhile, in 2007, a new national wetlands classification system was developed by VEA (by then the Viet Nam Environment Protection Agency) jointly with experts from academic institutions. This identifies 38 wetland types in Viet Nam and is consistent with the Ramsar Classification of Wetlands, facilitating comparison with other

international wetlands. As part of the project, MONRE will decide whether to continue using this classification for the development of a subsystem of wetlands conservation areas or whether this needs further revision and refinement, particularly to identify and classify those wetlands of greatest global significance.

154. Effective national-level planning for wetlands conservation also requires an up-to-date, comprehensive inventory of Viet Nam's wetlands. The project will therefore provide support to revise, update and consolidate existing inventories of wetlands in Viet Nam into a geo-referenced database using the agreed national wetlands classification system, with an initial focus on consolidating information on those wetlands of greatest global significance. This will include details of their location, area, biodiversity and ecosystem values including global and national significance, existing economic uses, ecological status, key threats and status of legal protection in order to identify the priority areas for establishing additional wetlands conservation areas. The database will also explore ways to consolidate and incorporate information relevant to wetlands conservation and management that is currently held by different sections of MONRE within the new database. A biodiversity database is currently being developed with support from JICA, but is still at a very preliminary stage. The wetlands database planned under this project will either be part of this broader database or be a relatively simple stand-alone database, designed in such way that it can be easily integrated into the biodiversity database at a later stage if required.

155. A mechanism for ensuring that the database becomes a meaningful tool will be developed and tested in the two demonstration sites, by providing support to DONRE to establish related linked databases on the two WCAs that can feed into national database for monitoring and adaptive management purposes.

156. Additionally some limited project support will be provided to prepare a new decree on the Conservation and Sustainable Use of Wetlands to replace Decree 109 of 2003 on the Conservation and Sustainable Development of Wetlands in order ensure proper alignment with the new Biodiversity Law of 2008 (Section 1.3) and to reflect developments in understanding about the value and special management requirements of wetlands. MONRE has already undertaken a review of Decree 109 through a series of consultations and developed a broad framework for the new decree on wetlands for further discussion. This has involved amongst other things considerable discussion about a revised definition for wetlands as the Ramsar definition is considered too broad, while the definition given under Decree 109 is considered too narrow. It has also been decided by MONRE that the new wetland PAs will be termed wetland conservation areas (WCAs) to distinguish these from earlier PAs, most of which were established in existing Special Use Forests (Section 1.7), as well as to align with the Inland Water Conservation Areas proposed under the Law on Fisheries and Decision 1479 (Section 1.4).

157. The new decree on the Conservation and Sustainable Use of Wetlands will cover amongst other things:

(i) the categorization of new wetland conservation areas (WCAs) according to types, management objectives, functions, level of protection and uses that may be permitted while maintaining the desired ecological character and values of the wetlands;

(ii) management responsibilities in relation to WCAs from national to local level, including the extent and types of community and private sector engagement in natural resource management;
(iii) an emphasis on adopting an ecosystem-based approach to wetlands management
(iv) reference to the importance of assessing and valuing ecosystem services generated by wetlands.

158. Additional circulars/guidelines will also be prepared by MONRE as needed to clarify and guide the implementation of the new decree on the Conservation and Sustainable Use of Wetlands

159. Finally, as the earlier period of the National Wetlands Action Plan came to an end in 2010, the project will support the preparation of a new five-year National Wetlands Action Plan towards 2020, which will be completed by the end of Year 2. The new plan will build on the achievements of the earlier plan and be developed in a participatory manner, adopting an integrated intersectoral approach to set priorities and identify key actions and processes for achieving the new plan's objectives. It will also clarify roles and responsibilities in relation to the most important wetlands in Viet Nam from a global biodiversity conservation perspective. Significantly, this plan will focus on developing a financing strategy to ensure the long-term sustainability of wetlands biodiversity conservation in Viet Nam.

160. In 2013, Viet Nam approved a new National Biodiversity Strategy prepared by MONRE with support from UNDP and GEF. The new National Wetlands Action Plan will be one of several action plans developed under the National Biodiversity Strategy. The new Wetlands Action Plans will also be aligned with the New Protected Areas Strategy that is currently under development.

Output 1.2 Strengthened national capacity for administration of wetland conservation areas

161. Planning, establishing and monitoring a wetlands PA subsystem requires a certain outlook and approach as well as specific kinds of technical knowledge and expertise that are currently lacking within MONRE, particularly within its newest agencies, such as BCA (Section 1.5), which has limited experience of planning or administering a PA network or of landscape-level biodiversity planning and threat mitigation. Additionally, skills in areas such as negotiation, partnership-building, coordination and conflict resolution, are particularly essential for wetlands planning and management given the need to work with multiple sectors to resolve potential conflicts in policy objectives and priorities and mitigate threats that arise from development activities in the wider landscape.

162. Output 1.2 has been designed to address the shortfalls in capacity for effective wetlands PA establishment and management in Viet Nam as identified through the UNDP Capacity Scorecard, which was completed by MONRE during the PPG. This confirmed that of the five strategic areas covered by the Scorecard, MONRE had least capacity to implement policies, legislation, strategies and programmes for wetlands PAs with a baseline score of only 21% for this particular area (see Annex 2: Table A2.2). Not surprisingly, capacity was low or completely lacking in all aspects assessed under this strategic area given the limited number of wetlands within the PA system and MONRE's lack of experience in this area. Capacity to mobilize

information and knowledge for effective wetlands management was also relatively low with a baseline score of 33%. Other areas assessed had baseline scores of 43% or higher. The overall score for all five strategic areas was 33% (See Annex 2 and Table A2.2).

163. Output 1.2 thus focuses on developing the skills and knowledge needed to fill the capacity gaps identified in the scorecard and confirmed and further elaborated through further discussions with BCA and ISPONRE, in order to enable MONRE to implement a new, integrated approach to wetlands planning and conservation in Viet Nam. Capacity gaps at the subnational level identified during project preparation are addressed separately under Output 1.4. It is particularly important to increase the skills and capacity of existing staff working on biodiversity management within MONRE as well as to build strategic partnerships with both relevant research institutions that are already working on different aspects of wetlands ecology and sustainable management. The project will help build capacity at central, provincial and local levels so that at the end of the project the overall Capacity Score Card will have a score of 60% or more.

164. Training will be particularly targeted at BCA, who have primary responsibility for all matters relating to wetlands biodiversity conservation. This will include the development of the knowledge, skills, tools and systems needed to plans, establish, administer and monitor a biogeographically representative and ecologically viable national wetlands PA subsystem. Additionally, as noted earlier in the Stakeholder Analysis (Section1.7), there is considerable technical expertise and knowledge relevant to the effective conservation and sustainable use of wetlands within other sections of MONRE and other government agencies and departments that needs to be better harnessed and integrated. Thus, capacity development under this output will also emphasize developing the negotiation and partnership-building skills needed by BCA in particular to bring together all relevant major actors and stakeholders on wetlands in Viet Nam, both within MONRE and outside, in order to strengthen coordination and collaboration and promote a new approach to wetlands conservation and management.

165. In order to bring about a shared understanding, some targeted technical training will also be provided to selected members of key departments and sections of MONRE on amongst other things wetlands values, ecology, threats and options for mitigating the latter, including the tools and techniques available for landscape-level planning and management. The training courses will also serve as an opportunity to bring key members of BCA and ISPONRE together with staff from other important sections of MONRE including, the DWRM, PCD, DWMEP, VASI, IMHEN and others as relevant. An important result of the training proposed under Output 2.2 is to strengthen working relations between these different departments of MONRE and foster greater collaboration and coordination.

166. Capacity development under this component will build on the already considerable assessment and planning work being undertaken on institutional and individual capacity development within the PA management sector in Viet Nam through both the GoV/UNDP/GEF "Removing Barriers Hindering Effective PA Management in Viet Nam" and various programmes supported by GIZ. For example, the project will preferentially support innovative approaches to training and capacity development as recommended in the training needs assessments conducted for the GoV/UNDP/GEF "Removing Barriers" project. The report of this assessment strongly recommended "*diversification … towards more on-the-job training using*

practical examples of day to day duties and examining in a training context how to improve performance and achieve biodiversity and protected area benefits while at least doing no harm to, and if possible improving, livelihoods."[36] It also recommended the use of 3D group mapping exercises as a useful and powerful tool for landscape planning for protected areas, which is particularly suited to this project. The "Removing Barriers" project is currently developing some training courses based on the recommendations arising from the training needs assessment.

167. Meanwhile, GIZ has been supporting conservation management capacity self-assessments of different agencies with a focus on existing PAs, i.e. those that have been established in SUFs and thus primarily on DARD and MARD. A key finding of these GIZ-supported assessments is that capacity development within the Biodiversity and PA management sector has been very much donor-driven and project-based and therefore is very patchily distributed with limited institutionalization of skills and knowledge development across the sector. Based on this work, GIZ will also be preparing a Capacity Development Plan by the end of 2013 and starting pilot training programmes in 2014.

168. This project will make full use of the knowledge and experiences generated by the on-going GIZ and "Removing Barriers" projects to design and deliver targeted programmes and training to develop MONRE's capacity to plan, establish and administer wetlands PAs. In doing so, the project will avoid duplication and instead seek opportunities to complement and build synergies with these programmes. For example, GIZ has capacity development work has primarily focused on DARD, while this project will be more focused on DONRE. This project will also see how any materials and programmes developed by GIZ or under the "Removing Barriers" could be adapted to meet the specific capacity development objectives of this project, i.e. by tailoring these for wetlands PA planning and management. Different institutions will be used to provide different types of capacity development. The project may work with the same institutions that GIZ and the "Removing Barriers" project for developing and delivering its capacity development programmes but also explore alternative options where these may be more appropriate. For example, technical knowledge can be provided through specialized institutions such as the Forestry University, while training in field assessment and monitoring skills may be better provided by institutions such as the Institute of Ecology and Biological Resources. Training in soft skills such as coordination, negotiation and partnership building, could be provided by organizations such as AIT in Viet Nam. It will also explore the potential for institutionalizing such training through MONRE's own Staff Training School, through Training of Trainers and adding certain modules to the existing curriculum.

169. Under this Output, the project will also help to strengthen mechanisms for knowledge and information sharing between key national stakeholders in order to strengthen both intrasectoral and intersectoral coordination and cooperation. In order to do this, the project will support the establishment of a new National Wetlands Working Group (NWWG). Members of this group will be drawn from the key departments within MONRE and MARD, other relevant ministries and agencies such as the Ministry of Culture, Sports & Tourism, Ministry of Trade & Industry, Ministry of Planning and Investment, and key technical experts from academic and research institutions as well as managers of existing wetland areas. Where appropriate members of key departments represented on the proposed Steering Committee for the new National Protected

[36] http://www.iapad.org/p3dm_guiding_principles.htm

Areas Strategy would also be members of the NWWG in order to ensure the harmonized development and management of new Wetland Conservation Areas within the existing PA system. Members of relevant NGOs that may also be included in the group include: IUCN Viet Nam, which has a long institutional history of working with GoV on wetlands; the newly established Viet Nam Wetlands Association; the Viet Nature Conservation Centre, which also has considerable knowledge of wetlands of particular significance to globally significant birds; and WWF, which is actively involved in biodiversity conservation in Thua Thien-Hue through mangrove planting, biodiversity planning and establishment of the biodiversity corridor.

170. The NWWG's functions will include technical and policy advice as well as championing the wetlands conservation and sustainable use agenda at national level. The activities undertaken under this output will result in a cadre of professionals within MONRE with the necessary outlook, skills and knowledge to plan and administer an effective wetlands PA subsystem and to collaborate and coordinate effectively with other departments and sectors relevant to wetlands conservation and sustainable use. Additionally, the NWWG will be an important mechanism for enhancing intersectoral networking and cooperation to further drive the wetlands conservation agenda forward at a national level. BCA and ISPONRE will lead the formation of the NWWG at the national level and will also ensure good communication between the NWWG and the provincial-level Wetlands Working Groups that will be established in the two demonstration sites (Output 1.4).

Output 1.3 Two new wetland conservation areas established with management systems in place

171. Under this Output, the project will establish two new wetland PAs: the Tam Giang-Cau Hai Wetlands Conservation Area covering 21,620 ha in Thua Thien Hue Province in central Viet Nam; and the Thai Thuy Wetlands Conservation Area covering 13,696 ha in Thai Binh Province in northern Viet Nam (Figures 1 & 2). These will be established in accordance with existing biodiversity and PA legislation. However, MONRE proposes to pilot new management approaches that emphasize sustainable use and greater community engagement in site-based biodiversity conservation and management. A draft management framework for WCAs has been prepared during the PPG phase (Annex 7). This includes details of the broad proposed objectives of each WCA, as well as the key features of the proposed new approach to wetlands management, including promoting wetlands-friendly livelihood practices, principles for zonation as well as preliminary zonation plan and institutional management arrangements. The framework also suggests that WCAs are best aligned with the Species/Habitat Conservation Area category of the Law on Biodiversity (Chapter III) and with IUCN PA Category VI.[37]

172. Article 19 of the Biodiversity Law states that Species/Habitat Conservation Areas may be defined at either national level or provincial level. The main criteria for such areas established by provincial governments as proposed in this project are that these areas should conserve local

[37] IUCN Category VI PAs are described as follows: "*Protected areas that conserve ecosystems and habitats, together with associated cultural values and traditional natural resource management systems. They are generally large, with most of the area in a natural condition, where a proportion is under sustainable natural resource management and where low-level non-industrial use of natural resources compatible with nature conservation is seen as one of the main aims of the area.*"

Figure 1: Layout of Proposed Tam Giang-Cua Hai Wetlands Conservation Area

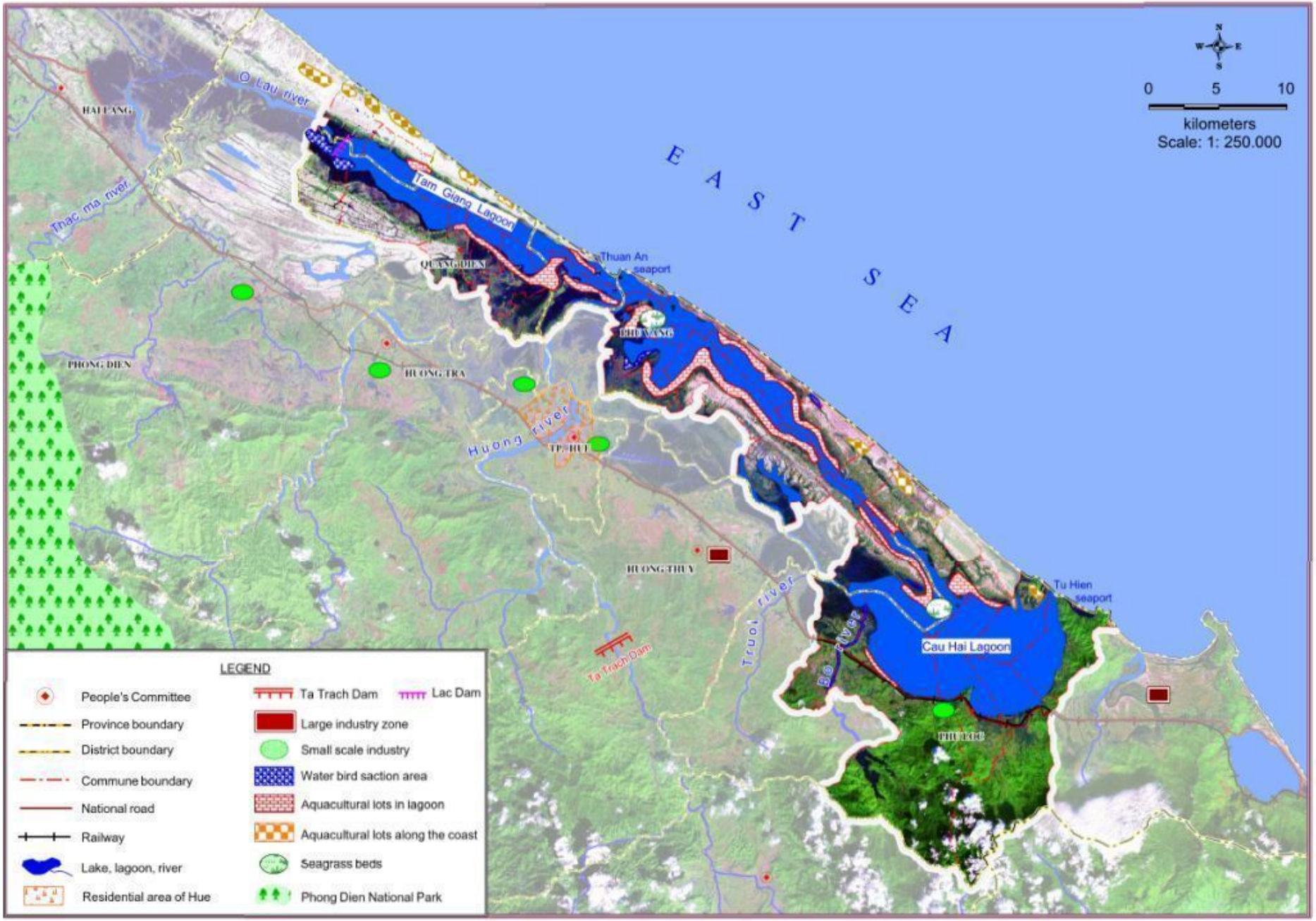
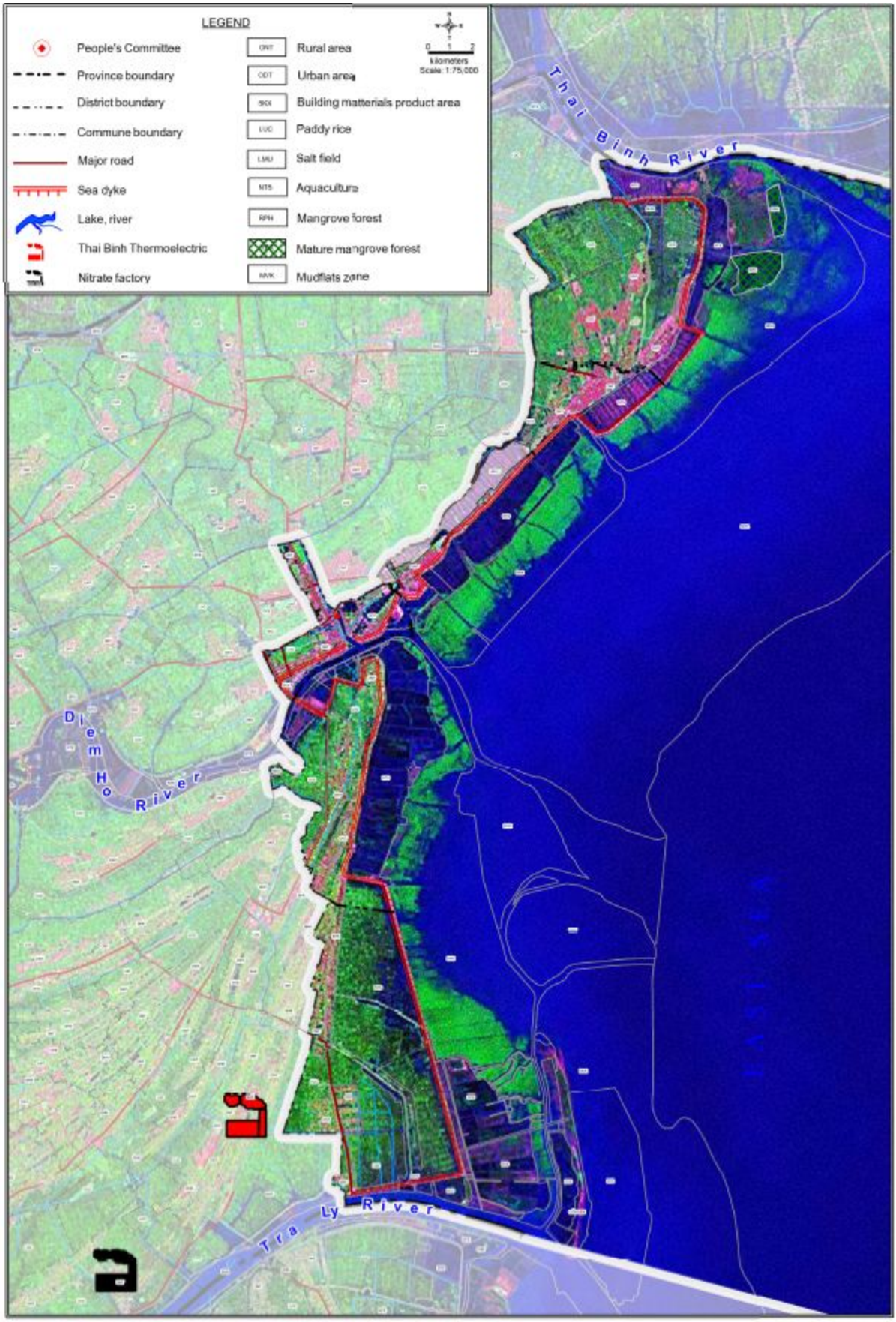


Figure 2: Layout of Proposed Thai Thuy Wetlands Conservation Area



wildlife. Despite these relatively simple criteria, the actually process of establishing a new PA, particularly in an area that is not already under the control of a government agency, such as the SUFs under MARD, will be both time-consuming and complex, especially as these areas already have many residents and economic activities taking place in and around them. While both sites have earlier proposals for establishing PAs, in the case of TGCH, this was only for a relatively small area around O Lau river mouth to the north, while in Thai Thuy, much has changed since the original proposal was developed in the 1990s (see Annex 6). Thus, establishing the two WCAs will involve clarifying land and other resource uses and rights and obtaining the buy-in of multiple stakeholders, which in turn will require time both in terms of legal proceses and consultation both within government and with local communities and other interest groups. Many stakeholders are likely to be concerned that establishing the WCA may result in the loss of access to resources and other opportunity costs that will not be adequately compensated. Thus, establishing the WCA will require considerable dialogue, negotiation and engagement, to explain the benefits of proposed new wetlands management approaches to local stakeholders and obtain their inputs and agreement on specific strategies. However, while both WCA's are only likely to be established by the end of Year 2 of the project, many planning and conservation activities will be started well before then in order to begin reducing threats to wetlands biodiversity. For example, the results of the ecosystem services assessment and valuation undertaken under Output 2.1 in Year 1 will serve as a valuable input for engaging and negotiating with key stakeholders in the management planning process.

173. Output 1.3 thus focuses on the key activities needed to establish the Tam Giang-Cau Hai WCA (TGCH WCA) and the Thai Thuy WCA (TT WCA) and to ensure that all the tools and systems necessary for their adaptive management and sustainable use are in place. As the WCAs are being established in two different provinces, each one will be established by their concerned PPC as stipulated under Article 8 of Decree 65, which guides the implementation of the Biodiversity Law. Therefore, the project will support DONRE to work with the concerned PPCs to establish the WCAs. This will involve providing support for the basic additional surveys, reviews and stakeholder consultations needed for the establishment of the two WCAs and to further develop their proposed management framework. Specific activities will include:

- simple baseline biodiversity surveys focusing on mapping major wetland types, habitats and areas as well as reconfirming the baselines of selected indicator species and habitats including seagrass beds and bird species surveys in TGCH and the area and average height of old growth mangroves and the area of intertidal mudflats in Thai Thuy
- updated socioeconomic assessments of each WCA, focusing on agriculture, aquaculture and fisheries
- demarcation of the WCA boundaries and confirmation of preliminary zoning proposed during project preparation including location of core zone, buffer zone, seagrass conservation zones
- confirmation of system/landscape boundaries identified during the project preparation.
- agreement on governance and management arrangements for each WCA and the establishment of a WCA Management Board
- a participatory WCA management capacity needs assessment
- agreement on sources of finance, details of human resources, infrastructure, equipment and other essential capacity for effective management of each WCA to address both site-

level and landscape-level threats including a monitoring system that supports adaptive management.

174. Stakeholder consultations will be held to present findings of assessments and to explain and agree WCA objectives, WCA boundaries and zonation, system boundaries and governance and management arrangements. Once these are all agreed, the Management Effectiveness Tracking Tool (METT) for Protected Areas, will be revisited and updated so that this serves as a useful baseline against which to monitor progress on different aspects of WCA management. Preliminary information has been compiled in the METT during project preparation.

175. The final proposal to establish the WCA will be submitted for approval to an intersectoral appraisal committee chaired by the PPC Chairman, with members drawn from DONRE, DARD, DPI, DOST, DCST, a department-level representative of MONRE, and biodiversity specialists.

176. The WCA Management Board will include representation from DONRE, DARD, provincial, district and commune People's Committees as well as representation from local communities and community-based organizations, for example, the Fisheries Associations (FA), Farmers Unions and Women's Unions. Once established, the WCA Management Board will lead the preparation of detailed conservation area management plans, including annual operational plans that clarify objectives, priorities, key management functions, staffing, monitoring and evaluation systems and budgetary allocations for capital and recurring costs.

177. The management plans will be developed through participatory planning processes, as it will amongst other things also clarify the roles, responsibilities and rights of provincial and local authorities, communities (including the details of any Community-Based Natural Resource Management) and the private sector in management. WCA conservation management plans will also clarify agreements reached with key stakeholders, particularly wetlands resource users, on the use of wetlands resources and the benefit-sharing mechanisms to be practiced with or by different groups of stakeholders. This will also include clarification of roles and responsibilities for monitoring and enforcement of WCA rules between PPC, the WCA Management Board, district and commune People's Committees, and major resource use associations, such as Farmers, Fishers, Women and Tourism Associations.

178. Additionally, a detailed financial planning exercise will be undertaken by the Management Board to a) cost conservation area management functions at the new sites (staff/ equipment, infrastructure and maintenance); b) identify all secure and potential income streams from government budgets and other sources; and c) identify options for cost effective use of existing resources and cost sharing. Potential new sources of revenue for wetlands conservation will also be evaluated in more depth including the opportunities for implementing any Payment for Ecosystem Services (PES) schemes.[38] The results of the ecosystem services assessment and valuation undertaken under Output 2.1 will also serve as a valuable input for financial planning.

[38] Over the last 10 years, the concept of Payment for Ecosystem Services (PES) has gained increasing attention amongst environmentalists, scientists and policy makers in Viet Nam and the successful implementation of a pilot project in Lam Dong Province has resulted in a National Decree 99/2010/ND-CP on Payment for forest environmental services (PFES). The PFES Decree transforms the way forests are viewed and managed in Vietnam, providing a potential mechanism for ensuring that critical forests, and the ecosystems services they provide, will be protected into the future through the scaling up of PFES and other types of PES schemes nationwide.

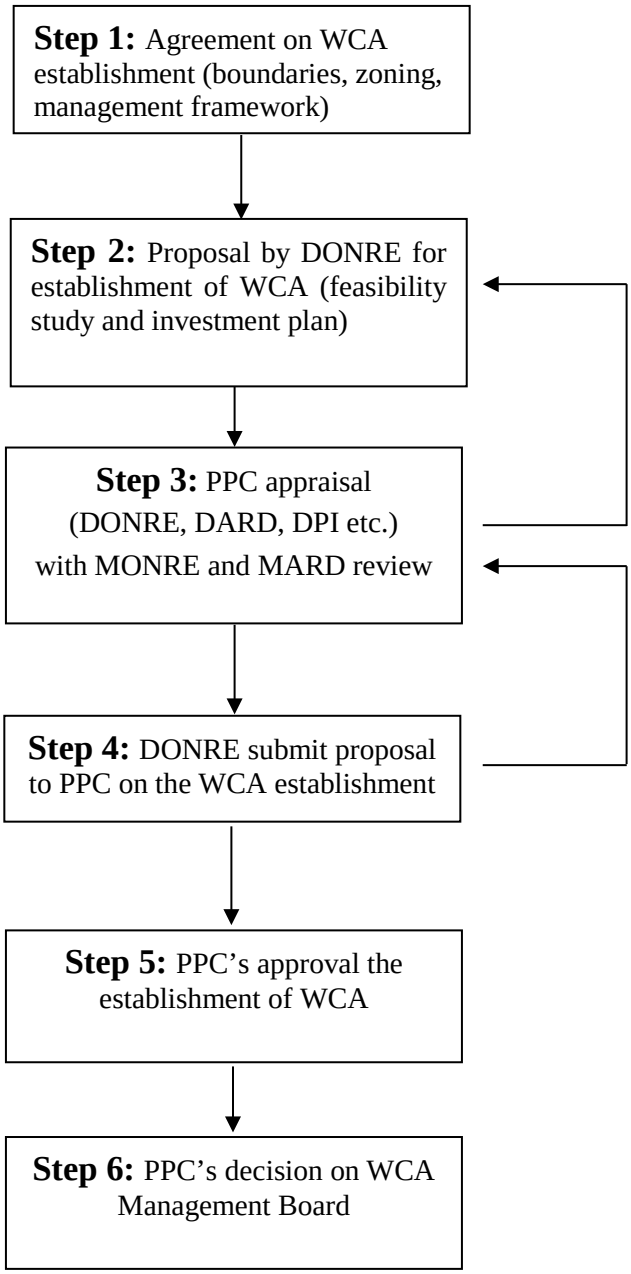
Based on the results of the financial planning exercise, each WCA Management Board, with support from the project team and external experts, will lead the preparation of a Business Plan that includes a cost-benefit analysis of each WCA demonstrating the business case for establishing and investing in WCAs and proposals for developing new financing mechanisms for wetlands conservation.

179. The effective management of PAs also requires the development and implementation of monitoring systems designed to promote adaptive management. This means systems that are also practical, cost-effective and generate information of most importance to managers in a timely way. Currently, monitoring of different aspects of wetlands ecosystems is undertaken by different agencies for different purposes and there is need for greater coordination and harmonization of existing systems. The quality of existing data is also variable. Conservation area monitoring and enforcement of regulations will be implemented through close cooperation between the WCA field staff, Forestry, Fisheries and Environment Divisions, and local communities. The actual operations of the WCAs will be co-funded. An information exchange and recording system will be established for this purpose. Monitoring will cover both enforcement aspects and ecological status and encompass the application of the METT at regular milestones –, once the WCAs are established, at mid term and end of project. The project will aim to increase its METT score for each WCA to above 40% above the baseline score (0%).

180. The ecological monitoring systems envisaged for the two WCAs will explicitly link monitoring to the direct and indirect threats faced by each WCA. These will use a combination of scientific methods and tools, including GIS-based monitoring of habitat change over time and less high-tech tools, some of which may be implemented through community-based monitoring of selected areas and indicators, such as monitoring of bird species and seagrass beds, that are also potentially linked to support provided by the project to reduce threats arising from local livelihoods under Output 2. On-going environmental monitoring by other institutions of relevance to each WCA will be incorporated into the WCA's monitoring system, for example, the water quality monitoring that is undertaken by the Pollution Monitoring Station in Hue. In cases where communities are involved in monitoring, initial training and backstopping support will be provided by the most appropriate agencies. For example, the Viet Nam Nature Conservation Centre, has considerable experience of monitoring Important Bird Areas and already undertakes regular bird surveys across the country, while IMER has considerable experience of seagrass monitoring including in Tam Giang-Cau Hai. Training for community-based monitoring will be provided as part of Output 2.3. Details of project-specific indicators and the monitoring plan are provided in the Strategic Results Framework (Section III), Section 2.5 and Section VI.

181. The following procedure will be used for the establishment of the new WCAs:

PROCEDURE FOR OF ESTABLISHING WETLAND CONSERVATION AREAS BY PROVINCIAL PEOPLE' COMMITTEE



182. The first step is to achieve a broad agreement among all key stakeholders to establish a Wetland Conservation Area. This includes agreement on the WCA model and management framework, as well as on final boundaries and zoning of different permitted uses. This is followed by the preparation of a detailed proposal for the establishment of the WCA by DONRE, which will include a feasibility study and an investment plan. The proposal is then appraised by the PPC, with further consultation with DONRE, DARD, DPI and others as well as a formal review process with written responses from MONRE and MARD. Following the appraisal, the

final proposal for establishing the WCA is submitted to the PPC for the approval. Once approved, the PPC then decides and approves the composition of the WCA Board for the WCA.

Output 1.4 Strengthened provincial capacity for wetlands conservation management and sustainable use

183. Capacity development under Output 1.4 will mirror the approach and targeted training and other forms of capacity development conducted at national level under Output 1.2 and also emphasize on-the-job training, for example, as part of delivering Outputs 1.3 and 2.2 at the provincial level in particular. Training will cover topics such as wetlands ecosystem services and biodiversity values and the full range of vital PA management functions, including: PA planning, threats assessment, stakeholder engagement and partnership building, including community engagement, negotiation and conflict resolution, monitoring and adaptive management with a particular focus on sustainable use and options for community involvement in management, budgeting and financing. The focus here will be to greatly enhance the capacity of staff within DONRE (including its District Divisions for Natural Resources & Environment) to effectively plan and manage site-based wetlands conservation, including the ability to assess and mitigate threats arising both locally and from the wider landscape and to capitalize on any opportunities generated by the wetlands to engage local stakeholders, generate sustainable finance or garner other forms of conservation support.

184. Currently, there are 20 and 13 staff in DONRE's Environmental Protection Divisions in Thua Thien Hue and Thai Binh, respectively. At present, DONRE has no staff in either province specifically tasked with biodiversity management responsibilities. DONRE also has very little experience of planning, establishing or managing a PA. Therefore, under this Output, training on WCA conservation planning and management will be provided to all WCA site managers and field staff, including at least 5 DONRE staff in Hue and 3 DONRE staff in Thai Binh. Training will be based on a local needs assessment and the types of capacity development offered will be adapted to the specific management functions that WCA staff must fulfil.

185. The local needs assessment combined with other management planning exercise will help identify how each WCA will ensure there are adequate numbers of trained local rangers on the ground to monitor threats and other aspects of the WCA and to enforce WCA rules and regulations. In practice, given that DARD generally has considerably more field-based capacity, it is likely that site-based management will involve a close partnership between DONRE and DARD. Additionally, the potential for community-based involvement in WCA management will also be explored and capacity developed accordingly. However, this is likely to be undertaken in a localized manner, for example, in relation to the new seagrass conservation zones and aquatic reserves that will be established under the project (Outputs 1.3 & 2.3).

186. Selected training will also be offered to members of the Management Board, which will include representation from other sectors, notably DARD and provincial, district and commune People's Committees. Training will concentrate on two key areas: 1) increasing understanding of the particularities of wetlands conservation management and the importance of intersectoral cooperation and coordination; and 2) how to develop and implement sustainable financing options. The latter will include making use of the results of the ecosystem services valuation undertaken under Output 2.1 and the business plans developed under Output 1.3 to strengthen the justification for increased government investment in wetlands conservation as well as to explore

options for generating conservation funds through different types of levies and user fees, for example tourism, fisheries and aquaculture. Targeted training will also be provided on use of the EIA regulation and other tools to ensure that wetlands conservation and sustainable use considerations are better reflected in provincial and sector planning processes as proposed under Output 2.2.

187. Finally, as noted in Section 1.6, a key obstacle to ensuring adequate representation of wetlands within the national PA system is the lack of adequate intersectoral coordination and cooperation on wetlands planning and management at both national and provincial levels. This results in different sectors having conflicting plans and targets for wetland areas. Thus, the project will also support the formation of a Local Wetlands Working Group (LWWG) to fulfil similar functions to the NWWG but at provincial level. Its membership will be drawn from the local arms of the national ministries, i.e. DONRE, DARD, DCST, DPI and DOST, as well as representation from provincial government and the concerned districts and communes around each WCA. This wil include representation from civil society organisations such as the Fishery Associations and the Farmers' Women and Youth Unions. Technical experts will be drawn from Hue University in the case of TGCH and CRES in the case of Thai Thuy, as well as other relevant government (eg the IMER and the Fisheries Institute) and non-government research institutions and NGOs, notably MCD in Thai Thuy. The TGCH LWWG and the TT LWWG will work closely with the Management Boards of their respective WCAs as they will be an important source of both practical experience and technical and policy advice. By working closely with the WCA Management Boards, the LWWGs will help to further strengthen intersectoral coordination between different agencies at provincial and district level, thereby laying some of the foundation for the successful achievement of Outcome 2. Additionally, as with the NWWG, a core group will be formed to champion the wetlands agenda at provincial and landscape level and further support the implementation of more challenging project components. The project team along with MONRE will also ensure there is regular interaction and mutual support between the LWWGs and the NWWG.

Outcome 2: Integrity of wetland PAs are secured within the wider wetland connected landscapes *(Total cost: US$6.05 million; GEF US$1 million; Co-financing US$ 5.05 million)*

Output 2.1 Increased understanding and knowledge about wetlands ecosystem values, sustainable use and management across the wider landscape

188. Generating greater understanding and support for wetlands values is key to influencing landuse and development planning. The importance of surface and ground water to human wellbeing and economic production is generally well-understood, particularly given that 70% of Viet Nam's surface water flow arises from outside its borders making the country very vulnerable to developments in watersheds outside its borders. Consequently, the Government of Viet Nam has already undertaken considerable public awareness raising on the importance of using the country's water resources more sustainably and increasingly on the need to control surface and ground water pollution for human health reasons. However, the many other functions and benefits of wetlands and the critical ecological linkages that sustain these ecosystems are often poorly understood.

189. There have been a few economic valuations of wetlands in Viet Nam in the past although most have focused on one or two selected values. Nevertheless, these have shown that the value of wetlands is considerable. For example, the total value of mussel exploitation in Xuan Thuy National Park in 2004 was estimated to be between US$7-10 million and contributed to local community income.[39] Tourism in wetland areas such as Xuan Thu, Ba Be, Ca Mau and U Minh Thuong National Parks, Ha Long Bay, Cat Ba Island, Con Dao Island, the beautiful beaches in Phan Thiet and Vung Tau attract many international and domestic tourists and are a major source of revenue, including foreign exchange. Additionally, many types of wetlands have significant capacity to sequester carbon, including mangroves and seagrasses.

190. Thus, under this output, the project will support a systematic assessment and valuation of the ecosystem services generated by TGCH and TT wetlands and the threats these currently face in order to demonstrate their economic importance and the consequences of their degradation and loss to a range of audiences, from planners and decision-makers to local communities and other sections of civil society. Information generated through these assessments will be used to advocate for mainstreaming wetlands conservation values, including biodiversity values, into development, landuse and sector planning in the wider landscape around each WCA under Output 2.2.

191. Stakeholder consultations and secondary research during project preparation identified a number of key ecosystem services provided by Tam Giang-Cau Hai and Thai Thuy wetlands, including: provision of food on a subsistence and commercial basis through marine and inland fisheries as well as other economically valuable biomass for consumption and income generation; spawning/nursery grounds for economically important fish, shrimp and other species; habitat and food resources for a range of biodiversity; tourism potential; groundwater recharge and discharge; removal of nutrients an pollutants; nutrient cycling; climate regulation; biodiversity maintenance; carbon sequestration; flood control; and coastal protection (including from storms, sea surges and shoreline erosion). The ecosystem services assessment will be used to record and evaluate these varied services more systematically including the benefits from different services to different stakeholders as well as the potential impacts of wetlands degradation and loss on different stakeholders. This exercise will generate important information on the 'winners' and 'losers' under different scenarios of wetland conservation or conversion that should be of particular interest to the Thua Thien Hue and Thai Binh PPCs. It may also help clarify potential opportunities for generating further benefits from wetlands, for example, through ecotourism development and explicitly reflecting wetlands values into disaster risk reduction and climate change adaptation planning.

192. The ecosystems assessment will also include identification of key landscape-level ecological components and functions that are critical to maintaining ecological integrity and ecosystem services provided by Tam Giang-Cau Hai and Thai Thuy, i.e. within the wider river basin system of each target WCA. Threats arising from wider landscape to the ecological integrity of both wetlands that were identified during project preparation will be further assessed and strategies to mitigate these developed under Output 2.2.

[39] Nguyen Huu Ninh, Mai Trong Nhuan, et al. 2003. *Economic valuation of demonstration wetland sites in Vietnam.* UNEP/GEF.

193. A number of methods exist to estimate the value of environmental goods and services generated by wetlands. These vary in complexity, which in turn is correlated with cost. As such methods cannot be easily replicated, the project will seek to identify simple and more cost-effective approaches to ecosystem services assessment and valuation building on existing work by others and adapting these as needed. For example, considerable guidance can be found on the Ramsar Conventions website (www.ramsar.org), particularly through its Wise Use Library resource, its Wise Use publication handbooks (http://www.ramsar.org/cda/en/ramsar-pubs-handbooks-handbooks4-e/main/ramsar/1-30-33^21323_4000_0__) and Technical Reports series, which includes a report on integrated wetlands assessment and valuation. Very recently, a practical toolkit for site-based measuring and monitoring of ecosystem services has been developed recently by the Cambridge Conservation Initiative (CCI) and BirdLife international with support from the Darwin Initiative and many others, including scientists and researchers from academic institutions, other NGOs and the UNEP-World Conservation Monitoring Centre.[40] The advantage of this toolkit, which has so far been tested in Nepal, the UK and Montserrat, a UK Overseas Territory in the Carribbean, is that it is accessible to non-experts, while still generating scientifically valid information. The toolkit is especially useful in situations where there is limited capacity and resources to undertake ecosystem services assessment and valuation. The potential to apply the guidelines developed by the UNEP/GEF East Sea Project's Regional Task Force on Economic Valuation[41] will also be assessed, as these guidelines are especially relevant to coastal and marine ecosystems. The work of this Task Force included an estimation of the per ha economic value of mangroves, coral reefs and seagrass beds.[42]

194. The project will seek to generate simple gross assessments of ecosystem services at sites in a scientifically robust way and assess how these would change if the sites were altered in different ways and who would be the 'winners' and 'losers' under different scenarios of land use change and associated changes in ecosystem service delivery. This will provide invaluable information to decision-makers about importance of the two wetlands ecosystems in terms of their contribution to the development and wellbeing of the people of Thua Thien Hue and Thai Binh provinces and potentially even further afield as well as a better understanding of the social and economic consequences of wetlands degradation and destruction more broadly. These analyses will particularly focus on the existing and potential contribution of TGCH and TT WCAs to the economic productivity of key sectors, notably fisheries, aquaculture, rice production and tourism. Initial assessments will be used to identify key areas for more detailed a cost benefit analysis of selected wetland values and economic benefits and losses under different management practices and landuse changes. ISPONRE will lead the design of the ecosystem services assessment and valuation activities under this output in consultation with relevant experts, including members of the National and Local Wetlands Working Groups. ISPONRE will also guide the implementation of the assessment and valuation studies as well as ensure the dissemination of key findings arising from this work.

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[40] CCI & BirdLife International. 2011. *Measuring and monitoring ecosystem services at the site scale.* Cambridge Conservation Initiative & BirdLife International, Cambridge, UK http://www.unep-wcmc.org/a-toolkit-for-measuring-ecosystem-services-at-the-site-scale-is-released_751.html

[41] UNEP. 2007. *Guidelines for Conducting Economic Valuation of Coastal Ecosystem Goods and Services.* UNEP/GEF/SCS Technical Publication No. 8.

[42] Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand. Project No. GF/2730-02-4340, completed December 2008; http://www.unepscs.org/Regional_Task_Force_on_Economic_Valuation.html

195. Ecosystem service assessment and valuation activities will be undertaken with the active engagement of representatives from local government, government agencies such as DONRE, DARD and DCST, and local communities wherever feasible, particularly for the assessment part and of less-specialized technical aspects of the work. These will thus also serve as capacity development opportunities. A participatory approach that brings together different key stakeholders will be emphasized, as well as use of tools such as participatory analyses of existing maps and development of new ones for analyzing ecological connections and threats at landscape level.

196. While such participatory approaches serve as a means to increase awareness and understanding among key actors and stakeholders, there is also need for a dedicated communication strategy to ensure that findings of the assessment and valuation studies and the models and strategies that are being tested through the project reach a much wider audience. Therefore a second important element of Output 2.1 is to develop a communication strategy for disseminating important wetlands-related information via different media to different target audiences (e.g. provincial and district planners and decision-makers; private sector; industries; key associations of local communities) at site, landscape and national-level. This would include dissemination of key information about the economic values of TGCH and TT WCAs, the main threats to these, the consequences of wetlands degradation and loss on different stakeholders and the actions needed to maintain and strengthen existing benefits generated by the two wetlands both locally and at landscape level. It would also cover dissemination of all major project results. The latter would focus on the key strategies and approaches tested by the project that are successfully reducing threats to wetlands that could be replicated and scaled up as well as lessons learned more generally.

197. In both Thua Thien Hue and Thai Binh, information sharing and dissemination will be closely aligned with the project's mainstreaming objectives under Output 2.2. Thus, selected information materials will be developed on wetlands values and strategies for sustainable use, threat mitigation and conservation management at site and landscape-level using appropriate media tailored to the requirements of different target audiences.

198. Project results will also be disseminated through the National and Local Wetlands Working Groups. For example, members of the WWGs and other key government staff and important actors on wetlands will be invited to visit TGCH and TT WCAs to learn first hand about new ways to conserve and use wetlands resources more sustainably. In the final year of the project, 2 provincial workshops (one in Thua Thien Hue and one in Thai Binh) and one national workshop will be held to share project results, key lessons learned and strategies for wider replication for promoting wetlands conservation and sustainable use with other important actors and key stakeholders.

199. A public awareness generation campaign will also be conducted in coordination with MONRE, and the two provincial governments where the project is working to target both national and provincial audiences. MONRE already arranges special events on key environment-related days, for example, World Wetlands Day and World Water Day. The annual Ramsar theme for World Wetlands Day could be the focus of the campaign, which will also disseminated key project lessons learned and successful strategies for replication.

Output 2.2 Wetlands conservation and sustainable use mainstreamed into key provincial development plans

200. This output focuses on addressing threats that arise at the landscape level by mainstreaming wetlands conservation and sustainable use into key provincial and sectoral policies and plans. There are several entry points for this, some of which are related, such as the provincial master plan for socioeconomic development and related sector plans on land use, tourism development, aquaculture, agriculture and district socioeconomic development plans. Additionally, there are two further opportunities for mainstreaming wetlands values at the landscape level. These are: the **Thua Thien Hue Water Resource Development and Integrated River Basin Management Strategy to 2020** and the recently approved **Interprovincial Management Framework for the Red River Delta Biosphere Reserve**. The project will target these two frameworks as well as the provincial master plans for socio-economic development for Thua Thien Hue and Thai Binh and selected sector and district plans relevant to TGCH and TT WCAs.

Integrating Wetlands Conservation into Provincial and Sector Development Plans

201. The existing master plans for socioeconomic development of Thai Binh and Thua Thien Hue (2010-2020) have been completed and approved by central government. However, these give little priority to the conservation and sustainable use of wetlands biodiversity. The project will work with the Management Boards of the two WCAs and the Local Wetlands Working Groups to determine how best to reflect the importance of provincial wetlands (as established through the ecosystem services assessment and valuation undertaken under Output 2.1) in relevant sections of the two provincial master plans. Where appropriate, the project will also seek to mainstream specific guidelines and standards to strengthen wetlands conservation and sustainable use into provincial plans. This will include amongst others explicit reference to giving impacts on wetlands biodiversity and other ecosystem service proper attention when undertaking Environmental Impact Assessments (EIAs) as these areas tend to be overlooked at present. Existing EIA requirements will also be reviewed against the joint guidelines prepared by the Ramsar and Biodiversity Conventions for integrating biodiversity considerations into EIA procedures. Additionally, the project will endeavour to ensure the Thua Thien Hue and Thai Binh plans give adequate attention, respectively, to the Thua Thien Hue Water Resource Development and Integrated River Basin Management Strategy to 2020 and the Interprovincial Management Framework for the Red River Delta Biosphere Reserve to further strengthen landscape-level management of ecological components critical to sustaining TGCH and TT WCAs.

202. As provincial master plans are approved by the central government and prepared according to a specific template, changing already approved plans can be a more cumbersome and lengthier process. Therefore, greater emphasis will be given in the short-term to integrating standards and guidelines into provincial sector plans and district socioeconomic development plans, which are approved by the concerned PPCs. To achieve this, the project will work with relevant government departments to either strengthen the implementation of existing standards and safeguards and/or develop and agree additional sector-specific standards and safeguards to better protect the wetlands biodiversity in the two WCAs and mitigate against threats arising from the wider landscape, some of which will also be integrated into district socioeconomic development plans. The following sectors and subsectors will be targeted: fisheries and

aquaculture, including clam farming; forestry; rice production; tourism; water resources. These have been selected based on the key threats to wetlands identified during the PPG such as habitat conversion, pollution and overexploitation (see Annex 1). In order to address threats arising from environmentally destructive fishing and aquaculture practices, the project will work with DARD and the Local Wetlands Working Group to develop a set of guidelines for fisheries and aquaculture practices in coastal areas. These will be informed by international and national experience and best practice such as the Best Aquaculture Practices of the Global Aquaculture Alliance (GAA)[43] and Vietnamese Good Agricultural Practices (VietGAP), with due regard for provincial and national regulations. FAO's guidelines on responsible fisheries and responsible aquaculture will also be taken into account, including the work done under the IMOLA project in TGCH. Also important, will be the project's own experiences in working with local communities under Output 2.3 to make existing aquacultural practices more conservation-friendly.[44] Options for establishing certification of sustainably produced aquacultural products could be explored in the medium to long-term and lead to potential new avenues of financing for the two WCAs.

203. In targeting the capture fisheries sector, the project's emphasis will be on ensuring sustainable yields through improved enforcement of existing restrictions on certain types of fishing methods and gear, additional restrictions where needed and monitoring catches and trends in selected species. In TGCH, the project will build on the work of the FAO/IMOLA project, which introduced some standards for fishing and also established ten aquatic reserves across the lagoon that are still in operation and managed and monitored by DARD. The latter have been very successful in improving the productivity of fishing around the reserves. Currently, however, there is no particular focus on biodiversity per se, and therefore also no monitoring of trends in biodiversity in these aquatic reserves. The project will work with DARD and DONRE to increase the importance given to biodiversity as a measure of the overall health of aquatic reserves by incorporating specific indicators into existing aquatic reserve monitoring systems.

204. Additionally, in Tam Giang-Cau Hai, the project will work with IMER and other relevant agencies to develop specific standards for seagrass bed management and monitoring; while in Thai Thuy, the project will develop standards for maintaining intertidal mudflats, which are amongst the world's most threatened wetland habitat types. In Thai Thuy, these are currently threatened by expansion of clam culture and plantation of new mangroves, which are seen as an important means of coastal protection, including climate change adaptation and thus often the focus of donor interventions. While mangroves can indeed contribute not only to coastal protection but also to maintaining biodiversity, currently, some mangrove plantations fail as they are being planted in areas that are ecologically unsuited for mangroves, while at the same time destroying important biodiversity values of intertidal mudflats. Supporting the development of a standard for intertidal mudflats is a key priority under this Output.

205. The final set of standards targeted by the project relates to control of pollution from aquaculture, agriculture and other sources. While there are no specific standards for regulating pollution in wetlands per se, Viet Nam has two national standards for regulating water quality –

[43] http://www.gaalliance.org/bap/standards.php

[44] See: http://www.fao.org/tc/resource-mobilization/ifas/ccrf/en/

one for Surface Water Quality for Protection of Aquatic Life[45] and one for Coastal Water Quality.[46] These can be adapted and usefully applied to both TGCH and TT WCAs for monitoring water pollution. The standards cover many parameters, particularly the Coastal Water Quality standard. In the case of wetlands biodiversity, experts consulted during the PPG recommended applying the standards for the following parameters as the first priority: temperature, pH, dissolved oxygen and ammonia. The project will support further work on this to refine and develop a specific guideline for monitoring water quality for TGCH and TT to support biodiversity conservation objectives based on the existing standards.

206. There is periodic water monitoring taking in place in TGCH lagoon through DONRE's Thua Thien Hue Lagoon Environmental Monitoring Centre, which covers the entire province. However, the Centre only has 5 staff and relies on either provincial funding or external project-based funding. Thus, some monitoring has taken place between 2000-2004 and 2006-2012. Monitoring undertaken under the FAO/IMOLA project and subsequently in 2009 by DONRE shows that the water quality of TGCH lagoon complies with the national regulation on Coastal Water Quality on most parameters. However, there was still evidence of organic pollution, with high concentrations of coliforms particularly in the dry season as well as potential for eutrophication due to high concentrations of phosphates and ammonia in some parts of the lagoon. Analyses of sediment further revealed high concentrations of toxic residues from agrochemicals such as DDT (dichlorodiphenyltrichloroethane) and HCH (hexachlorocyclonehexane). Comparable information was not available for Thai Thuy as there is no monitoring of coastal water quality but given the high levels of economic activity in adjacent areas, some level of pollution is likely. The project will therefore work with DONRE and other members of the LWWGs in both provinces to review existing coastal water quality standards to see if these are sufficient to ensure the maintenance of wetlands biodiversity and ecosystem service values.

207. Adoption of existing, new and strengthened standards and guidelines will be supported through several strategies. First, the project will work with the WCA Management Boards and the LWWGs to have these reflected as requirements in the appropriate sections of district-level socio-economic development plans. This could include for example making explicit the contribution of wetland to economic development of the districts in Section 1 of the plan on natural resources for development; including targets for wetland conservation in Section 2 on goals and targets of the district plan; including land use planning guidelines and wetlands conservation area targets in Section 4 on land use planning; and including specific standards in Section 9 on environmental protection measures. New and strengthened standards and guidelines will be further promoted by including these in the training provided to provincial and district government staff under Output 1.4. Additionally, voluntary compliance at site-level will be promoted through activities undertaken under Output 2.3, while the targeted awareness generation undertaken Output 2.1 will help strengthen support for implementing new or improved standards for wetlands conservation at landscape level.

[45] QCVN 38:2011/BTNMT: National technical regulation Surface Water Quality for protection of Aquatic Life

[46] QCVN 10:2008/BTNMT: National technical regulation on Coastal water quality

208. To further ensure the effective integration of wetland conservation considerations into sector development planning decisions, the PPC decision to establish TGCH WCA and TT WCA (under Output 1.3) will also include reference to a requirement for an EIA for any new major development activity in Thua Thien – Hue and Thai Binh provinces that could potentially adversely impact wetlands biodiversity values in these two areas. The requirement for an EIA with special reference to impacts on wetlands ecosystem services and biodiversity values is also highlighted in the proposed model for the two new WCAs (see Annex 7).

Supporting Integrated River Basin Management in Thua Thien Hue

209. Almost all of the province's rivers drain into the TGCH lagoon system, the largest of these being the Huong River and its main tributaries, Bo, Huu Trach and Ta Trach rivers. Other important rivers feeding into the lagoon include the O Lau, Dai Giang, Cau Hai, Nong and Truoi rivers. The total catchment area of these rivers is around 400,000 ha, of which the Huong river basin covers an area of 283,000 ha, or nearly 56% of the total area of TTH province. The Huong river basin thus plays an extremely important role in socio-economic development of Thua Thien Hue province as it supplies a range of ecosystem services that support key economic sectors such as: water for agricultural, industrial and domestic use; minerals for the mining and processing industries; fish and other aquatic resources for consumption and income generation.

210. Recognizing the important values of the Huong river basin, the Thua Thien Hue PPC established a Huong River Basin Projects Management Board (HRBMB) as early as 1996. This Board, which was directly under the Thua Thien Hue PPC, played an advisory role on planning of water resource development and management in the Huong river basin and also directly implemented development projects, such as the Ta Trach dam construction project on the Huong river. In 2006, the functions and mandates of the HRBMB were revised to promote a more integrated approach to the management and sustainable use of surface water. However, in 2009 the HRBMB was dissolved in response to a 2008 Government Decree 120/2008/ND-CP on river basin management that identified the need for institutions with the capacity to coordinate all major management activities within a river basin and not just new development projects. Subsequently, the **TTH Strategy on Water Resource Development and Integrated Management of River Basins in Thua Thie Hue Province to the year 2020** was approved by the Thua Thien Hue PPC. [47] Objective 5 of this strategy seeks to establish a River Basins Management Organization in order: "*to manage effectively water resource use and exploitation; sustainable development of water resource; prevention of water pollution and prevention of water depletion in river basin and lagoon system.*"

211. Given the critical importance of wider river basin management to the health of downstream wetlands, the project will work with key partners to integrate environmental standards and safeguards that support wetlands conservation into the proposed river basins management framework for TTH once the Thua Thien Hue River Basins Management Organization (TTH RBMO) has been established. In doing so the, the project will work closely with the LWWG and build on the PPC's more than 10 years' experience of addressing issues at river basin level through the activities of the earlier HRBMB. In particular, the project will seek

[47] Decision 2709/QD-UBND of Thua Thien-Hue PC from 07 December 2007 on *Strategy on Water Resource Development and Integrated Management of River Basins in Thua Thien-Hue Province to the year 2020*

to ensure that the new river basins management framework specifies elements of the wider landscape that are important for key biodiversity components within the TGCH WCA and require protection, such as important catchment forests, fish spawning grounds, migratory bird staging sites and other components that are vital to the WCA's ecological integrity.

Supporting the Implementation of the Red River Delta Biosphere Reserve Management Framework

212. The Red River Delta Biosphere Reserve (RRDBR) was established in December 2004 and is one among eight Biosphere Reserves of Viet Nam under UNESCO's Man and Biosphere Reserve (MAB) programme. The RRDBR is Viet Nam's only interprovincial biosphere reserve. It covers a total area of 105,557 ha spread across six districts in three provinces: Thai Binh, Nam Dinh and Ninh Binh provinces. RRDBR has two geographically separate core zones comprising Xuan Thuy National Park and Tien Hai Nature Reserve, south of the planned Thai Thuy WCA, which is located in the north-eastern most portion of the biosphere reserve (see Figure 3). The total area of the two core zones is 14,167 ha. The area of the proposed Thai Thuy WCA falls within the RRDBR's buffer zone, which has a total ara of 36,849 ha, while the transition zone covers 54,541 ha (see Figure 4). The two existing protected areas have their own management boards, while the buffer and transition zones are under the management of local government.

213. A co-management mechanism has been agreed by the PPCs of all three provinces and a Management Board led by the vice-chairmen of the three concerned provincies has been established with a Secretariat in Xuan Thuy National Park. Existing PAs within the RRDBR have individual PA management plans. In September 2013, the three concenred PPCs signed a regulation for the management and sustainable development of the entire RRDBR. During the project preparation, discussions were held with the MAB National Committee on the proposal for establishing a WCA at Thai Thuy and working with the Committee to strengthen landscape-level ecological connectivity and minimize or mitigate major threats to individual sites that arise at the wider landscape level. Such collaboration was welcomed and the project will work with the MAB National Committee and the RRDBR Management Board during implementation to to ensure that the long-term conservation needs of Thai Thuy WCA are clearly reflected in the RRDBR management framework.

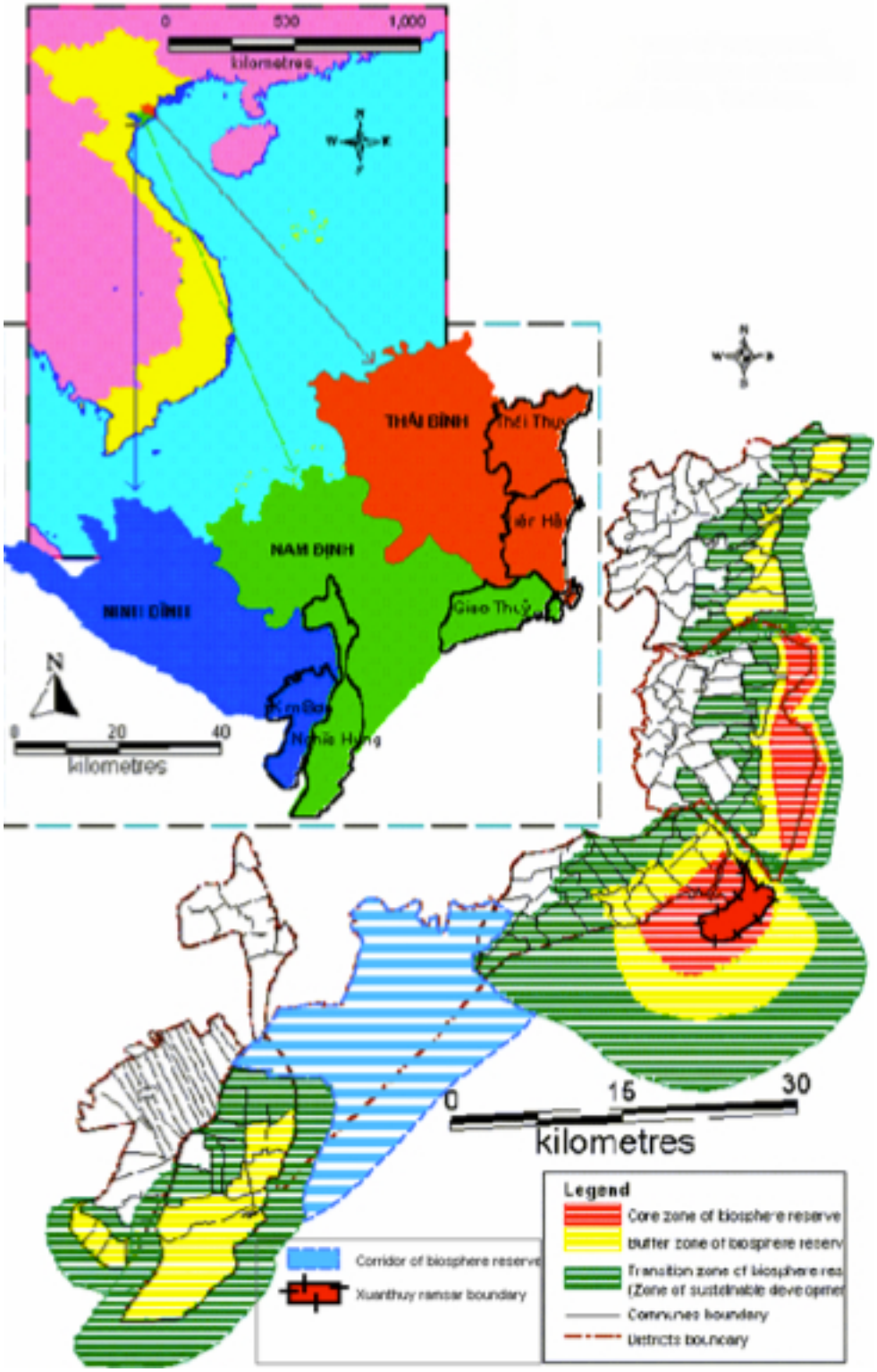
Output 2.3 Reduced threats to biodiversity from local livelihoods

214. The main focus of this output is to reduce the direct and indirect threats to the unique wetlands biodiversity of Thai Thuy and Tam Giang Cau Hai WCAs arising from activities associated with local livelihoods (see Table 4). The project will target three specific types of wetlands-based livelihood activities that are currently known to be adversely impacting the two proposed WCAs, namely agriculture (mainly rice cultivation), fishing and aquaculture, and seek to find ways to make these more conservation-friendly. The target of activities under this output will be to reduce pollution arising from these activities as well as to reduce overexploitation and other detrimental impacts from fishing and aquaculture through use of inappropriate gear and/or other practices. Additionally, opportunities for improving community-based solid waste management may also be explored at Tam Giang-Cau Hai, where this has been identified as a problem. These key threats were selected on the basis of the threats analysis (see Annex 1) conducted during project preparation, which involved a combination of literature survey and

stakeholder consultations, including discussion with wetlands experts and local stakeholders. The project approach is to ensure that interventions under this Output do not in any way adversely impact the socio-economic status of local communities, especially with regard to the poorest and most vulnerable among them.

Figure 3 Location of proposed Thai Thuy WCA, existing Protected Areas and other notable sites in Red River Delta Biosphere Reserve

Figure 4: Location and Zonation of Red River Delta Biosphere Reserve



215. Both agricultural production, particularly of rice, and intensive aquaculture are associated with heavy use of agro-industrial chemicals. Over use of chemical fertilizers and pesticides resulting in high nutrient loads and concentrations of persistent organic pollutants is considered a major source of soil, water and air pollution in many parts of Viet Nam and is not only a threat to wetlands biodiversity, but also to human health and wellbeing.

Rice production

216. Under this Output, the project focus in relation to rice cultivation, is to work with communities and the concerned government agencies (DARD and DONRE in particular) to find ways to reduce current levels of pollution of wetlands resulting from the application of agricultural fertilizers and pesticides on neighbouring land by local farmers. The project will demonstrate the use of methods such as Integrated Pest Management (IPM) and Integrated Crop Management (ICM), which have been used successfully in several provinces of Viet Nam for many years.[48]

217. Integrated Crop Management (ICM) is a common sense approach to farming that aims to balance production with economic and environmental considerations. ICM takes a 'whole farm approach' that is adapted to local site conditions and involves a combination of measures such as (i) crop rotations; (ii) appropriate cultivation techniques; (iii) careful choice of seed varieties; (iv) minimum reliance on artificial inputs such as fertilizers, pesticides and fossil fuels; (v) maintenance of landscape values and (vi) the enhancement of wildlife habitats. Integrated pest management (IPM) focuses on long-term prevention or suppression of pest problems with minimum impact on human health, the environment, and non-target organisms. Preferred pest management techniques include: (i) encouraging naturally occurring biological control; (ii) using alternate plant species or varieties that resist pests; (iii) selecting pesticides with lower toxicity to humans or non-target organisms; (iv) adoption of cultivating pruning, fertilizing, or irrigation practices that reduce pest problems; and/or (v) changing the habitat to make it incompatible with pest development. Broad spectrum pesticides are used only as a last resort when careful monitoring indicates they are unavoidable and according to pre-established guidelines.

[48] IPM was introduced in Vietnam in 1992 and ICM in 2001; IPM is now considered an integral part of ICM

Table 4 Local populations, key sources of livelihood, links to biodiversity conservation and project strategies to enhance positive impacts on biodiversity

WCA Communes & Population	Primary source of livelihood	Number of people[49] engaged in and around each WCA	Major positive and negative impacts on biodiversity	Ways to enhance positive impacts on biodiversity and mitigate negative impacts
Thai Thuy WCA: 5 coastal communes with total of **45,000** Source: TT PC, 2012 Tam Giang-Cau Hai 32 communes with a total population of **300,000** Source: From TTH PC and IMOLA project documents	Rice cultivation	TT: 20,000 paddy rice farmers in 4/5 communes and part time aquaculture workers in all 5 communes (One commune Thuy Hai has no agriculture land) TGCH: 200,000 paddy rice farmers and part-time aquaculture workers,	Use of fertilisers and pesticides results in agrochemical pollution of wetlands. Nutrient, BOD and pesticide loads from agriculture and livestock are a particular source of contamination of lagoon waters in TGCH Rice cultivation however prevents outright conversion of wetlands to other land uses. There is also pollution of water bodies from human waste.	• Reduce use of polluting agrochemicals by promoting integrated crop management (ICM) and integrated pest management (IPM) of rice and developing farmer capacity for better pesticide and fertilizer management, implementing the VietGap production process, controlling plant diseases and crops applications through new environmentally friendly techniques **Target areas:** TT: Thuy Truong Commune TGCH: 6 communes in O lau river mouth (Quang Thai, Quang Loi, Phong Chuong, Dien Loc, Dien Hoa, Dien Hai)
	Fishing	TT: 11,000 full-time fishermen engaging in both aquaculture and fishing TGCH: 100,000 full-time fishermen engaging in both aquaculture and	TT: Reduced populations of various species; loss of mudflat habitat for birds and other species; water pollution from aquaculture due to clam culture; pollution and diseases introduced through aquaculture.	• Reduce further expansion of clam culture on the intertidal mudflats in TT • Generate awareness & develop capacity for sustainable clam production in TT • Establish aquatic reserves and strengthening of existing aquatic reserves to support overall

[49] Figures include dependents as all family members engage in the some aspects of the livelihood and dependent on the income

		fishing	TGCH: Overexploitation of aquatic resources, water pollution and lagoon surface contraction due to encroachment of aquaculture facilities causing habitat loss and degradation, including loss of lagoon mudflats. Lagoon shorelines have also been encroached by ponds built in low tide areas	biodiversity values in TGCH • Establish seagrass conservation zones in TGCH lagoon • Generate awareness and develop capacity development on use of appropriate gears, fishing techniques and aquaculture practices, including use of antibiotics, nutrients and other chemicals as detailed in guidelines developed by Local Wetlands Working Group for both TGCH and TT • Strengthen community engagement and capacity for wetlands conservation management through co-management and establishing and supporting local fishing associations • Community-based patrolling & monitoring of compliance with new fishing and aquaculture guidelines in TGCH and TT
	Other	4,000 services providers and traders	TT is not currently a tourist destination, but it holds potential of becoming so like Xuan Thuy. This can potentially create additional incentives for wetlands conservation. TGCH: Wetlands-based tourism occurs on a very small-scale at present, but there is potential to further expand ecotourism to supplement local livelihoods and increase incentives for people to maintain local wetlands values.	• Conducting a study to assess the potential for ecotourism expanding at site • Designing program for promoting and expanding eoctourism on hospitality business development and management to meeting the needs of specific niche markets and further development of home-stay opportunities • Developing community-based ecological tourism. The community can provide tourism services based on their regulations. • Extension activities, village-to-village visits, and study tours plus training of community members • Connection to other tourist attractions in Thai Binh and Red River Delta biosphere reserve **Target Areas:** TT: Con Den (Thai Do commune) • TGCH: O Lau River mouth

218. In Viet Nam the ICM and IPM models of rice cultivation are known as the method of '3 reductions and 3 increases'. The '3 reductions' means the reduction in the use of seed sowing, fertilizer and pesticide, while the '3 increases' refers to the increases in productivity, quality and efficiency. The model of '3 reductions 3 increases' rice cultivation has been applied successfully in many parts of Viet Nam including the two provinces targeted by this project, Thua Thien Hue and Thai Binh. On-farm evaluation of ICM in several provinces has shown that ICM practices can increase rice yield on average from 0.3 tonnes/ha up to 1.5 tonnes/ha, reduce seed use by 28%, reduce pesticide use by 50% and increase overall profit to farmers by 1-3 million VND per ha in contrast to prevailing rice cultivation practices that rely on high inputs of commercial fertilizers and pesticides.[50] Similar results are reported of ICM/IPM application in Thai Binh where this approach has led to increases in rice yield by 9-17%, reduction in pesticide use by 41.84%, and increased overall profit to farmers by VND 1.2–1.4 million per ha. This in turn is partly due to the increased costs of commercial fertilizers since 2006.

219. Under this Output, the project will target one area in each demonstration site where ICM/IPM approaches using high-quality rice variety and application of compost fertilizer will be piloted. In Tam Giang-Cau Hai, the project will focus on six communes around the O Lau river mouth (Quang Thai, Quang Loi in Quang Dien District and Phong Chuong, Dien Loc, Dien Hoa, Dien Hai in Phong Dien District) as this intended to become one of the main core zones of the new WCA. The project will especially target Quang Thai commune of Quang Dien District as it is situated right at the river mouth and thus activities here are particularly critical to the overall ecological health of the proposed O Lau Core Zone. There is also good potential here to demonstrate a number of inter-related strategies such as integrated agriculture, aquaculture and livestock.

220. In Thai Thuy, the project will focus on Thuy Truong commune, the main rice-growing commune of the five neighbouring communes, where some 75% of households are agricultural, engaging primarily in rice cultivation. Project support will include developing local capacity for ICM/IPM and VietGAP[51] (Vietnamese Good Agricultural Practices) production processes, which will include training on new cultivation techniques, pesticide and fertilizer management, including composting to produce natural fertilizers, controlling plant diseases through better planning, preparation and more environmentally friendly techniques.

Aquaculture

221. In the case of aquaculture, the project will conduct a more detailed assessment of the extent of extensive and intensive aquaculture in both TGCH and TT and target its interventions at the areas with greatest impact on the two WCAs as well as in and around the proposed core zones of the new WCA, such as O Lau in TGCH. Interventions to reduce the negative impacts of aquaculture will measures to promote established good aquaculture practices such as biosecurity;

[50] Nguyen Ho Lam, Hoang Thi Nguyen Hai, Tap chi khoa hoc, Dai hoc Hue**,** *Vol. 75A, Number 6, (2012), 75-81, Result of application model 3 increases and 3 reductions in Viet Nam*

[51] VietGAP or Vietnamese Good Agricultural Practices is a collection of principles issued by MARD that apply to on-farm production and post-production processes in agriculture, forestry and aquaculture, ensuring the health of both producers and consumers, reducing environmental pollution, and resulting in the production of safe and healthy food as well as products with easily traceable origins.

seed selection and management of seed quality, environmental management to monitor and support a sustainable aquaculture, water quality and food safety; better management of health problems (especially concerning the responsible use of antibiotics and chemicals); record keeping (log book); better collaboration with other resource users.

222. In Thai Thuy, the project will explore ways to make existing clam cultivation more wetlands-friendly and also seek to reduce further expansion of clam culture on the intertidal mudflats. Large-scale clam culture is incompatible with the maintenance of intertidal mudflats, which are vitally important for birds and other species and one of the key wetlands values of Thai Thuy. Furthermore, the clams that are cultivated are a non-local species, *Meretrix lyrata*, imported from the Mekong Delta in southern Viet Nam. While there is a local species of clam, *Meretrix meretrix,* native to the north including the Red River Delta area, it is not as high-yielding as *M. lyrata*. However, clam production in Thai Thuy has declined in recent years due to poor cultivation practices such as growing too many too close together resulting in greater risks of disease and lower overall growth rates. Indeed, clam culture is also experiencing the 'boom and bust' characteristics seen in shrimp aquaculture – initial high returns followed by a declining trend in returns. Problems of productivity have been further aggravated by changes in consumer preferences: China, which was hitherto the bigger market for clams, has stopped buying them from Viet Nam.

223. In Thai Thuy, the project will therefore focus on improved clam farming practices in inter-tidal areas to increase productivity and reduce adverse environmental impacts. While locally appropriate guidelines and manuals for local communities will be prepared where not already available, greater emphasis will be place on practical capacity development, for example, actually showing local communities how to apply guidelines and why these are likely to make clam production more sustainable over time. Specific sites for intervention in Tam Giang-Cau Hai will be identified during the project inception, but could potentially also be in the vicinity of the O Lau area.

Fishing

224. Project interventions on fishing will be focused on TGCH in the first instance given the large proportion of people engaging in capture fishery here. The project will build on the earlier efforts of TTH PPC and FAO/IMOLA and other donor-supported projects to further expand and develop the concept of aquatic reserves develop and strengthen co-management through community-based Fishery Associations (FAs) in Tam Giang Cau Hai. There are currently 10 aquatic reserves in TGCH with a total area of over 300 ha or 1.4% of total area of TGCH lagoon. In December 2011, there were 62 FAs in TGCH with allocated fishing rights over a combined area of 12,500 ha or 60% of total area of TGCH.[52]

225. These aquatic reserves have yielded a number of well-recognized benefits to date including, increased production of selected valuable species and thus income for participating fishers as well as reduced pollution. DARD monitoring of these reserves has shown increase in areas of seagrass beds in some areas by as much as 50% and increases in catch of *Siganus* and natural crabs. This has been achieved through changes in fishing practices including the types of

[52] TTH PC, 2013

gear used, the timing and intensity of fishing and improved waste management. Additionally, clarification and enforcement of clear fishing rights has reduced conflicts in areas with aquatic reserves and also developed local community capacity to manage and resolve conflicts.

226. The project will build on these achievements by supporting the establishment of new aquatic reserves and Fishery Associations in and around key core zones of TGCH. These will employ similar measures to those already used in other parts of the lagoon, such as ensuring use of appropriate gear and enforcing existing regulations on destructive gear (eg very fine mesh nets and box like traps known as 'lu') and fishing practices such as electric shock fishing. This will involve working closely with local communities and Fishery Associations and DONRE and DARD to identify the best means to monitor and control illegal practices.

227. The project will also support additional measures that favour wetlands biodiversity values and explicitly link biodiversity objectives with tangible support for sustainable livelihoods development and co-management opportunities. Specifically, the project will involve local communities in the establishment and management of the seagrass conservation zones that will be established under Output 1.3. The benefits of these seagrasses for fish productivity and biodiversity will have also been assessed and communicated more widely under Output 2.1. To deliver this activity the project will work closely with IMER, who have already prepared a seagrass management proposal for TGCH. With training and support from IMER and the project, it will be possible for local communities to undertake a seagrass conservation zone monitoring programme.

Domestic Pollution Control & Monitoring

228. Pollution from inadequate sanitation and household waste disposal is another important threat to many wetlands. With a population of approximately 300,000 in TGCH and 35,000 in 5 coastal communes of TT, it is estimated that about 100 tonnes of garbage is generated per day, equivalent to 37 thousand tonnes per year, based on each person generating an average amount of about 0.3 kilograms of garbage per day.[53] Given the high organic matter content of solid waste in Viet Nam in general (c. 70% on average), there is considerable potential for composting certain types of waste in settlements within the two WCAs.

229. The project will therefore also explore the extent to which it should support improved waste management as a further strategy to reduce local pollution particularly of water. As budget for this is limited, however, potential interventions might include training households in key areas of pollution (as identified by DONRE) to classify household waste into organic and non-organic waste and working with local government partners and local communities to develop organic waste composting facilities. Composting products can then be used for agriculture. Another potentially beneficial activity that may be explored through local government departments is the development of small-scale biogas in areas where livestock (eg water buffalo and other animals) may be contributing to water pollution and trampling of shorelines.

Ecotourism

[53] Viet Nam Environmental report 2011. Solid waste

230. With its diverse natural environment, geography, history, and culture, Viet Nam has become a major tourist destination in recent years, attracting nearly seven million foreign visitors and 32.5 million domestic tourists in 2012[54]. Thua Thie Hue Province where TGCH is located is already a major tourist destination. In 2012, Thua Thien–Hue welcomed about 2.5 million visitors, out of these, about 870 thousand foreign visitors. Tourism and service sector accounts for 30% of provincial GDP and 90% of visitors came to Hue, which is only some 20 kilometers drive from TGCH. However, tourism in Hue is primarily of a cultural nature, although there is good, albeit as yet, untapped potential for ecotourism, particularly to sites like TGCH. Currently, there is just one organized tour to the lagoon from Hue to two villages the O Lau area at the northern end of the lagoon organized by a company in Hue. The main attractions for visitors are seeing a typical fishing village and learning about the daily life of fishers, boat trips across the lagoon, again to learn more about local activities. Visitors are offered local food, visits to a traditional floating market and local handicrafts, including the opportunity to meet with the artisans. Home-stays are also possible in one village. Tourism constitutes an additional source of income for the households that are currently engaged in it but is on a very small scale at present. The project will conduct socioeconomic and environmental feasibility studies for scaling up ecotourism in TGCH, beginning with O Lau, one of the main core zones of the new WCA. Individual earnings from tourism while welcome as a source of supplementary income are not very high ranging from VND 50,000-100,000/day or US$2.40-US$4.8. Furthermore, last year, O Lau received only 270 visitors. There is thus great potential to increase the income-generating potential of ecotourism in TGCH, especially as there is a clear interest among a certain section of tourists for more unusual experiences including ones that involve greater cultural exchange and learning.

231. While Thai Thuy is not currently a tourist destination, it holds potential of becoming so, like Xuan Thuy National Park, which currently receives around 5,000 visitors per year, including 100 overseas visitors (2010 data). Thai Thuy has the advantage of being only a few hours drive from Hanoi. The project will work with the MAB National Committee and RRDBR Management Board to explore the potential for developing an ecotourism package for Thai Thuy linked to options for wider exploration of the Biosphere Reserve. Marine tourism is one of the outstanding advantages to attract domestic and international tourists to Thai Thuy. With a more than 16km coastline Thai Thuy offers ample opportunity to promote marine tourism, including eco-tourism. Thai Thuy is also home to Con Den (Den island), which has long stretches of white sand and green casuarinas forests and will become part of the TT WCA. Con Den is known as the most beautiful beach in the north of Viet Nam.

232. There is already government interest to make Thai Thuy an important tourism destination within the Red River Delta region, as apart from it beautiful coastline, the area is also known for its famous historical and cultural monuments, including the Tran Dynasty historical complex, Keo Pagoda and the Le Quy Don ancestral temple. Thai Binh is also home to the Vietnamese popular opera and water puppetry and also has famous craft villages, such as Dong Xam Silver Village, Nguyen Village which specialize in fiddler-crab cake production and Hung Nhan Sedge Mat Village. There is thus great potential to develop packages and schemes that combine cultural and ecotourism to attract more domestic and international tourists to Thai Binh including Thai Thuy.

[54] General statistical office 2012

233. The project will therefore work with DCST and local tour companies in both sites to assess the interests and needs of domestic and international tourists to further assess the potential for expanding ecotourism in both TGCH and TT, including the kinds of investments and capacity development required for local communities to actually capitalize on this opportunity. Based on the findings of these assessments, the project will design a programme for promoting and expanding ecotourism in TGCH and TT. Depending on the assessment results, this may include capacity development for target communities on hospitality business development and management tailored to meeting the needs of specific niche markets and further development of home-stay opportunities and a suite of community-based ecotourism activities in each site.

Community Engagement in Wetlands Monitoring & Management

234. Finally, a key strategy for reducing the negative impacts of local economic activities on wetlands will be through greater voluntary community engagement and participation in actual wetlands conservation and sustainable use. Representatives of key community associations such as the Fishing Association, Farming Association and Women's Union, will be represented on the LWWG. Local communities will be closely involved in agreeing the zonation of the WCA and the uses permitted in different zones. Additionally, livelihood-support activities will be linked to corresponding responsibilities for helping with some aspect of the conservation management of the WCA, for example, involvement in local monitoring and dissemination of knowledge and experiences. To enhance replication potential and sustainability of the WCA model, the project will work closely with local stakeholders, particularly rice farmers, fishers and aquaculturalists, to develop a simple community-based monitoring system for key parameters such as water quality, area and impacts of clam farming, and change in abundance of selected wild aquatic species such as *Siganus guttatus*. In TGCH, communities will also be involved in monitoring and protection of seagrass beds, while in TT they will be involved in monitoring and protection of the older mangroves.

The Design & Conduct of Training Programmes

235. Training programmes will be tailored to the different needs of men and women, as each plays a different role in rice production, aquaculture and fishing. Thus, women generally have an overall higher labor input than men as they undertake most of the field-based tasks, such as hand weeding, field gap filling, small-scale spraying and fertilizer application, harvesting, drying and post-harvest activities (processing and marketing). Men undertake the more heavy work, such as intensive spraying and fertilizer application, hauling, and hoeing. In aquaculture, except for pond cleaning, which is equally shared between men and women, men were responsible for most activities such as pond building, seeding, feeding, weeding and harvesting. Men also took more of the marketing decisions. Women also had fewer opportunities to engage in shrimp raising, especially in intensive farming where women were not allowed to go to the shrimp ponds because their presence there is considered unlucky. Fishing too is traditionally the domain of men as it is considered too risky for women. However, women are often involved in processing fish products and small-scale trade.

236. More importantly, as women also have to take care of household duties and children, the timing of training programmes is critical to ensure they are able to participate. Thus, training programmes will be designed to accommodate the needs of both men and women and to ensure that both are able to participate in the most appropriate sessions by paying attention to timing,

seasons, house work, childcare and other commitments and constraints. The training courses will be organized with the support of the local Women's Union in close collaboration with DARD, the Farmers Association and the Youth Union so as to tailor the organization of training and its technical content to the needs of both men and women. Some courses like cultivation techniques, pest management can be organized on-site to help rural women improve their knowledge of crop cultivation techniques to increase productivity. Training courses held by Women's Union can create a learning environment to encourage women's participation.

2.5 Key Indicators, Risks and Assumptions

237. The project indicators, risks and assumptions are detailed in the Strategic Results Framework (Part II/Section III). Project indicators include a number of impact (or 'objective') and outcome (or 'performance') indicators. Most indicators have been designed to be specific, measureable, achieveable, relevant and time-bound or SMART. These will be further refined during the Project Inception phase including identification of certain indicators and baselines that require further consultation and agreement on specific sites before these can be established as well as additional inputs from experts. Furthermore, while both BD1 and BD2 Tracking Tools have been completed during the PPG by a working group from MONRE, these need to be revisited during the Project Inception Phase to obtain further inputs from key local government partners at each site more systematically. These will updated again at the time of each WCA's establishment.

238. Also during the project inception phase, a project monitoring and evaluation system will be developed once the project team is on board in order to allow meaningful monitoring of project implementation progress. This will include a number of process indicators for application at both national and site-levels to provide useful information for adaptive project management. It will also engage different key actors (eg DONRE, DARD, local communities, project team and WCA site-managers) in monitoring different aspects relevant to measuring project progress and achievement of results as detailed in the Section 2.4.

239. Both results and project implementation monitoring will be based on practical cost-effective indicators that can be easily deployed by those tasked with undertaking different areas of monitoring.

Project Risks and Assumptions

240. The following potential risks and mitigation measures have been identified. These risks and the mitigation measures will be continuously monitored and updated throughout the project, and will be logged in ATLAS and reported in the PIRs.

Table 6: Project Risks Assessment & Mitigation Measures

Risk	Level	Mitigation
Mainstreaming wetland biodiversity conservation into landscape-level development plans and other existing frameworks hindered by competing interests/lack of incentives	Medium	A number of measures will be used to counter this risk. First, the results of the ecosystem services assessment & valuation will be packaged and communicated to different target audiences in a manner designed to generate greatest interest among key planners and decision-makers. The project focus on bringing together key decision-makers and actors on wetlands to strategize, plan and learn by doing through various fora including the ecosystem services assessment, various capacity development programmes as well as the Wetlands Working Groups and the WCA Management Boards is designed to foster both greater understand of the need for landscape level approaches to site-based wetlands conservation as well as to foster greater intra and intersectoral cooperation. The Local Wetlands Working Groups will be key to helping champion the wider wetlands conservation agenda and membership of these groups will be selected accordingly. Additionally, the project will make use of existing regulations and policies that support mainstreaming to further strengthen these and ensure their adoption and use, for example by making better use of the EIA process.
The effects of climate change degrade the conservation value of wetlands and the new WCAs	Low during project life-time rising to Medium over the long-term	Wetlands are particularly vulnerable to climate change impacts of rising temperature and changing patterns in the seasonal distribution of rainfall but these will not change significantly during the life of the project. Over the longer term, river water flows are expected to change significantly at different times of the year, particularly in dry seasons where water abstraction upstream (within Viet Nam and also across international borders with neighbouring countries) is likely to impact on wetlands significantly. In general, knowledge gained and sustainable management practices introduced by the project are likely to prove more rather less adaptive with respect to climate change impacts.
Government institutions are unable to agree on their respective roles & responsibilities with regard to WCA establishment and management	Low	The Government of Viet Nam is keen to advance the wetlands conservation agenda and to harmonize planning of the wetlands PA system. MONRE and MARD area already cooperating to harmonize the existing PA system with the requirements of the new Biodiversity Law. Given that MONRE is mandated by law to lead on state management of wetlands biodiversity and is currently leading on many processes relating to harmonization, this is not thought to be a major risk, although it may take some time to harmonize policies and laws and the current roles and responsibilities of different government departments. Additionally, there is strong support for harmonization of biodiversity conservation approaches in Viet Nam from GIZ, who work especially closely with MARD.
NWWG and LWWGs are not effective due to insufficient interest and participation of key members and are thus unable to take wetlands agenda forward in a coordinated and strategic manner	Medium to Low	The success of these working groups will depend very much on strong engagement by BCA/ISPONRE, the project team and UNDP to ensure that the membership of these two groups are well-aligned with the intended functions of these groups and that these groups do not become too exclusive or bureaucratic in their operation. These need to be dynamic vibrant groups that act as a force for positive change to drive the wetlands agenda forward and will require considerable support from project partners during their establishment and initial operations to ensure that this happens. Specific tasks may need to be identified for each group or sub working groups so that there is a sense of specific purpose to group meetings rather than being just a general get together. Provided this support is given by UNDP, BCA/ISPONRE and others to give the groups initial direction and guidance on effective ways to operates, these groups should be be able fulfil their

Risk	Level	Mitigation
		intended functions.
Local communities will not participate in wetland conservation because they fear this will lead to reduced access to use of natural resources.	Medium to Low	Local communities in TGCH have had some exposure to concepts of sustainable use and biodiversity conservation through earlier work done here such as the establishment of aquatic reserves and comanagement through Fishery Associations. The design, transparency and accountability through participatory management planning process will provide a means of addressing prejudices and genuine obstacles to protecting and sustainably managing natural resources. Furthermore, the Wetland Conservation Areas will be zoned to provide for a variety of uses raging from strict protection of biodiversity to its sustainable use based on conservation principles. Additionally, the project will develop strategies with local communities to address any benefits forgone as a result of WCA creation. These measures should help allay local concerns especially if additional support is being provided to generate livelihood benefits.
The benefits of competing landuses are perceived by planners and decision-makers to outweigh their costs in terms of wetlands degradation and loss	Medium to High	As discussed in the Situation Analysis (Part I), Viet Nam's top development priority is to achieve industrialised nation status by 2020. Therefore, there are enormous competing demands on land and other natural resources and new developments and ongoing economic activities on varied scales are continually threatening biodiversity including wetlands biodiversity. At the same time, there is growing recognition of the importance of certain types of natural resources, notably the need to sustain water flows and quality and the role of natural ecosystems in climate change adaptation. This is without a doubt a major challenge that can only be addressed through combination of measures from improved communication of the many benefits of maintaining wetlands particularly to constituencies of particular interest to decision-makers and planners. The results of the ecosystem services assessment and valuation will contribute to this. In general, however, local governments are more likely to support interventions if these obviously also benefit their local electorates in tangible ways or to oppose actions in the wider landscape that will clearly adversely impact their local electorate. Thus project interventions that help to both reduce threats from local livelihoods practices as well as increase local incomes for example through ICM/IPM and improved aquacultural and fisheries practices are likely to be persuasive. There is also need to make better use of existing policies and laws that promote sustainable management of wetlands at different scales. No one single mitigation measure exists to address this particular risk, which will need to be periodically evaluated and locally appropriate measures deployed on a case by case basis.
Local community engagement in wetlands planning, management and sustainable use is hindered by lack of capacity among key government stakeholders within the People's Committees and government departments at subnational level to effectively promote and strengthen such engagement.	Medium - Low	There is growing interest within Government to increase community engagement in both conservation and the sustainable management of natural resources. This is increasingly reflected in national policies on biodiversity. In one project site, Tam Giang-Cau Hai local government already has considerable experience of working closely with local communities to establish aquatic reserves with co-management agreements as well as engaging with them to promote more sustainable fisheries and aquacultural practices. Given that most wetlands are heavily utilised in different ways by a range of local stakeholders, their effective management will not be possible without community engagement. However, not all government agencies and individuals have the necessary skills and expertise to engage effectively with local communities and transitioning from government-led to true co-management can be more challenging. The project will be specifically developing this kind of practical capacity within local government agencies and also promoting a variety of mechanisms to bring

Risk	Level	Mitigation
		communities and key government actors together to strategize and plan for wetlands management and sustainable use.
Increased and uncontrolled water transport and fishing vessels (ships and boats)	Medium - Low	The project will undertake baseline studies to determine the current water transport use as well as the presence of vulnerable wetland areas and important biodiversity in the two wetland areas. On the basis of the information obtained, and through negotiation and participatory planning process, zone plans for the wetland area will be developed and agreed on. The emphasis will be concluding on a win-win situation, where economic and biodiversity (environmental) benefits are both obtained rather than the exclusivity of only one.
Unforeseen larger developments outside the control of project and the Government cause major wetlands degradation and loss at site-level or within wider landscape with knock-on effects on the new WCAs (eg a major oil spill at sea)	Low Risk/High Impact	Given the large number of ships moving through this region, this remains a possibility. Industrial accidents are also possible and wetlands are particular vulnerable to these. However, such externalities are beyond the scope of the project to plan for. However, as in the case of climate change, improved conservation management of wetlands will increase overall ecosystem resilience to external shocks.

2.6 Incremental Reasoning and Expected Global, National and Local Benefits

241. The Government of Viet Nam has already made considerable investments in biodiversity conservation and has also clearly indicated that wetlands conservation is a major national priority in various policy statements including the latest draft of the new National Biodiversity Strategy and actions. To date, however, investments for wetlands conservation have tended to be implemented in an ad hoc manner by different agencies at different scales due to a lack of clarity in institutional mandates, which has also led to differences in approach. While there is some investment in site-based wetlands conservation through the existing PA system, management of these areas does not take into account the specific management needs of wetlands, in particular their high vulnerability to changes in the wider landscape and the importance of ensuring protection of the key landscape-level ecological components that are critical to maintaining the ecological integrity of a given wetland PA. Meanwhile, Viet Nam's population and its economy continue to grow as the country strives to attain industrialised nation status by 2020. As a result, there are growing direct and indirect threats to wetlands ranging from overexploitation and outright conversion, to the impacts of pollution, invasive alien species and changes in the timing, volume and quality of water flows. These threats, which affect both inland and coastal wetlands, are often complex and interact in different ways at different scales. Addressing such threats effectively, particularly those involving land use conflicts, requires not only technical knowledge but also a range of 'soft' skills in order to engage and negotiate with diverse stakeholders and promote greater sectoral coordination and cooperation. Although MONRE has been legally mandated to undertake state management of wetlands biodiversity, it has little experience or capacity for fulfilling this particular mandate at present for historical reasons. Provincial Governments too have limited staff and capacity with the necessary technical and 'soft' skills to undertake wetlands-specific management, particularly finding ways to balance sustainable use

with biodiversity conservation objectives. Thus, there has been no systematic effort to remove the barriers that currently prevent adequate protection of key wetlands in Viet Nam through the national PA system.

242. As a result, under the **baseline scenario without GEF investment in the proposed project**, intervention by different government agencies on wetlands will continue to be uncoordinated and ineffective at both national and provincial levels due to limitations in the policy, planning and regulatory framework and systemic weaknesses in capacity to plan, establish and manage wetlands systematically. Unique wetlands ecosystems will continue to be under-represented in Viet Nam's PAs system, while wetland sites that are currently protected under the existing terrestrial PAs system will not be given adequate management attention to meet wetlands-specific ecological requirements. The specific types of capacity needed to overcome the barriers to ensuring adequate coverage of ecologically representative wetlands within the PA system will not be developed. Wetlands values will continue not to be taken into account in development planning and environmental standards and safeguards to ensure their protection will not be developed and applied in an integrated or systematic fashion. Consequently, globally important biodiversity found within Viet Nam's wetlands will become increasingly fragmented, degraded and threatened due to changes in land use, unsustainable levels of exploitation, pollution and a range of other direct and indirect threats. The economic and health consequences of continued degradation and loss of wetlands are difficult to predict but could be considerable, particularly in the context of a changing climate as ecological degradation reduces adaptation options. Restoration of these systems will be far more costly than protecting them now and in some cases impossible.

243. The **GEF-funded alternative**, however, will precipitate a reverse in the on-going decline of wetland ecosystems by developing systemic capacity to plan and manage a comprehensive and ecologically representative system of wetland PAs supported by an appropriate legal and policy enabling environment. The project will support actions to overcome the key policy, capacity, knowledge and technical barriers that currently prevent effective wetlands conservation through the national PA system thereby also strengthening the overall PA system. This includes developing national and provincial capacity to plan, establish and manage wetlands PAs, which will be known as Wetlands Conservation Areas (WCAs), as well as to test and demonstrate new approaches to biodiversity management in line with new national policies that emphasise the principles of sustainable use, ecosystem-based management, community-based management and mainstreaming of wetlands values through integration of environmental safeguards and standards in development planning. The project will also help develop local community capacity to transform unsustainable local livelihoods by adopting new techniques and practices that improve production, but are less environmentally damaging and also better for human health. A business case for wetlands conservation will be made for Thua Thien Hue and Thai Binh provinces by using ecosystem assessment and valuation tools and sustainable financing options identified to further strengthen the long-term management of wetlands within the PA system. Such new approaches are of particular value in a densely populated country with many competing demands on natural resources and related threats to biodiversity. The proposed new WCA model is particuarlly well-aligned with IUCN Category VI PAs. Finally, successfully demonstrated approaches will be widely communicated to key actors and decision-makers in order to promote their uptake and replication both through the national PA system and through improved planning and management in the wider landscape to sustain the wetlands within them.

244. The GEF investment will generate the following **Global Environmental Benefits**: GEF funding will secure critically important coastal wetland biodiversity in 35,316 ha of new wetland PAs in the Indo-Burma Hotspot, which is ranked in the top 10 hotspots for irreplaceability, top 5 for threat, has only 5% of natural habitat remaining and has more people than any other hotspot.[55] This will include 21,620 ha covering the Tam Giang-Cau Hai coastal lagoon complex in Thua Thien Hue Province. The lagoon is the largest of its kind in South-east Asia and contains a diversity of natural and artificial wetlands, which together comprise a unique assemblage of wetlands biodiversity with over 920 species documented so far including at least one globally near threatened species, the Asia Dowitcher, one endemic fish species (*Cyprinus centralis*) and several nationally threatened species. The lagoon complex is critically important as a nursery area for both inland and marine fish species and for numerous bird species, with over 70 birds recorded including over 30 migratory birds. The project will also contribute to the conservation of at least 800 ha of seagrass beds within the lagoon complex, which in turn will help strengthen the biodiversity values of the wetland. A further 13,696 ha of wetlands will be protected through the new Thai Thuy WCA, including 300 ha of old-growth mangrove forest and 9,000 ha of intertidal mudflats, a habitat type that is of critical importance to many water birds, including several gobally threatened and near threatened species, such as the Critically Endangered Spoon-billed Sandpiper (*Eurynorhynchus pygmeu*s) and the vulnerable Saunders's Gull (*Larus saundersi*), both of which have been recorded regularly in Thai Thuy. The project also expects to generate a range of global environmental benefits through improved management of landuses in over 310,000 ha of land including some 283,000 ha around TGCH in TTH province and 27,300 ha of land around TT in the Red River Delta Biosphere Reserve. This will be achieved by supporting the further development of two key land use management frameworks for the wider landscape around TGCH WCA and TT WCA that will address threats to the integrity of both WCAs that emerge from outside through new developments, landuse change and other economic activities. These are the TTH River Basins Management Framework and the Red River Delta Biosphere Management Framework. The specific nature of these additional global environmental benefits will be quantified during project implementation

245. In terms of **Socioeconomic benefits**, both the new WCAs as well as improved wetlands management and conservation more generally within the wider landscape as a result of this project, will generate enormous economic and social benefits to people in these areas. In TGCH alone some 200,000 people rely primarily rice cultivation and a further 100,000 primarily on fishing and aquaculture, while in TT, some 20,000 people rely on rice cultivation and some 11,000 on fishing and aquaculture. Reduced pollution, protection of key spawning grounds and improved fishing and aquaculture practices have all been shown to increase production and are of course better for human health. Similarly, based on experiences elsewhere in Viet Nam, new methods of rice cultivation that will be supported by the project are also expected to increase yields for local farmers while reducing negative environmental impacts including pollution generating further ecological and health benefits. Benefits derived by local farmers, fishers and aquaculturists are also extremely dependent on maintenance of the water sources that feed each wetland. Thus, the project's interventions to promote mainstreaming of environmental safeguards and standards for wetlands at the provincial and broader landscape levels within different sectors will also contribute to the continued provision of the socioeconomic benefits

[55] Indo-Burma Biodiversity Hotspot: Ecosystem Profile - 2011 Update. CEPF, October 2012. http://www.cepf.net/Documents/final.indoburma_indochina.ep.pdf, p. 2

that are currently derived from these wetlands, including the improvement of water quality overall. The wetlands also serve as an important coastal defence against extreme weather events, tidal surges and anticipated future sea level rise. Mainstreaming of wetlands conservation into the larger areas will generate considerable socioeconomic benefits for many more people with the wider landscape around TGCH and TT WCAs, which cannot be quantified yet. The ecosystem services assessment and valuation that will be undertaken as part of this project will, however, identify the nature and volume of additional socioeconomic benefits that are likely to be generated by the GEF alternative. Additionally, MONRE will ensure that mainstreaming approaches and sustainable agriculture, aquacultural and fishing practices that are successfully demonstrated in the project will be more widely replicated not just in TTH and Thai Binh provinces, but in other areas where new WCAs are subsequently established. Thus, the GEF alternative has the potential to generate immeasurable socioeconomic benefits as well as global environmental benefits.

2.7 Cost-effectiveness

246. The project has taken the most cost-effective approach in its design by choosing to focus on removing system-level barriers to wetlands PA establishment at both national and provincial levels. This includes addressing current gaps in: the policy, regulatory and planning framework; institutional and individual capacity at national and subnational levels, including technical and non-technical skills and knowledge; and mechanisms for improved inter and intra-sectoral information sharing, coordination and cooperation to advance the wetlands conservation agenda more widely. The project's approach of establishing a new PA subsystem of wetlands in Viet Nam combined with developing capacity to address existing and emerging threats from the wider landscape is considered more effective, particularly cost-wise, and more sustainable than the other alternatives considered, which included:

1) Primarily focusing on mainstreaming wetland values into local development. As discussed earlier in the PIF, PA establishment is considered more effective for wetland conservation as it affords stronger legal protection against encroachment and/or conversion of wetlands as well as enforcement of environmental regulations and safeguards. The mainstreaming only option was discarded because it needs more intensive conservation management to sustain wetland values, which can be more costly. However, the project realizes that it is vital to address threats at source outside the PA boundary—hence the project takes a combined approach linking management of the target sites and the wider landscape. Without addressing threats at the landscape level, biodiversity at the WCA sites would continue to be degraded or lost.
2) Primarily focusing on strengthening existing PAs (mostly SUFs) that already contain wetlands. Whilst this is an important issue to be addressed, this approach would not address concerns about existing gaps in the conservation of important wetlands in Viet Nam or the need to manage wetlands in different ways from existing terrestrial SUFs amongst other things because of the nature and high level of competing demands on wetlands resources and their particular sensitivity to ecological changes in the wider landscape. Furthermore, an approach that focused on overall PA strengthening, which is already being supported through another on-going UNDP-GEF project would have constituted duplication of effort.

247. The proposed choice of developing a subsystem of wetlands PAs combined with some mainstreaming activities to address threats arising at the landscape level is likely to be more sustainable than the alternative options considered for several reasons. First, the total GEF investment of $3,180,287 for this project will leverage a minimum of $14.8 million in cofinancing gives a highly cost-effective ratio of 1: >4.2. While figures are not yet available for the value of ecosystem services in the areas targeted by this project, many valuation studies have shown the high value of the ecoystem services generated by wetlands. Thus, the degradation and loss of wetlands and their associated biodiversity and ecosystem services is likely to be very costly and their restoration more complex and costly than protecting these ecosystems in the first place would have been. Where extinctions occur, then the changes are likely to be irreversible as even where captive bred populations exist, it is generally difficult and extremely costly to reintroduce them. Additionally, it is increasingly well-accepted that protection of wetlands is an important first line of defence against the potential adverse impacts of climate change as well as increasing people's adaptive capacity generally given the critical role of water to human survival and agricultural production.

248. Research on the economic benefits of coral reefs, mangroves and major river deltas have all consistently shown that these have tremendous economic value and that their benefits are often shared by very large numbers of relatively poor people in terms of their immediate well-being and as a major source of livelihood than alternative uses. For example, the Lower Mekong Basin (LMB) is globally renowned for its rich biodiversity and its vast inland and marine fishery resources, which together represent around 2% of the total global capture fisheries yield. The bulk of production, however, is from the inland freshwater fishery, which has an estimated value of over US$2 billion per year. These fisheries are central to the lives of local people, especially the rural poor, of Cambodia, Laos PDR, Thailand and Viet Nam as roughly two thirds of the LMB's 60 million people engage in some form of fisheries-related activity. Fish are the primary source of animal protein and an important source of micronutrients for local people. Estimated annual per capita consumption of fishery products is around 34 kg and there are no readily available substitutes for the nutritional benefits obtained from fish for poor rural people in the region. In Vietnam, the Mekong Delta is home to over 17 million people and the most densely populated part of the country. The area is also crucial to the country's food security: half of Viet Nam's rice and an even larger proportion of its fisheries and fruit products are produced in the Mekong Delta. Agricultural development in the delta has contributed greatly to poverty reduction in the area, although an estimated 4 million people still in live in poverty. The Red River Delta too is very important for its fisheries and agricultural production potential as well as its biodiversity. For example, the total value of mussel exploitation in Xuan Thuy National Park, a small area within the Red River Delta region, was estimated to be between US$7-10 million in 2004, contributing significantly to local community income.[56] Additionally, Results of studies by Le Van Khoi et al. (1999)[57] have shown the benefits of mangroves as a net carbon sink: for example, an area of 20,000 ha of mangrove plantations in Can Gio absorbed 10,164,440 tons of CO_2 [a]nd produced 6,776,296 tons of O_2.

[56] Nguyen Huu Ninh, Mai Trong Nhuan, et al. 2003. *Economic valuation of demonstration wetland sites in Vietnam.* UNEP/GEF

[57] Le Van Khoi, 1999. Study on development of the urban green of Ho Chi Minh city till the year 2010. City level project (in Vietnamese).

249. The investment by GEF to overcome systemic barriers to effective weltands conservation in Viet Nam through an approach that combines capacity development with strengthening the enabling environment and mainstreaming wetlands conservation strategies into wider development and landuse planning and management is undoubtedly a cost-effective use of resources compared to alternative approaches that focus exclusively on strengthening the PA system or exclusively on mainstreaming. This is especially true, given the high-level of threat to Indo-Burma's biodiversity, including its wetlands, and the costs of ecosystem degradation and loss.

2.8 Financial Modality

250. The project activities are focused on strengthening systemic and individual capacities for wetlands biodiversity PA planning and management at national, landscape and site-levels as well as strengthening the enabling environment and mainstreaming wetlands conservation considerations into wider landuse and governance frameworks. The financial support provided by GEF resources will consist of a grant to cover the incremental costs of these activities and be mainly directed toward technical assistance. No loan or revolving fund mechanisms are considered necessary, and therefore grant-type funding is considered adequate to enable successful delivery of project outcomes.

2.9 Sustainability and Replicability

251. The project has been designed to ensure strong institutional, financial, socio-economic and environmental sustainability as well as being more widely replicable.

252. Institutional Sustainability will be strengthened through developing staff and institutional capacity for enhanced planning, administration and site-based management effectiveness of wetlands PAs. Furthermore, the project will build on existing processes and practice in Viet Nam such as constituting PA Management Boards at PA site level. Most local governments are familiar with such arrangement for existing PAs and will be able to institute and operate such a mechanism for WCAs with minimal additional effort. In addition, the project will strengthen intersectoral coordination and cooperation at both national and provincial levels, particularly through mainstreaming wetlands biodiversity conservation objectives into key sectors such as water resources, hydro-electric energy, agriculture, fisheries, aquaculture, tourism and infrastructure development.

253. Financial Sustainability will be partly achieved through the project's emphasis on mainstreaming biodiversity conservation into the wider landscape and key sectors and increasing local engagement and support for wetlands conservation thereby tapping into existing budgets of other sectors and reducing costs through voluntary compliance in relation to new measures that reduce threats to wetlands. The project will also be strategically nested within UNDP-GEF project on "Removing Barriers Hindering PA Management Effectiveness in Vietnam", which is developing the national framework for PA financing. Additionally, building on global best practices, the project will strengthen capacities of local governments, WCA management boards and other stakeholders to generate and effectively utilize resources for new Wetlands Conservation Areas through effective business planning to ensure adequate funding is secured for essential wetlands PA management functions.

254. Social Sustainability is key given the high level of local reliance on wetlands resources for income and subsistence. This will be improved as a result of demonstrating and raising further awareness about the benefits arising from wetlands ecosystem services and more importantly demonstrating strategies for making current livelihoods more conservation-friendly, developing alternative sources of income generation and implementing a new model for sustainable use of wetlands with high levels of community involvement in WCA decision-making and management. The project will also invest in developing individual and institutional capacities of key government agencies and local community counterparts to increase their ability to engage actively on wetlands conservation management and sustainable use.

255. Environmental Sustainability will be achieved through improvements in the design and planning of a subsystem of wetlands PAs including biogeographic coverage, wetland types, size of individual sites, landscape-level connectivity and ecological resilience in the context of a changing climate. Resilience will be further enhanced through a focus on strategies to reduce major pressures on wetlands, particularly in terms of pollution and overexploitation of resources.

256. The project's outcomes are more widely replicable across other provinces of Viet Nam and potentially more widely as the approaches and strategies that will be implemented address threats and barriers to wetlands biodiversity conservation that are common across the country and region. Given the great economic importance of wetlands in Asia, a model that successfully promotes multiple sustainable use is likely to have far greater uptake than a conservation approach that relies on more traditional exclusionary approaches to PA management. Replication will be greatly facilitated by the project's emphasis on the development MONRE's capacity to effectively plan, administer and monitor wetlands PAs, including their ability to develop provincial capacity for site-based PA management and landscape-level threat management. Replication will be further strengthened by ensuring widespread dissemination of lessons learned on strategies that work through the National and Local Wetlands Working Groups, peer-to-peer exchange mechanisms, the national and local media and other means identified in the project communication strategy.

III STRATEGIC RESULTS FRAMEWORK

This project will contribute to achieving the following Country Programme Outcome as defined in CPAP or CPD:

Outcome 1: Government economic policies support growth that is more equitable, inclusive and sustainable. Specifically, Outcome 1.4: By 2016, key national and sub-national agencies, in partnership with the private sector and communities, implement and monitor laws, policies and programmes for more efficient use of natural resources and environmental management, and to implement commitments under international conventions.

Country Programme Outcome Indicators:

Indicator 1: Proportion of land area covered by forest
Baseline (2010): 39.1% Target (2016): 45%
MoV: MARD/ GSO data (MDG indicator)
Indicator 2: Proportion of terrestrial and marine protected areas protected
Baseline (2010): 126 terrestrial/forest protected areas covering 2.2 million ha; 16 marine protected areas covering 169,617 ha; 3 RAMSAR sites, no wetland protected areas.
Target (2016): Maintaining 2.2 million ha of terrestrial/forest protected areas; and at least 2 wetland protected areas covering 500,000 ha established and operational MoV: MARD and MONRE reports.

Primary applicable Key Environment and Sustainable Development Key Result Area : 1. Mainstreaming environment and energy

Applicable GEF Strategic Objective and Program: BD1: Improve Sustainability of PA Systems, ; BD2: Mainstream Biodiversity Conservation and Sustainable Use into Production Landscapes, Seascapes and Sectors

Applicable GEF Expected Outcomes: 1.1 Improved management effectiveness of existing and new protected areas; 1.2: Increased revenue for protected area systems to meet total expenditures required for management; 2.1: Increase in sustainably managed landscapes and seascapes that integrate biodiversity conservation.

Applicable GEF Outcome Indicators: 1. Two new protected areas and coverage at least 35,000 ha of unprotected ecosystems; 2. Two business plans for newly-established WCAs; 3. At least 310,000 ha of multiple-use landscape around the two WCAs effectively managed to reduce threats to local wetlands

	INDICATOR	BASELINE	END OF PROJECT TARGETS	SOURCE OF INFORMATION	RISKS AND ASSUMPTIONS
Project Objective[58] To establish new wetland protected areas and to create capacities for their effective management to mitigate existing and emerging threats from connected landscapes	Coverage of natural wetlands within the Wetlands Conservation Area-subsystem	Flooded grasslands and savannas - 0 ha Mangrove – 0 ha Estuaries – 0 ha	Flooded grasslands and savannas – 14,474 ha ha Mangrove – 3,024 ha ha Estuaries – 17,816 ha	PPC decisions to establish Tam-Giang Cau Hai WCA & Thai Thuy WCA	
	Ecosystem Health Index (EHI)[59] monitoring systems for monitoring wetland health developed and in place for WCA sub-system with a focus to reduce threats	Currently no use	Development of EHI and adoption at the sub-system WCA level	EHI Scorecards	**Assumptions:** National & provincial governments (PPCs) remain committed to investing in wetlands management, sustainable use & conservation and give their full support to the establishment and operation of the two WCAs.
	Hectares of landscape where impacts on wetland biodiversity are avoided, mitigated or offset	No planning provisions for the protection of wetland biodiversity outside formal PAs	At least 310,300 hectares covered by provincial development plans/provincial sector development plans where standards and guidelines	Provincial Development Plans Provincial Sector	

[58] Objective (Atlas Output) monitored quarterly ERBM and annually in APR/PIR

[59] A draft outline of the EHI scorecard has been developed during the PPG (see Annex 4). The scorecard will be completed at the time of the establishment of the WCAs and targets for end of project developed.

			supporting wetland values integrate effectively preventing impact on wetland biodiversity	Development Plans RRDBR Management Framework	Stakeholder institutions engage constructively in capacity development initiatives. Government & PPCs are committed to working across sectors & different groups of key actors to address landscape-level threats to Tam Giang Cau Hai and Thai Thay. **Risks:** Mainstreaming wetland biodiversity conservation into landscape-level development plans and other existing frameworks hindered by competing priorities/lack of adequate incentives. The effects of climate change degrade conservation value of wetlands and the new WCAs.
Outcome 1[60]**:** New wetland PAs and relevant systemic capacities for their effective management established	**Outputs:** 1.1 New and updated national policy, regulatory and planning frameworks for wetland conservation 1.2 Strengthened national capacity for administration of wetland conservation areas (WCAs) 1.3 Two new wetland conservation areas (WCAs) established and operational 1.4 Strengthened provincial capacity for wetlands conservation and management and sustainable use				
	Changes to major wetlands-related policies, laws & plans	A number of wetlands inventories and classification systems exist, which need to be consolidated, rationalised and updated. Decree 109 on the Conservation & Sustainable Development	A revised wetlands inventory and database using a unified classification system A new decree (& associated legal guidance) to replace Decree 109 that supports an ecosystem-based approach to wetlands management & emphasises importance of wetlands-related	Project monitoring reports New Government Decree & associated guidance The new Action Plan	**Assumptions:** MONRE continues to see value in bringing about these changes. Targeted national and subnational institutions engage constructively in capacity development initiatives, see value in strengthening intersectoral cooperation and

[60] All outcomes (Atlas Activity) monitored annually in the APR/PIR

		of Wetlands (2003) needs better alignment with Biodiversity Law (2008) The first Wetlands Action Plan period has come to an end in 2010.	ecosystem services A 5-year Wetlands Action Plan towards 2020.		coordination including information sharing on wetlands and engage actively in the NWWG & LWWGs Both national & provincial governments remain committed to establishing the two WCAs & engage proactively to make them fully operational. They also commit necessary financial resources to cover operational costs. **Risks:** NWWG and LWWGs are not effective due to insufficient interest and participation of key members and are thus unable to take wetlands agenda forward. Government institutions are unable to agree on their respective roles & responsibilities with regard to WCA establishment & management
	Capacity of MONRE to implement wetlands-related policies, legislation, strategies and programmes as measured by the Capacity Development Scorecard	21%	> 45%	Project reports & UNDP Capacity Scorecard applied at Mid-Term and Final Evaluation	
	Extent (ha) of the two areas formally proclaimed and managed as the Tam-Giang Cau Hai WCA and Thai Thay WCA	0 ha	21, 620 ha as the TGCH WCA 13,696 as the TT WCA	PPC decision to establish Tam-Giang Cau Hai WCA and Thai Thuy WCA Project & WCA reports	
	Income from various sources for the management of the WCA PA Subsystem	$ 0	Income from various sources covers at least the recurrent costs of TGCH WCA and TT WCA as defined by the business plans developed for each	DONRE Financial Reports	
	METT scores in each of TGCH WCA and TT WCA	TGCH WCA: 0% TT WCA: 0%	TGCH WCA: > 40% TT WCA: > 40%	METT applied at Mid-Term and Final Evaluation	
Outcome 2: Integrity of wetland PAs are secured within the wider wetland connected landscapes	**Outputs:** 2.1 Increased understanding and knowledge about wetlands values, sustainable use and management across the wider landscape 2.2 Wetlands conservation and sustainable use mainstreamed into key provincial plans 2.3 Reduced threats to biodiversity from local livelihoods.				
	Biodiversity conservation strengthened through monetary and non-monetary valuation of ecosystem services	No comprehensive (evidence-based) valuation of the ecosystem services exists	EIAs of any major development activity in Thua Thien-Hue and Thai Binh Provinces include sections referring to impacts on environmental services as a result of widely communicated assessment of the value of Tam Giang-Cau Hai and Thai Thuy wetlands' ecosystem services	Economic valuation report and communications documents EIAs	**Assumptions:** A better understanding of the benefits and values of wetlands ecosystem services & the consequences of their degradation and loss provides sufficient incentive to promote change in policy and practice to favour wetlands conservation and sustainable use. Sectors see value in collaborating to further the
	Threats reduced by mainstreaming biodiversity conservation and the PA	No provincial inter-sectoral coordination mechanism for BD	Two Local Wetlands Working Groups with good representation from key stakeholders and	Minutes of the LWWGs Project Reports	

	system within the sectoral and development planning frameworks, indicated by effective intersectoral coordination and plans incorporating BD conservation measures.	conservation and PAs at Landscape Level Provincial sectoral plans do not include adequate measures for BD conservation District Development Plans do not currently include any reference to wetlands values of TGCH or TT	experts established and supporting WCA Management Boards & PPCs more generally in TTH Province and TB Province to strengthen application of key standards & regulations that support wetlands conservation and sustainable use Four Provincial Sector Plans (Thai Binh Province: Agriculture and Aquaculture sectors; Thua Thien Hue Province: Agriculture and Fishing sectors) incorporate wetland biodiversity friendly standards for application in relation to activities under that sector 6 District Development Plans zone the different land use types within the WCAs and remaining areas within district boundaries. Zoning includes prescriptions for strict protection areas among others seagrass beds, mangrove and mudflat protection zones.	The targeted sector plans (4 in total) & project reports Project monitoring records Revised District Plans	conservation & sustainable development of wetlands agenda at a wider landscape level and have the capacity and time to do so. Environmentally friendly agricultural, aquacultural and fishing practices generate as much or more benefits to local communities as existing unsustainable practices Locally communities perceive adequate value in adopting new environmentally friendly economic practices and are willing to invest time and effort in learning new methods & applying them. **Risks:** Mainstreaming WCAs & wetlands biodiversity values into sector policies is hindered by lack of incentives for other sectors to apply this in practice & weak enforcement of to ensure that agreed priorities and plans for wetlands conservation are implemented especially where greater short-term benefits may be generated through alternative uses The benefits of competing landuses are perceived by planners and decision-makers to outweigh their costs in terms of wetlands degradation and loss adopted ecological standards
	Level of water pollution levels around O Lau in TGCH & Thuy Trong in TT as a result of improved agricultural & aquacultural practices	Baselines to be established in Year 1[61]	Reduction in pollution level against the baseline levels. Targets to be agreed in Year 1	Project reports Community-based water monitoring records	
	Extent of coverage of clam culture on the intertidal mudflats in Thai Thuy WCA	Baseline to be established in Year 1	No increase in clam culture on the intertidal mudflat	Project reports Habitat mapping exercises	

[61] To enhance replication potential and sustainability of the WCA model, the project will work closely with local stakeholders, particularly rice farmers, fishers and aquaculturalists, to develop a simple community-based monitoring system for key parameters such as water quality, area and impacts of clam farming, and change in abundance of selected wild aquatic species such as *Siganus guttatus*. The project intends to establish baselines for these parameters after first working with target communities for up to six months in order to familiarize them with the project objectives and approach and build greater local ownership of these. For example, the siting of new aquatic reserves and establishment of Fishery Associations will need to be identified and agreed through a joint process involving all local stakeholders.

	Catch per Effort of *Siganus* in TGCH WCA as a result of further establishment of aquatic reserves and Fishery Associations, ensuring us of appropriate gear and enforcing existing regulations on destructive gear and fishing practices	Baseline to be established in Year 1	Increase in Catch per Effort of *Siganus* against the baseline	Project reports Community-based fishing monitoring records	are effectively applied by concerned sectors Unforeseen larger developments outside the control of project & WCA Management Board cause major wetlands degradation and loss at site-level or within wider landscape with knock-on effects on the new WCAs (eg a major oil spill at sea) The WCA Management Board and key PPC, DPC and CPC officials engage actively with local communities to increase their involvement in wetlands conservation planning and management.

IV TOTAL BUDGET AND WORKPLAN

Award ID:	00076965	**Project ID(s):**	00088048
Award Title:	Vietnam: Conservation of Critical Wetland Protected Areas and Linked Landscapes		
Business Unit:	VNM10		
Project Title:	Vietnam: Conservation of Critical Wetland Protected Areas and Linked Landscapes		
PIMS No.	4537		
Implementing Partner (Executing Agency)	MONRE		

Component	Implementing Agent	Fund code	Atlas code	Atlas description	Yr1	Yr2	Yr3	Yr4	Total	Notes
1. Establishment of new wetland PAs and relevant systemic capacities for their effective management	MONRE	62000	71200	International Consultants	44,000	27,500	27,500	27,500	126,500	1
		62000	71300	Local Consultants	58,000	87,000	98,000	64,000	307,000	2
		62000	72100	Contractual services - companies	82,500	165,000	183,750	60,000	491,250	3
		62000	71600	Travel	25,000	47,000	55,000	45,000	172,000	4
		62000	72200	Equipment	12,000	10,000	60,000	50,000	132,000	5
		62000	74200	Audio -visual & Printing	7,000	22,000	26,000	25,500	80,500	6
		62000	75700	Training, meeting & WS	90,500	208,000	239,250	130,000	667,750	7
		62000	74500	Miscellaneous	9,000	16,000	16,000	14,634	55,634	8
	Total				***328,000***	***582,500***	***705,500***	***416,634***	***2,032,634***	
2. Integrity of wetland PA are secured within the wider wetland connected landscapes	MONRE	62000	71200	International Consultants	0	0	31,000	31,000	62,000	9
		62000	71300	Local Consultants	5,000	25,000	20,000	20,000	70,000	10
		62000	72100	Contractual services - companies	0	185,000	240,000	130,000	555,000	11
		62000	71600	Travel	0	24,000	25,000	25,000	74,000	12

		62000	74200	Audio--visual & Printing	0	15,000	22,000	22,000	59,000	13
		62000	75700	Training, meeting & WS	0	35,000	60,000	60,000	155,000	14
		62000	74500	Miscellaneous	0	7,434	7,434	6,435	21,303	15
	Total				***5,000***	***291,434***	***405,434***	***294,435***	***996,303***	
3.Project Management	MONRE	62000	71300	Local Consultants	28,000	28,000	28,000	28,000	112,000	16
		62000	74500	Direct project cost	7,075	7,075	7,075	7,075	28,300	17
		62000	71600	Travel	963	962	963	962	3,850	18
		62000	74100	Professional services	0	0	2,000	2,000	4,000	19
		62000	74500	Miscellaneous	800	800	800	800	3,200	20
	Total				**36,838**	**36,837**	**38,838**	**38,837**	**151,350**	
Yearly Subtotal					***369,838***	***910,771***	***1,149,772***	***749,906***	***3,180,287***	
Grand Total									**3,180,287**	

Budget notes for GEF funds

Component 1	
1	Developing and updating national policy and planning frameworks for wetlands conservation and improving management capacity through contracting: (i) an International Wetland Policy Expert to lead the establishment and institutionalisation of wetland protected areas management functions and other wetland-related policy issues (6wks @ $2750/wk) in Output 1.1; and (ii) International wetland management expert to build capacity for wetland conservation (24 weeks@$2750/wk). Also Monitoring and Evaluation experts for the mid-term evaluation (8 weeks @$2750/wk) and for the final evaluation (8 weeks@$2750/wk).
2	(i) Support to MONRE to lead the establishment and institutionalisation of wetland protected areas management functions and sustainable financing, including the development of a new 5-year National Wetlands Action Plan (National consultants on wetland policy, wetland system, ecological economics - 40 wks @ 1,000 USD/wk); (ii) Conduct feasibility studies of the establishment of the WCAs and establish the inter-sectoral local working groups (National consultants on social economic development and institutional development - 67 wks @ $1000/wk); (iii) Design and evaluate data of monitoring system, develop the management plans for the 2 WCAs, liaise with the Government Agencies and other agencies regarding requirements for the establishment of WCAs (National Consultants on Wetland Management - 140 wks @ $1000/wk); (iv) Database for wetland developed, the 2 WCAs mapped and land use plan developed for 2 WCAs, survey and map and incorporate key BD information into land use plans for WCAs; zone WCAs (National Consultants on GIS and landscape/landuse management – 44 wks @ $1000/wk) Also Monitoring and Evaluation experts for the mid-term evaluation (8 weeks @$1000/wk) and for the final evaluation (8 weeks@$1000/wk).
3	Contracts for (i) development of technical guidelines and clarification on wetland conservation, and mapping; (ii) survey of WCAs, development of habitat and other features database, cooperation mechanism, functions and responsibilities of stakeholders at national level in wetland conservation; (iii) Support to two provinces and 2 wetland conservation areas to set up management model, monitoring and management of new wetland areas; including the development of business management plans, biomonitoring plan, management model for sustainable wetland conservation and climate change adaptation.
4	Estimated travel for international, and national consultants to visit two sites, attending training workshops and stakeholders consultation, providing guidance to local communities on conservation of wetland areas. About 8 International travels; frequent field visit to work with province by National Consultants during the project implementation.
5	Equipment, including IT Equipment for training, equipment for the two pilot sites to start up with conservation of wetland areas 15 computers, 3 projectors, 3 photocopiers, 4 Printers; 2 speed boats for monitoring and enforcement purpose at sites; 2 GPS; 3 cameras; equipment for 2 sites to start up the management (including enforcement) before and after the official establishment of Wetland Conservation Areas.

6	Translations, editing, design and printing materials/report and guidelines on wetland management from English to Vietnamese, from Vietnamese into English and reporting system.
7	Training programme developed and delivered to (i) increase the knowledge, skills, tools and systems in MONRE to plan, establish, administer and monitor a biogeographically representative and ecologically viable national wetlands PA subsystem. This will include negotiation and partnership-building skills needed in BCA in particular to bring together all relevant major actors and stakeholders on wetlands in Viet Nam in order to strengthen coordination and collaboration and promote a new approach to wetlands conservation and management; (ii) capacitate selected individuals of key departments and sections of MONRE on wetlands values, ecology, threats and options for mitigating the threats, including the tools and techniques available for landscape-level planning and management; (iii) increase the capacity to manage wetland conservation areas, including enforcement, of DONRE in the provinces through training on topics such as wetlands ecosystem services and biodiversity values and the full range of vital PA management functions, including: PA planning, threats assessment, stakeholder engagement, negotiation and conflict resolution, monitoring and adaptive management with a particular focus on sustainable use and options for community involvement in management, budgeting and financing; (iv) capacitate the authorities of two pilot provinces and some selected provinces neighbour to Thai Binh and Thua Thien Hue in wetland conservation, sustainable wetland management and climate adaptation. In order to organise the administration of wetland conservation areas at a national, provincial, district and local level, consultative meetings will be held with MONRE, DONRE, related ministries' staff, local authorities and local communities (local level consultation will only involve the relevant partners at the two demonstration sites).
8	Communication, some unforeseen miscellaneous costs at site levels
Component 2	
9	Economic valuation of ecosystem services of Tam Giang-Cau Hai and Thai Thuy wetland complexes to support local authorities in understanding the value and threat to wetland in the two sites under Output 2.1 undertaken by an International consultant- wetland/environmental economic expert (22.5wks @2,750 USD/week)
10	(i) Economic valuation of ecosystem services of Tam Giang-Cau Hai and Thai Thay wetland complexes to support local authorities in understanding the value and threat to wetlands in the two sites under Output 2.1, (ii) Develop land use plans for the landscape (basins) that impact on the wetlands and build the capacity of the local authorities to undertake land use planning in which they mainstream BD into the planning process under Output 2.2; and (iii) Capacitate local authorities on sustainable agriculture, fisheries and rural development and to extend these services to the local communities under Output 2.3; undertaken by National Consultants on knowledge management, communications, and coordination of the ecosystem valuation (25 wks @ $1,000/wk); National Consultants- land use planning, environmental management (40 wks @ $500U/wk); and National Consultants on sustainable livelihoods for supporting local communities to carry out sustainable livelihood, to improve living conditions (50 wks @ $500/wk).
11	Contracts for (i) Undertaking baseline biodiversity and socioeconomic studies undertaken for the WCAs at the two sites and provision of international experience, knowledge management on sustainable management of wetland ecosystem across the

	wider landscape; (ii) Developing land use plan for commune, districts and mainstreaming wetland management into socio-economic planning for Tam Giang-Cau Hai and Thai Thuy; and (iii) Development and implementation of the livelihood activities for the more sustainable management of the wetlands in Tam Ciang-Cau Hai and Thau Thuy.
12	Estimated travel for international, national consultants and project staff to the two project sites
13	Translations, editing, design and printing materials and communication materials
14	Training workshops undertaken on: (i) ecosystem evaluation and administration of wetland conservation areas in order to make local communities and local authorities more aware of the value of the wetland and linked landscapes and incorporate that into their management of the area; (ii) mainstreaming biodiversity and the sustainable management of wetlands into the land use planning processes for provincial and local authorities; and (iii) sustainable development and livelihoods and how practices can be adopted in order to have more benefits to local stakeholders and at the same time contribute to biodiversity conservation.
15	Communication and miscellaneous things
Component 3 – Project management	
16	National consultants, supporting Project management for 45 months (Project Manager @1,200 USD/month, Accountant @ 654 USD/months and Administrative assistant @ 654 USD/months)
17	Direct Project Cost – Please see details in LOA.
18	Estimated travel for project staff to the Wetland conservation areas
19	Cost for independent audits
20	Miscellaneous and office supplies

SUMMARY OF FUNDS IN US DOLLARS: [62]

	Amount	Amount	Amount	Amount	Total
	Year 1	**Year 2**	**Year 3**	**Year 4**	
GEF	369,838	910,771	1,149,772	749,906	3,180,287
ISPONRE	110,500	110,500	110,500	110,500	442,000

[62] *Summary table should include all financing of all kinds: GEF financing, cofinancing, cash, in-kind, etc...*

Vietnam Environment Administration	765,900	765,900	765,900	765,900	3,063,600
Thua Thien Hue Province's People Committee	731,000	731,000	731,000	731,000	2,924,000
Thai Binh Province's People Committee	1,610,500	1,610,500	1,610,500	1,610,500	6,442,000
United Nations Development Programme	250,000	250,000	250,000	250,000	1,000,000
Research Institute for Forest Ecology and Environment	25,000	25,000	25,000	25,000	100,000
IUCN	100,000	100,000	100,000	100,000	400,000
WWF	17,500	17,500	17,500	17,500	$70,000
Hue University	112,500	112,500	112,500	112,500	$450,000
TOTAL	**4,092,738**	**4,633,671**	**4,872,672**	**4,472,806**	**18,071,887**

V MANAGEMENT ARRANGEMENTS

257. Project implementation modality: The project will be implemented using the Nationally Implementation Modality (NIM) in accordance to the rules and guidelines laid out in the Harmonized Programme and Project Management Guidelines (HPPMG) and Programme and Operations Policy and Procedures (POPP) of UNDP Country Office in Viet Nam.

National Implementing Partner

258. The Ministry of Natural Resources and Environment (MONRE) will assume all duties assigned to the implementing partner, which is referred to as "National Executing Agency" or "National Partner" in the HPPMG. MONRE will be accountable to the Government of Viet Nam and UNDP for ensuring;

1) effective use of both international and national resources allocated to the project;
2) production of the results expected from it as well as their substantive quality;
3) availability and timeliness of national contribution to support project implementation; and
4) proper coordination among all project stakeholders, particularly national parties.

259. Within MONRE, the Institute of Strategy and Policy on Natural Resources and Environment (ISPONRE) and Biodiversity Conservation Agency (Vietnam Environment Administration) are cooperating as the national implementing partner (NIP) responsible for day-to-day implementation of project activities and will oversee the implementation of activities at two provinces. ISPONRE and BCA are responsible for mobilizing all national and international inputs and collaborate with other MONRE agencies to support project implementation, organizing project activities in accordance with the agreed work plan. The ISPONRE and BCA together submit the annual work plans (AWP) and the quarterly narrative and financial reports reporting to MONRE and UNDP on the progress as well as reports and financial status of the project.

Co- Implementing Partners

260. Two provinces of Thua Thien –Hue and Thai Binh Provinces will participate in the project as co-implementing partners (CIPs). The CIPs will assume direct responsibility for implementing the project activities assigned to it and in accordance with the Annual and Quarterly Work-plans and as agreed in the bilateral Letter of Agreement (LoA) signed between the MONRE and each of the province before Project inception. In addition, the provinces are accountable to the NIP for the successful implementation of the assigned activities, ensuring that the implementation of the Project activities contributes to the achievement of the Outcomes and Objectives in a coordinated, efficient and coherent manner with the other parties. In this context, the CIPs work under the general supervision of NIP, represented by the Project Manager for operational issues and the National Project Director for strategic and policy aspects of the project, and in close cooperation with the UNDP. The Provincial Project Coordinators (co-financed by DONRE) and other personnel assigned by the provinces to the project work under

the technical supervision of the PMU (Project Manager) and under the general supervision of the NPD.

Management and implementation arrangements

261. The management arrangements for the proposed project include the following key organizational entities: a Project Steering Committee to oversee the operation of the project; the National Project Director is responsible for achieving project objectives and ensuring accountability; the Deputy National Project Directors (DNPDs) deputising for the NPD as required; the Project Management Unit to undertake day-to-day project management and technical assistance; and the UNDP Viet Nam Country Office, which holds the dual roles of Senior Supplier (on behalf of GEF) and Project Assurance.

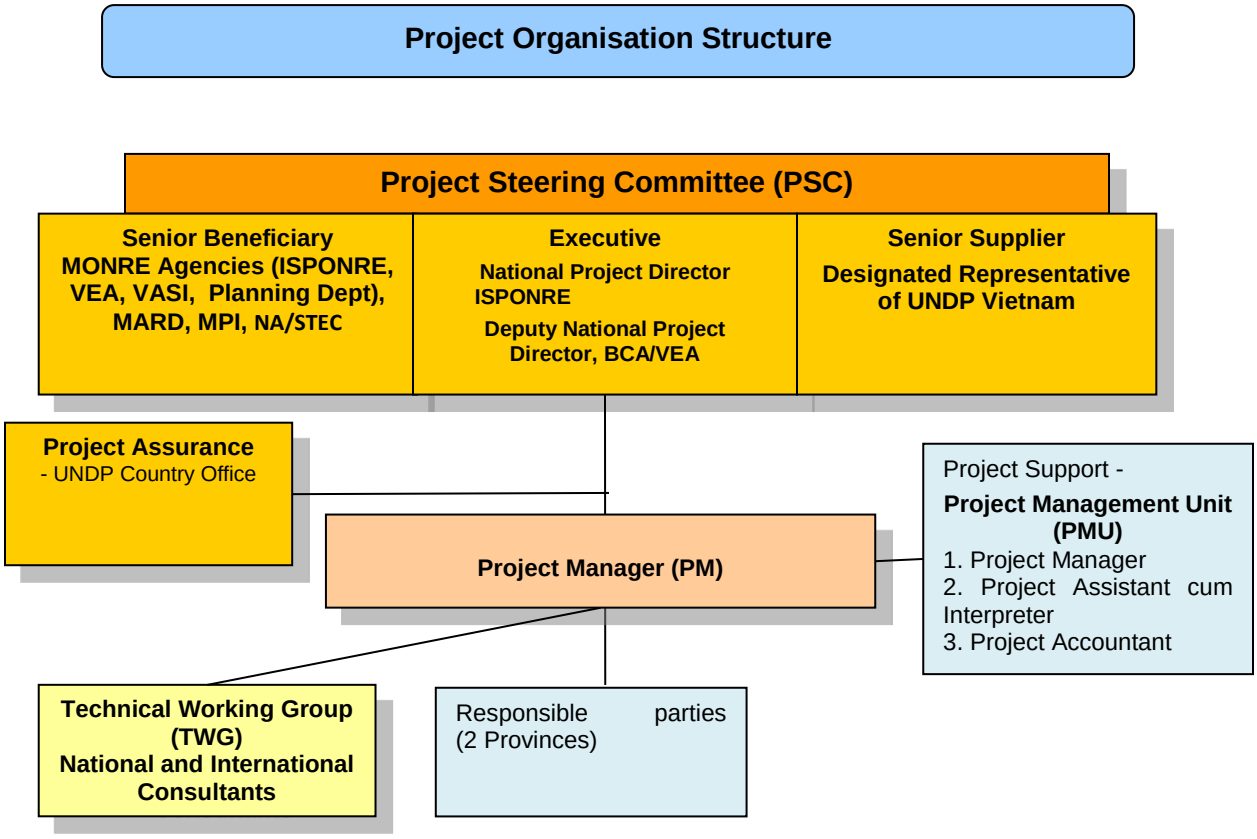


Figure 5 Schematic of the Management Arrangements for the Proposed Project

Project Steering Committee

262. The Project Steering Committee (PSC) will be established with members from MONRE (ISPONRE, BCA, VEA, and MONRE Planning Department), UNDP Viet Nam and

representatives from other agencies such as Ministry of Agriculture and Rural Development, and the Science, Technology and Environment Committee of the National Assembly. PSC will give guidance on the annual work-plans and oversee the project implementation and progress to ensure that the project's resources made available and the outputs produced meet the requirement of beneficiaries and the Government. PSC will be chaired by the MONRE Vice-Minister and meet annually. Additional meetings can be arranged if deemed necessary.

Project Management Unit (PMU)

263. The PMU will be established as per MPI's Decree 38 to undertake the day-to-day operations of the project and the overall operational and financial management and reporting of GEF/UNDP funding in accordance with NIM Guideline.

264. The PMU will be responsible for the following tasks:

- Prepare an inception report including detailed work plan and identification of target new wetland protected areas
- Support the PSC and translate their guidance into day-to-day project coordination and management.
- Provide technical support to MONRE for implementation efforts to achieve the project outcomes.
- Mobilize technical assistance in support of the achievement of all project outcomes.
- Undertake project monitoring, reviews, budget management, detailed work planning (annual, quarterly), and fulfilling report needs to government and international donors.
- Prepare regulation for the project operation.

265. The PMU will be responsible for the staffing, planning and implementation of project activities, will provide mechanisms and technical inputs necessary to integrate the results of various activities, will ensure satisfactory performance of the project members and contractors, and will provide official reports to the Project Steering Committee as needed.

266. PMU will consist of the National Project Director (NPD), who will be the leader of ISPONRE, the Deputy National Project Director (DNPD) from BCA/VEA deputising for the NPD as required, the Project Manager, Project Assistant and Interpreter, Project Accountant. NPD and DNPD and two project co-ordinators will be appointed by MONRE, working part-time for the project as the government's in-kind contribution to the project. Other PMU personnel will work full-time for the project and will be recruited by the NPD upon consultation with UNDP.

National Project Director

267. The NPD who is often the director or the deputy director of ISPONRE will be officially appointed by MONRE. He/she will head the PMU and will be accountable to MONRE for the use of project resources and to deliver on outcomes. The NPD will manage the implementation of all project activities and will work closely with all partner institutions to link the project with complementary national programs and initiatives. The NPD is accountable to MONRE and the PSC for the quality, timeliness, and effectiveness of the activities carried out, as well as for the use of funds. The NPD will also be technically supported by contracted national and international consultants and service providers. Recruitment of specialist services for the project

will be done by the NPD, in consultation with the UNDP and the MONRE. The NPD will not be paid from the project funds, but will represent a government in kind contribution to the project.

The Technical Working Group (TWG)

268. The Technical Working Group (TWG) will consist of senior technical staffs from (i) MONRE Departments; (ii) MARD Departments; (iii) Wetland Association and (iv) relevant stakeholders. The TWG members will be officially nominated as representatives of their departments in performing their responsibilities. The TWG may also include representatives of the most relevant wetland programmes that operate in Viet Nam under the various ministries, and will be responsible for enhancing cooperation between MONRE and other ministries – both at the central and regional level - and between departments within MONRE at the operational level. The TWG will have the following primary roles:

- To provide technical guidance and inputs into the implementation of the project activities;
- Members of the TWG from relevant departments will each take on specific responsibilities for advising, coordinating, facilitating, and monitoring certain activities toward specific outputs and targets as per their institutional mandates

269. The Project Implementation Arrangements presented in the table below:

Level	Description	Major responsibilities
Implementing Agency ISPONRE/MONRE	The Institute has the following functions: research socio-economic policies relating to natural resources and environment; propose and develop strategies and policies in the areas of MONRE's mandate; conduct science and technology research, and provide consultancy services and training courses on natural resource management and environmental protection	• To manage and coordinate the activities of the project • Strengthen Wetland PA System's administration capacity • To mainstream wetlands conservation and sustainable use into key provincial sector planning, including land use, development and environmental protection planning • To support sustainable livelihood activities • To support PPCs in establishing 2 new WCAs in Thai Binh and Thua Thien Hue Provinces
Implementing agency BCA/VEA/MONRE	BCA is responsible for the implementation of the biodiversity conservation provisions of the Biodiversity Law in cooperation with other ministries. BCA is the focal point of the CBD, Ramsar Convention, Cartagena Protocol on Biosafety, and Nagoya Protocol on ABS. Institutionally BCA is the agency authorized for preparation of NBSAP, biodiversity master planning, and reporting of	• To propose policies and regulatory frameworks tailored for PA wetlands (replacement of Decree 109, National Plan of wetland conservation) • To emplace PA functions at the two sites • To increase awareness about values, sustainable use and management of wetland ecosystems across the wider landscape

	biodiversity.	
Participating agencies MARD, PPCs	Various roles and mandates relating to Wetland Management in their management sector	• To cooperate with MONRE in establishment and management of the Wetland Conservation Areas; to cooperate in sustainable fishery and aquaculture, agriculture in surrounding areas of Tam Giang-Cau Hai and Thai Thuy WCA
Wetland Association	Vietnam Wetlands Association is organization under VACNE, specializing on sustainable development of wetlands in Vietnam. It is a relatively new organization. The main functions of VNWA are (i) doing research, training, providing consulting services for sustainable management of wetland ecosystems in Vietnam; (ii) research and advise on policies, strategies and legislation on the conservation and sustainable management of wetlands and wetland networking	• VNWA will be important focal point for networking and knowledge/information sharing
The Project Management Unit (PMU)	The PMU will consist of: • The National Project Director (NPD) • The Deputy National Project Director (DNPD) • The National Project Manager (NPM) • National Project Accountant • National Project Secretary / Interpreter (NPSI) • Provincial Project Coordinators (based in two selected provinces – co-financed by DONRE)	• Prepare an inception report including detailed work plan and identification of target new wetland protected areas • Support the PSC and translate their guidance into day-to-day project coordination and management. • Provide technical support to MONRE for implementation efforts to achieve the project outcomes. • Mobilize technical assistance in support of the achievement of all project outcomes. • Undertake project monitoring, reviews, budget management, detailed work planning (annual, quarterly), and fulfilling report needs to government and international donors. • Prepare regulation for the project operation.
Steering Committee	High-level representatives from MONRE, MARD, PPCs, DONREs, DARDs. Chaired by the Vice Minister of MONRE	• To guide annual work-plans and oversee the project implementation and progress to ensure that the project's resources made available and the outputs produced meet the requirement of beneficiaries and the Government
• Technical Working Group (TWG)	Senior technical staff from (i) MONRE Departments; (ii) MARD Departments; (iii) Wetland Association and (iv) relevant stakeholders	• To provide technical guidance and inputs into the implementation of the project activities.

Assurance Role

270. Project Assurance is the responsibility of the Project Steering Committee by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed. Project Assurance has to be independent of the Project Manager; therefore the Project Steering Committee cannot delegate any of its assurance responsibilities to the Project Manager.

271. Project Assurance will be undertaken by the UNDP Programme Officer responsible for the project based in the UNDP Country Office (CO).

272. The UNDP Programme Officer will also act as a focal point of UNDP CO in facilitating and monitoring the project implementation. He/she will maintain a continuous partnership with the project team and participates in all project reviews, work/budget planning meetings, monitoring visits and evaluations. She/he will certify the annual and quarterly work-plan/budgets/progress reports, as well as proposed use of unspecified budget within the annual budget already approved for the project.

UNDP-CO support

273. Working closely with MONRE, UNDP-CO is ultimately responsible and accountable for the delivery of results, as the GEF Implementing Partnert. UNDP shall provide project cycle management services as defined by the GEF Council, that will include the following:

- Providing financial and audit services to the project
- Overseeing financial expenditures against project budgets,
- Ensuring that activities including procurement and financial services are carried out in strict compliance with UNDP/GEF procedures,
- Ensuring that the reporting to GEF is undertaken in line with the GEF requirements and procedures,
- Facilitate project learning, exchange and outreach within the GEF family,
- Contract the project mid-term and final evaluations and trigger additional reviews and/or evaluations as necessary and in consultation with the project counterparts.

274. Two UNDP staff members will be assigned with the responsibility for the day-to-day management and control over project finance.

At the request of the Government of Viet Nam, UNDP shall also provide **Direct Project Services** (DPS) specific to project inputs according to its policies and convenience. These services, and the costs thereof, are specified in the Letter of Agreement in Annex 12. In accordance with GEF requirements, the costs of these services will be part of the executing entity's Project Management Cost allocation identified in the project budget. UNDP and the Government of Viet Nam acknowledge and agree that these services are not mandatory and will only be provided in full accordance with UNDP-GEF specific guidance on Direct Project Costs. Direct project services will be charged annually using the Universal Price List for Direct Project Services requested by the Government of Viet Nam.

Audit arrangement

275. The Government will provide the Resident Representative with certified periodic financial statement, and with an annual audit of the financial statements relating to the status of UNDP (including GEF) funds according to the established procedures set out in the Programming and Finance manuals. The project will be audited in accordance with UNDP financial regulations and rules and audit policies.

Financial management mechanism

276. MONRE will maintain overall accountability for the proper financial management of inputs. With support from the PMU, MONRE will formulate detailed annual and quarterly work plans and financial plan and reports and submit them to the UNDP on the use of project resources as per the NIM guidelines. The PMU will be responsible for ensuring that an annual NIM audit of the project is carried out in line with guidance from UNDP/GACA. MONRE will be held accountable to follow up on recommendations by auditors.

277. All cash transfers to MONRE are based on the AWPs agreed between NIP and UNDP and undertaken in accordance with the Harmonized Approach to Cash Transfers (HACT) guidelines. Applied modalities include cash transferred directly to the NIP or vendors or third parties for obligations incurred by the NIP/CIPs on the basis of requests signed by the NPD and/or direct payments to vendors or third parties for obligations incurred by UN agencies in support of activities agreed with NIP.

278. Micro-assessment of the NIP will be undertaken to define risk level and cash transfer modalities. Cash transfer modalities, the size of disbursements, and the scope and frequency of assurance activities may be revised in the course of project implementation based on the findings of project monitoring, expenditure monitoring and reporting, spot checks and audits.

Spot check and Audit arrangements

279. The project is subject to HACT assurance mechanism which includes micro assessment and scheduled spot checks and auditing in accordance with UNDP regulations.

Capacity Assessment of implementation partner

280. MONRE/ISPONRE has managed past and current UN projects with satisfactory performance. The proposed project's Implementing Line Agencies have the requisite organizational, management and implementation capacity experience, having managed internationally funded programs, including UN projects. ISPONRE successfully managed the UNDP supported project "Harmonizing Poverty Reduction and Environmental Goals in Policy and Planning for Sustainable Development" (PEP) (2005-2011). In addition, ISPONRE's mandate is not limited to any one NRE sub-sector, but ranges over the whole sector, and specifically encompasses cross-cutting issues. It has national staff experienced in conducting international donor-funded research on linkages between resource use, environment and poverty. These staff are assisted by four long-term senior international technical advisers, (drawn from Australia, Germany and Korea) able to provide guidance on project management, approach and methodology. The Institute presently has 15 units, comprising three support units, eight research departments and four self-accounting units. ISPONRE's core business includes two focal areas of work relevant to this project.

281. VEA is a subsidiary body under the Ministry of Natural Resources and Environment (MONRE) to advise and assist the Minister of MONRE in the field of environment management and to provide public services in compliance with the laws. Regarding biodiversity, VEA is implementing nationwide survey, inventory, monitoring, and assessment of biodiversity; assessing trans-provincial or transboundary degraded ecosystems and proposing measures to conserve, rehabilitate and maintain sustainable use of biological resources.

282. BCA is responsible for the implementation of the biodiversity conservation provisions of the Biodiversity Law in cooperation with other ministries. BCA is the focal point of the CBD, Ramsar Convention, Cartagena Protocol on Biosafety, and Nagoya Protocol on ABS. Institutionally BCA is the agency authorized for preparation of NBSAP, biodiversity master planning, and reporting of biodiversity. VEA has managed past and current UN Projects with satisfactory performance, especially with GEF funded projects in the field of Persistent Organic Pollutants (POP) and Biodiversity Conservation. BCA will coordinate work with two provinces in establishment of the two new Wetland Protected Areas.

Public information and advocacy

283. In order to accord proper acknowledgement of GEF and UNDP for providing funding and technical assistance, GEF and UNDP logos should appear on all relevant project publication, including among others, project hardware and project assets purchased with the project funds. Any citation on publications should also accord properly acknowledge to GEF and UNDP.

VI MONITORING FRAMEWORK AND EVALUATION

284. The project will be monitored through the following M& E activities. The M& E budget is provided in the table below.

Table 5 M& E Workplan and Budget

Type of M&E activity	Responsible Parties	Budget US$ *Excluding project team staff time*	Time frame
Inception Workshop	▪ Project Manager ▪ UNDP CO, UNDP GEF	Indicative cost: $10,000	Within first three months of project start up
Inception Report	▪ Project Team ▪ UNDP CO		Within 2 weeks of IW
Measurement of Means of Verification of project results.	▪ Project Manager will oversee the hiring of specific studies and institutions, and delegate responsibilities to relevant team members.	To be finalized in Inception Phase and Workshop.	Start, mid and end of project
Measurement of Means of Verification for Project Purpose Indicators	▪ Oversight by Project Manager ▪ Project team with inputs from experts	To be finalized in Inception Phase and Workshop. Indicative cost: 10,000.	Annually prior to ARR/PIR and to the definition of annual work plans
ARR/PIR	▪ Project manager and team ▪ UNDP CO ▪ UNDP-GEF	None	Annually
Quarterly progress reports	▪ Project manager and team	None	Quarterly
Combined Delivery Reports (CDRs)	▪ Project manager	None	Quarterly
Issues Log	▪ Project Manager ▪ UNDP CO	None	Quarterly
Risks Log	▪ Project Manager ▪ UNDP CO	None	Quarterly
Lessons Learned Log	▪ Project Manager ▪ UNDP CO ▪ UNDP-GEF RCU	None	Annual
Mid-term Evaluation	▪ Project manager and team ▪ UNDP CO ▪ UNDP-GEF RCU ▪ External Consultants (i.e. evaluation team)	Indicative cost: US$ 30,000	At the mid-point of project implementation.
Final Evaluation	▪ Project manager and team, ▪ UNDP CO ▪ UNDP-GEF RCU ▪ External Consultants (i.e. evaluation team)	Indicative cost : US $30,000	At least three months before the end of project implementation
Project Terminal Report	▪ Project manager and team ▪ UNDP CO ▪ Local consultant	0	At least three months before the end of the project

Type of M&E activity	Responsible Parties	Budget US$ *Excluding project team staff time*	Time frame
Lessons learned report	▪ Project Team ▪ UNDP CO ▪ MONRE (BCA/ISPONRE) ▪ WCA Management Boards & PPCs ▪ UNDP-GEF RCU	Indicative cost US$ 10,000	
Audit	▪ UNDP CO ▪ Project manager and team	Indicative cost per year: 3,000 (Total US$ 12,000)	Yearly
TOTAL indicative COST Excluding project team staff time and UNDP staff and travel expenses		US$ 102,000	

Project start:

285. A Project Inception Workshop will be held within the first 2 months of project start with those with assigned roles in the project organization structure, UNDP country office and where appropriate/feasible regional technical policy and programme advisors as well as other stakeholders. The Inception Workshop is crucial to building ownership for the project results and to plan the first year annual work plan.

286. The Inception Workshop should address a number of key issues including:

a) Assist all partners to fully understand and take ownership of the project. Detail the roles, support services and complementary responsibilities of UNDP CO and RCU staff vis à vis the project team. Discuss the roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff will be discussed again as needed.
b) Based on the project results framework and the relevant GEF Tracking Tool if appropriate, finalize the first annual work plan. Review and agree on the indicators, targets and their means of verification, and recheck assumptions and risks.
c) Provide a detailed overview of reporting, monitoring and evaluation (M&E) requirements. The Monitoring and Evaluation work plan and budget should be agreed and scheduled.
d) Discuss financial reporting procedures and obligations, and arrangements for annual audit.
e) Plan and schedule Project Board meetings. Roles and responsibilities of all project organisation structures should be clarified and meetings planned. The first Project Board meeting should be held within the first 12 months following the inception workshop.

287. An Inception Workshop report is a key reference document and must be prepared and shared with participants to formalize various agreements and plans decided during the meeting.

Quarterly:

288. Progress made shall be monitored in the UNDP Enhanced Results Based Management Platform.

289. Based on the initial risk analysis submitted, the risk log shall be regularly updated in ATLAS. Risks become critical when the impact and probability are high. Note that for UNDP GEF projects, all financial risks associated with financial instruments such as revolving funds, microfinance schemes, or capitalization of ESCOs are automatically classified as critical on the basis of their innovative nature (high impact and uncertainty due to no previous experience justifies classification as critical).

290. Based on the information recorded in Atlas, a Project Progress Reports (PPR) can be generated in the Executive Snapshot.

291. Other ATLAS logs can be used to monitor issues, lessons learned etc... The use of these functions is a key indicator in the UNDP Executive Balanced Scorecard.

Annually:

292. Annual Project Review/Project Implementation Reports (APR/PIR): This key report is prepared to monitor progress made since project start and in particular for the previous reporting period (30 June to 1 July). The APR/PIR combines both UNDP and GEF reporting requirements.

293. The APR/PIR includes, but is not limited to, reporting on the following:

- Progress made toward project objective and project outcomes - each with indicators, baseline data and end-of-project targets (cumulative)
- Project outputs delivered per project outcome (annual).
- Lesson learned/good practice.
- AWP and other expenditure reports
- Risk and adaptive management
- ATLAS QPR
- Portfolio level indicators (i.e. GEF focal area tracking tools) are used by most focal areas on an annual basis as well.

Periodic Monitoring through site visits:

294. UNDP CO and the UNDP RCU will conduct visits to project sites based on the agreed schedule in the project's Inception Report/Annual Work Plan to assess first hand project progress. Other members of the Project Board may also join these visits. A Field Visit Report/BTOR will be prepared by the CO and UNDP RCU and will be circulated no less than one month after the visit to the project team and Project Board members.

Mid-term of project cycle:

295. The project will undergo an independent Mid-Term Review at the mid-point of project implementation (insert date). The Mid-Term Review will determine progress being made toward the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design,

implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the mid-term evaluation will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-term evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF. The management response and the evaluation will be uploaded to UNDP corporate systems, in particular the UNDP Evaluation Office Evaluation Resource Center (ERC).

296. The relevant GEF Focal Area Tracking Tools will also be completed during the mid-term evaluation cycle as well as the co-financing accounted for.

End of Project:

297. An independent Final Evaluation will take place three months prior to the final Project Board meeting and will be undertaken in accordance with UNDP and GEF guidance. The final evaluation will focus on the delivery of the project's results as initially planned (and as corrected after the mid-term evaluation, if any such correction took place). The final evaluation will look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental benefits/goals. The Terms of Reference for this evaluation will be prepared by the UNDP CO based on guidance from the Regional Coordinating Unit and UNDP-GEF.

298. The Terminal Evaluation should also provide recommendations for follow-up activities and requires a management response which should be uploaded to PIMS and to the UNDP Evaluation Office Evaluation Resource Center (ERC).

299. The relevant GEF Focal Area Tracking Tools will also be completed during the final evaluation.

300. During the last three months, the project team will prepare the Project Terminal Report. This comprehensive report will summarize the results achieved (objectives, outcomes, outputs), lessons learned, problems met and areas where results may not have been achieved. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the project's results.

Learning and knowledge sharing:

301. Results from the project will be disseminated within and beyond the project intervention zone through existing information sharing networks and forums.

302. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation though lessons learned. The project will identify, analyse, and share lessons learned that might be beneficial in the design and implementation of similar future projects.

303. Finally, there will be a two-way flow of information between this project and other projects of a similar focus.

Communications and visibility requirements:

304. Full compliance is required with UNDP's Branding Guidelines. These can be accessed at http://intra.undp.org/coa/branding.shtml, and specific guidelines on UNDP logo use can be accessed at: http://intra.undp.org/branding/useOfLogo.html. Amongst other things, these guidelines describe when and how the UNDP logo needs to be used, as well as how the logos of donors to UNDP projects needs to be used. For the avoidance of any doubt, when logo use is required, the UNDP logo needs to be used alongside the GEF logo. The GEF logo can be accessed at: http://www.thegef.org/gef/GEF_logo. The UNDP logo can be accessed at http://intra.undp.org/coa/branding.shtml.

305. Full compliance is also required with the GEF's Communication and Visibility Guidelines (the "GEF Guidelines"). The GEF Guidelines can be accessed at: http://www.thegef.org/gef/sites/thegef.org/files/documents/C.40.08_Branding_the_GEF%20final_0.pdf. Amongst other things, the GEF Guidelines describe when and how the GEF logo needs to be used in project publications, vehicles, supplies and other project equipment. The GEF Guidelines also describe other GEF promotional requirements regarding press releases, press conferences, press visits, visits by Government officials, productions and other promotional items.

306. Where other agencies and project partners have provided support through co-financing, their branding policies and requirements should be similarly applied.

VII LEGAL CONTEXT

307. This document together with the One Plan (3) signed by the Government and UN which is incorporated by reference constitute together a Project Document as referred to in the SBAA apply to this document.

308. Consistent with the Article III of the Standard Basic Assistance Agreement, the responsibility for the safety and security of the implementing partner and its personnel and property, and of UNDP's property in the implementing partner's custody, rests with the implementing partner.

309. The implementing partner shall:

- put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;
- assume all risks and liabilities related to the implementing partner's security, and the full implementation of the security plan.

310. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

311. The implementing partner agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

VIII ANNEXES

Annex 1: Threats, Root Causes And Barriers To Wetlands Biodiversity Conservation in Viet Nam

THREAT	BIOPHYSICAL IMPACT	ROOT CAUSES	MANAGEMENT CHALLENGE/BARRIER
Natural habitat loss & degradation due to: - Conversion to agriculture (rice cultivation & more recently aquaculture) - Other forms of land use change and development such as construction of infrastructure (dykes, dams, roads) - Deforestation in catchment areas in wider landscape	Outright loss of wetlands habitat, including mangroves and water bodies and associated species. Fragmentation of habitat resulting in loss of habitat connectivity & disruption of ecological processes. Changes in timing, quantity & quality of water flows and circulation critical for maintaining wetlands. Increased sedimentation. Increased susceptibility to spread of IAS due to above ecological changes.	Country's priority is to maintain high levels of economic growth to achieve its development priorities. Insufficient or ineffective use of SEAs in development planning. Limited representation of wetlands ecosystems in existing Protected Areas system.	Full economic value of wetlands ecosystem services needs to be reflected in development planning and decision-making. National & provincial planners & decision-makers need to have a better understanding of the critical ecosystem services provided by wetlands and how to use these sustainably. Scientific & technical knowledge base about the ecology of sustainable management of wetlands ecosystems needs to be further expanded, particularly to understand the direct and indirect effects of anthropogenic activities and how to address these. Current planning and development is based on administrative rather than ecological boundaries; landscape-level planning does not take place as a rule but needs to become the norm.
Illegal use & overexploitation of biotic resources, particularly of fish, crustaceans, birds & other species including certain plants, mammals & reptiles. Also use of destructive fishing methods such fine mesh	Reduced fish catch volume & sizes and catch-for-effort ration, especially in marine fisheries. Limited data available on freshwater fish species but likely to be comparable. Reduced populations of migratory birds	Continuing drive for economic growth at national level. Poverty and individuals desire to increase their incomes and socioeconomic status. Limited local understanding of ecological	DONRE & DARD need greater capacity for systematic monitoring and enforcement of existing rules and laws that protect various wetland species. Key provincial-level authorities and bodies such as DONRE, DARD & PPCs need greater

THREAT	BIOPHYSICAL IMPACT	ROOT CAUSES	MANAGEMENT CHALLENGE/BARRIER
fishing net, explosives, poisons & electrical shock.	with some no longer recorded in recent years, including endangered species. Disruption of vital ecological processes. Potential loss of endemics.	impacts of overexploitation or that unsustainable resource use ultimately detrimental to resource users themselves.	institutional experience and capacity for managing competing demands on natural resources, resolving land use conflicts and promoting sustainable natural resource use by different stakeholders.
Pollution from agrochemicals & industrial & urban wastes	Increasing eutrophication of water bodies. Increasing frequency of toxic algal blooms. Declining water quality, impacting numerous wetland species. Changes in the salinity levels of coastal wetlands. Decline of certain fish & mollusk species including globally endangered species.	Increased production and consumption inevitably generated increased levels of pollution and waste unless carefully managed. Weak enforcement of existing regulations and laws on pollution control	Greater national and provincial institutional capacity and financial resources area needed for systematic monitoring and enforcement of existing laws and regulations on pollution and waste control. Greater coordination and information sharing needed between the agencies responsible for pollution control and users and managers of wetlands resources
Climate change	Changes in patterns of precipitation & associated surface water flows & groundwater recharge. SLR in coastal areas alters salinity levels in coastal wetlands and contributes to coastal flooding & erosion. Increased number & intensity of heavy rain/ flood events exacerbates flooding and soil erosion including coastal erosion, which in turn contributes to greater sedimentation of water bodies.	High global levels greenhouse gases due to burning of fossil fuels and other anthropogenic activities. Reduction in natural carbon sinks such as forests. Warming oceans unable to absorb as much CO2; other negative feedback loops further accelerate rate of climate change by increasing levels of GHGs in atmosphere.	Development planners need to take greater account of potential impacts of climate change on natural ecosystems including wetlands. Current climate change policy and practice recognizes adaptive value of mangroves and other natural ecosystems, but needs to better encompass full range of adaptive values of all types of wetlands.

THREAT	BIOPHYSICAL IMPACT	ROOT CAUSES	MANAGEMENT CHALLENGE/BARRIER
Deliberate & accidental introduction of Invasive Alien Species (IAS) - Includes 48 aquatic alien species of which, 14 species identified as very dangerous to biodiversity of watercourses and aquaculture in Vietnam, including red-eared slider (*Trachemys scripta*), Golden snail (*Pomacea canaliculata*), the ornamental fish "peacock bass" (*Cichla ocellaris*) and the marsh mimosa (Mimosa pigra).	Displacement of native wetlands vegetation and fauna.	Habitat degradation and other associated ecological changes makes wetlands more susceptible to invasion by exotic species. Exotics introduced deliberately to promote new types of agricultural production and increase incomes; often those introducing are not aware of potential ecological ramifications of such introductions.	Although IAS is a management subject under the Law on Biodiversity, further guidance on how to implement articles relating to IAS (in the form of Decrees or Ministerial Circulars) need to be issued to further support the IAS prevention, control and management. There is need for greater clarity on mandates relating to the introduction of potential invasive species. Currently, MARD is responsible for granting licences and permits to import different breeds of species that are introduced legally for economic purposes while MONRE is responsible for managing alien species. This leads to overlap of mandates and ineffective management of species that are potentially detrimental to wetlands and other biodiversity. The National Project on Prevention and Control of IAS in Viet Nam for a period 2010 – 2020 was approved by the Prime Minister in December 2012 with the aim of building capacity for IAS management within MONRE, DONREs and quarantine institutions. As this project is just starting up, it will take time and as well as large investments to bring about effective monitoring and control of IAS. However, this is a good start that must continue to be strongly supported.
Increasing levels of water abstraction for agriculture, aquaculture, industry & domestic	Depletion of groundwater aquifers. Reduction in surface water flows. Increasing levels of production &	Of living improve. Weak planning, coordination & regulation of water extraction and use by	Of water resources. Greater and more effective intersectoral coordination needed among different users and

THREAT	BIOPHYSICAL IMPACT	ROOT CAUSES	MANAGEMENT CHALLENGE/BARRIER
use	consumption as populations increase and standards. Water users are currently divorced from impacts of water extraction and need to have a better understanding of how their use of water impacts wetlands and the sustainability.	different sectors.	managers of water and wetlands resources.

Annex 2: UNDP Capacity Development Scorecard

Adapted for the Conservation of Critical Wetland PAs and Linked Landscapes Project and completed during the PPG

Note: To be completed during PPG, at Midterm Evaluation and Final Evaluation (PA=Protected Area)

Table A2.1: 2013 Capacity Scorecard Baseline Scores for MONRE

STRATEGIC AREA OF SUPPORT	ISSUE	SCORECARD	EVALUATION INITIAL SCORE	EVALUATIVE COMMENTS
1. Capacity to conceptualize and formulate policies, legislations, strategies and programmes.	The wetland PA agenda is being effectively championed / driven forward.	0 -- There is essentially no wetland PA agenda; 1 -- There are some persons or institutions actively pursuing a wetland PA agenda but they have little effect or influence; 2 -- There are a number of wetland PA champions that drive the wetland PA agenda, but more is needed; 3 -- There are an adequate number of able "champions" and "leaders" effectively driving forwards a wetland PA agenda.	**1**	Viet Nam ratified the Ramsar Convention in 1992. Additional wetlands-related conservation actions between 2004-10 were guided by a National Wetlands Action Plan prepared by MONRE. In 2008, MONRE was given primary responsibility for wetlands conservation at the national level and direct oversight of any interprovincial wetland PAs that may be established. Thus, while there is a national wetlands agenda spearheaded by MONRE, this needs considerable strengthening and more champions for wetlands conservation are needed both at national and sub-national levels.
	There is a strong and clear legal mandate for the establishment and management of wetland Pas.	0 -- There is no legal framework for wetland PAs; 1 -- There is a partial legal framework for wetland PAs but it has many inadequacies; 2 -- There is a reasonable legal framework for wetland PAs but it has a few weaknesses and gaps 3 -- There is a strong and clear legal mandate for the establishment and management of wetland Pas.	**2**	Historically, some wetlands have been protected through inclusion in PAs created in Special Use Forests (SUFs) by MARD under the Law on Forest Protection and Development and the Law on Fisheries, but these have not been managed specifically for their wetland biodiversity values. Since 2008, MARD has been involved in identifying Inland Water Conservation Areas (which also include coastal areas) under Decision 1479 (see Section 1.3). However, the new Law on Biodiversity 2008 and its associated Decree 65 supersede these earlier laws and are the main legal framework for all PA establishment now.

STRATEGIC AREA OF SUPPORT	ISSUE	SCORECARD	EVALUATION INITIAL SCORE	EVALUATIVE COMMENTS
				As described in Section 1.5 of the Prodoc, in 2003, the Government approved the Decree on conservation and sustainable development of wetlands – the first legal document for wetland management of Vietnam. This Decree sets a base for a number of circulars guiding the implementation of this Decree and issuing a National Action Plan on Conservation and Development of Wetlands for a period 2004 – 2010. Wetland PAs are also regulated in various sectoral legal frameworks such as those applied for environmental protection, SUFs system and fisheries. Particularly are Article 9 of the Law on Fisheries and the Prime Ministerial Decision relating to Inland Water Conservation Zones. Despite of availability of rather broad legal framework, wetland PAs establishment and management have not been effective due to both overlaps and gaps of existing legal documents (see Section 1.6 of the Prodoc).
	There is an institution or institutions responsible for wetland PAs able to strategize and plan.	0 -- Wetland PA institutions have no plans or strategies; 1 -- Wetland PA institutions do have strategies and plans, but these are old and no longer up to date or were prepared in a totally top-down fashion; 2 -- Wetland PA institutions have some sort of mechanism to update their strategies and plans, but this is irregular or is done in a largely top-down fashion without proper consultation; 3 -- Wetland PA institutions have relevant, participatorially prepared, regularly updated	**1.5**	

STRATEGIC AREA OF SUPPORT	ISSUE	SCORECARD	EVALUATION INITIAL SCORE	EVALUATIVE COMMENTS
		strategies and plans.		
2. Capacity to implement policies, legislation, strategies and programmes	There are adequate skills for wetland PA planning and management.	0 -- There is a general lack of planning and management skills; 1-- Some skills exist but in largely insufficient quantities to guarantee effective planning and management; 2 -- Necessary skills for effective wetland PA management and planning do exist but are stretched and not easily available; 3 -- Adequate quantities of the full range of skills necessary for effective wetland PA planning and management are easily available.	**1**	MONRE has little past experience of PA planning, establishment and administration or of the special requirements of wetlands biodiversity conservation. Since many important wetlands are included in SUFs, plus Vietnam has actively involved in Ramsar Convention activities from 1990, a number of officials and scientist of Vietnam have gained certain knowledge and skills in wetland planning and management. However, once wetland PA agenda has not been fully developed, existing skills for effective wetland PA management are not systematic and not easily available.
	There are wetland PA systems.	0 -- No or very few wetland PA exist and they cover only a small portion of the habitats and ecosystems; 1 -- Wetland PA system is patchy both in number and geographical coverage and has many gaps in	**0**	As explained above, there is no official Wetland PA system in Vietnam although some important wetlands are within SUFs system.

STRATEGIC AREA OF SUPPORT	ISSUE	SCORECARD	EVALUATION INITIAL SCORE	EVALUATIVE COMMENTS
		terms of representativeness; 2 -- Wetland PA system is covering a reasonably representative sample of the major habitats and ecosystems, but still presents some gaps and not all elements are of viable size; 3 -- The wetland PAs includes viable representative examples of all the major habitats and ecosystems of appropriate geographical scale.		
	There are legally designated wetland PA institutions with the authority to carry out their mandate.	0 -- There is no lead institution or agency with a clear mandate or responsibility for wetland PAs; 1 -- There are one or more institutions or agencies dealing with wetland PAs but roles and responsibilities are unclear and there are gaps and overlaps in the arrangements; 2 -- There are one or more institutions or agencies dealing with wetland PAs, the responsibilities of each are fairly clearly defined, but there are still some gaps and overlaps; 3 -- Wetland PA institutions have clear legal and institutional mandates and the necessary authority to carry this out.	**1**	As explained at the start, MONRE is responsible for wetland conservation areas while SUF, MPA and Inland Water Conservation Zone systems are under responsibilities of MARD. However, sub-law regulations have not provided clear enough roles and responsibilities of MONRE, MARD and other agencies dealing with wetland PAs. Thus, in practice, there are a number of overlaps and gaps when MONRE and MARD carried out their mandates.
	There is a fully transparent oversight authority/authorities for wetland PAs institutions	0 -- There is no oversight at all of wetland PA institutions; 1 -- There is some oversight, but only indirectly and in a non-transparent manner; 2 -- There is a reasonable oversight mechanism in	**1**	

STRATEGIC AREA OF SUPPORT	ISSUE	SCORECARD	EVALUATION INITIAL SCORE	EVALUATIVE COMMENTS
		place providing for regular review but lacks in transparency (e.g. is not independent, or is internalized) ; 3 -- There is a fully transparent oversight authority for the wetland PAs institutions.		
	Wetland PA institutions are effectively led.	0 -- Wetland PA institutions have a total lack of leadership; 1 -- Wetland PA institutions exist but leadership is weak and provides little guidance; 2 -- Some wetland PA institutions have reasonably strong leadership but there is still need for improvement; 3 -- Wetland PA institutions are effectively led.	**1.5**	- Since 2003, MONRE has been leading on wetland conservation issues by trying to improve the legal system related to wetland conservation and provide technical guidelines for wetland areas. However, with limited capacity of its agencies, there is still need for improvement - MARD has strong leadership on the SUFs system but only focus on forest ecosystem.
	Wetland PA institutions are effectively managed, efficiently deploying their human, financial and other resources to the best effect.	0 -- While the wetland PA institution exists it has no management; 1 -- Institutional management is largely ineffective and does not deploy efficiently the resources at its disposal; 2 -- The institution(s) is (are) reasonably managed, but not always in a fully effective manner and at times does not deploy its resources in the most efficient way; 3 -- The wetland PA institution is effectively managed, efficiently deploying its human, financial and other resources to the best effect.	**1.5**	Many SUFs with wetland component have management board and management plan but normally lack of financial and resources to deploy.

STRATEGIC AREA OF SUPPORT	ISSUE	SCORECARD	EVALUATION INITIAL SCORE	EVALUATIVE COMMENTS
	Human resources for wetland PA establishment & management are well qualified and motivated Need a relevant word replaced "motivated".	0 -- Human resources are poorly qualified and unmotivated; 1 -- Human resources qualification is spotty, with some well qualified, but many only poorly and in general unmotivated; 2 -- HR in general reasonably qualified, but many lack in motivation, or those that are motivated are not sufficiently qualified; 3 -- Human resources are well qualified and motivated.	**1**	Human resources for wetland PA at both central level and site level are limited, few people are qualified.
	Wetland PA institutions are able to adequately mobilize sufficient quantity of funding, human and material resources to effectively implement their mandate.	0 -- Wetland PA institutions typically are severely underfunded and have no capacity to mobilize sufficient resources; 1 -- Wetland PA institutions have some funding and are able to mobilize some human and material resources but not enough to effectively implement their mandate; 2 -- Wetland PA institutions have reasonable capacity to mobilize funding or other resources but not always in sufficient quantities for fully effective implementation of their mandate; 3 -- Wetland PA institutions are able to adequately mobilize sufficient quantity of funding, human and material resources to effectively implement their mandate.	**1**	Government funding for wetland PA institutions is inadequate. Normally, the institutions have to mobilize more resources for implement their mandate but not many of them have capacity to access or mobilize funding.

STRATEGIC AREA OF SUPPORT	ISSUE	SCORECARD	EVALUATION INITIAL SCORE	EVALUATIVE COMMENTS
	Wetland PAs have comprehensive management plans that are prepared & updated in a participatory manner with full stakeholder engagement	0 -- Wetland PAs have no management plans; 1 -- Some wetland PAs have up-to-date management plans but they are typically not comprehensive and were not prepared in a participatory way; 2 -- Most Wetland PAs have management plans though some are old, not prepared in participatory way or are less than comprehensive; 3 -- Every wetland PA has a comprehensive management plan prepared and regularly updated with full stakeholder participation.	**0**	- There are no "official" Wetland PA - Some of wetland area is inside of SUF and managed by SUF management plan.
	Management plans for wetland PAs are implemented in a timely manner effectively achieving their objectives	0 -- There is very little implementation of management plans; 1 -- Management plans are poorly implemented and their objectives are rarely met; 2 -- Management plans are usually implemented in a timely manner, though delays typically occur and some objectives are not met; 3 -- Management plans are implemented in a timely manner effectively achieving their objectives.	**0**	- There are no "official" Wetland PAs - Some of wetland area are inside of SUFs and managed by SUFs management plan not as wetland conservation areas.
	Wetland PA institutions are highly transparent, fully audited, and publicly accountable	0 -- Wetland PA institutions totally untransparent, not being held accountable and not audited; 1 – Wetland PA institutions are not transparent but are occasionally audited without being held	**2**	All of government offices are annually audited by state auditing companies in a fair degree.

STRATEGIC AREA OF SUPPORT	ISSUE	SCORECARD	EVALUATION INITIAL SCORE	EVALUATIVE COMMENTS
		publicly accountable; 2 -- Wetland PA institutions are regularly audited and there is a fair degree of public accountability but the system is not fully transparent; 3 -- The Wetland PA institutions are highly transparent, fully audited, and publicly accountable.		
	Wetland PAs are effectively protected	0 -- No enforcement of regulations is taking place; 1 -- Some enforcement of regulations but largely ineffective and external threats remain active; 2 -- Wetland PA regulations are regularly enforced but are not fully effective and external threats are reduced but not eliminated; 3 -- Wetland PA regulations are highly effectively enforced and all external threats are negated.	**0**	There are no "official" Wetland PAs. Even for SUFs having wetland component within, most regulations are enforced by forest rangers. As such, there is no enforcement of regulations to reduce threats to wetland resources, like destructive fishing or water pollution.
	Wetland PA administration & management staff are able to advance and develop professionally	0 -- No career tracks are developed and no training opportunities are provided; 1 -- Career tracks are weak and training possibilities are few and not managed transparently; 2 -- Clear career tracks developed and training available; HR management however has inadequate performance measurement system; 3 -- Individuals are able to advance and develop professionally.	**0**	There are no "official" Wetland PAs as well as Wetland PA administration existing.

STRATEGIC AREA OF SUPPORT	ISSUE	SCORECARD	EVALUATION INITIAL SCORE	EVALUATIVE COMMENTS
	Wetland PA management staff are appropriately skilled for their jobs	0 -- Skills of individuals do not match job requirements; 1 -- Individuals have some or poor skills for their jobs; 2 -- Individuals are reasonably skilled but could further improve for optimum match with job requirement; 3 -- Individuals are appropriately skilled for their jobs.	**0**	- There are no "official" Wetland PAs.
	Wetland PA management staff are highly motivated	0 -- No motivation at all; 1 -- Motivation uneven, some are but most are not; 2 -- Many individuals are motivated but not all; 3 -- Individuals are highly motivated.	**0**	- There are no "official" Wetland PAs.
	There are appropriate systems of training, mentoring, and learning in place to maintain a continuous flow of competent new wetland PA administration & management staff	0 -- No mechanisms exist; 1 -- Some mechanisms exist but unable to develop enough and unable to provide the full range of skills needed; 2 -- Mechanisms generally exist to develop skilled professionals, but either not enough of them or unable to cover the full range of skills required; 3 -- There are mechanisms for developing adequate numbers of the full range of highly skilled wetland PA professionals.	**0**	- There are no "official" Wetland PAs

STRATEGIC AREA OF SUPPORT	ISSUE	SCORECARD	EVALUATION INITIAL SCORE	EVALUATIVE COMMENTS
3. Capacity to engage and build consensus among all stakeholders.	Wetland PAs have the political commitment they require.	0 -- There is no political will at all, or worse, the prevailing political will runs counter to the interests of wetland PAs; 1 -- Some political will exists, but is not strong enough to make a difference; 2 -- Reasonable political will exists, but is not always strong enough to fully support wetland PAs; 3 -- There are very high levels of political will to support wetland PAs	**1.5**	There is political support for establishing wetland PAs. At national level, it is reflected in various legal documents and strategies, action plans. At provincial level, many provinces are ready to establish provincial wetland PA, as in the case of Van Long wetland PA (Ninh Binh province) or O Lau River mouth Wetland PA (Thua Thien Hue province). However, overlaps of current legal framework together with a strong trade-off between development and conservation among stakeholders have slow down establishment process of wetland PA.
	Wetland PAs have the public support they require.	0 -- The public has little interest in wetland PAs and there is no significant lobby for wetland PAs; 1 -- There is limited support for wetland PAs; 2 -- There is general public support for wetland PAs and there are various lobby groups such as environmental NGO's strongly pushing them; 3 -- There is tremendous public support in the country for wetland PAs	**1**	Recently, public awareness on the importance of wetlands conservation is increasing, more efforts of NGOs was recognized. Yet, volunteering support for wetland PAs will take time because people hardly see long-term benefits of wetland conservation versus immediate benefits from exploiting wetland resources.
	Wetland PA institutions are mission oriented.	0 -- Institutional mission not defined; 1 -- Institutional mission poorly defined and generally not known and internalized at all levels; 2 -- Institutional mission well defined and internalized but not fully embraced; 3 – Institutional missions are fully internalized and	**1.5**	Institutional of wetland management is still overlap among key stakeholders.

STRATEGIC AREA OF SUPPORT	ISSUE	SCORECARD	EVALUATION INITIAL SCORE	EVALUATIVE COMMENTS
		embraced.		
	Wetland PA institutions can establish the partnerships needed to achieve their objectives	0 -- Wetland PA institutions operate in isolation; 1 -- Some partnerships in place but significant gaps and existing partnerships achieve little; 2 -- Many partnerships in place with a wide range of agencies, NGOs etc, but there are some gaps, partnerships are not always effective and do not always enable efficient achievement of objectives; 3 -- Wetland PA institutions establish effective partnerships with other agencies and institutions, including provincial and local governments, NGO's and the private sector to enable achievement of objectives in an efficient and effective manner.	**2**	Partnerships between MONRE and many relevant institutes, NGOs, INGOs have been established.
	Wetland PA administration & management staff carry appropriate values, integrity and attitudes	0 -- Individuals carry negative attitude; 1 -- Some individuals have notion of appropriate attitudes and display integrity, but most don't; 2 -- Many individuals carry appropriate values and integrity, but not all; 3 -- Individuals carry appropriate values, integrity and attitudes.	**2**	

STRATEGIC AREA OF SUPPORT	ISSUE	SCORECARD	EVALUATION INITIAL SCORE	EVALUATIVE COMMENTS
4. Capacity to mobilize information and knowledge	Wetland PA institutions have the information they need to develop and monitor strategies and action plans for the management of the wetland PA system	0 -- Information is virtually lacking; 1 -- Some information exists, but is of poor quality, is of limited usefulness, or is very difficult to access; 2 -- Much information is easily available and mostly of good quality, but there remain some gaps in quality, coverage and availability; 3 -- Wetland PA institutions have the information they need to develop and monitor strategies and action plans for the management of the wetland PA system.	**1**	Information does exist, mostly in research institutions and universities as results from various research projects and donor-funded programmes. Although MONRE is responsible for biodiversity and wetlands, but a database or information center relating to biodiversity and wetlands has not been established. Therefore, many information and data are un-updated (data only within project life and lack of budget) and difficult to access (no information sharing mechanism between MONRE and other non-MONRE institutions available).
	Wetland PA institutions have the information needed to do their work	0 -- Information is virtually lacking; 1 -- Some information exists, but is of poor quality and of limited usefulness and difficult to access; 2 -- Much information is readily available, mostly of good quality, but there remain some gaps both in quality and quantity; 3 -- Adequate quantities of high quality up to date information for wetland PA planning, management and monitoring is widely and easily available.	**1**	Many information and data are un-updated, poor quality and difficult to access.

STRATEGIC AREA OF SUPPORT	ISSUE	SCORECARD	EVALUATION INITIAL SCORE	EVALUATIVE COMMENTS
	Individuals working with wetland PAs work effectively together as a team	0 -- Individuals work in isolation and don't interact; 1 -- Individuals interact in limited way and sometimes in teams but this is rarely effective and functional; 2 -- Individuals interact regularly and form teams, but this is not always fully effective or functional; 3 -- Individuals interact effectively and form functional teams.	**1**	
5. Capacity to monitor, evaluate, report and learn	Wetland PA policy is continually reviewed and updated	0 -- There is no policy or it is old and not reviewed regularly; 1 -- Policy is only reviewed at irregular intervals; 2 -- Policy is reviewed regularly but not annually; 3 -- National wetland PAs policy is reviewed annually.	**2**	Policy is reviewed regularly but not annually.
	Society monitors the state of wetland PAs.	0 -- There is no dialogue at all; 1 -- There is some dialogue going on, but not in the wider public and restricted to specialized circles; 2 -- There is a reasonably open public dialogue going on but certain issues remain taboo; 3 -- There is an open and transparent public dialogue about the state of the wetland PAs	**1**	There are workshops, meetings, public inform …on wetland related issues but not enough participation of Society

STRATEGIC AREA OF SUPPORT	ISSUE	SCORECARD	EVALUATION INITIAL SCORE	EVALUATIVE COMMENTS
	Institutions are highly adaptive, responding effectively and immediately to change.	0 -- Institutions resist change; 1 -- Institutions do change but only very slowly; 2 -- Institutions tend to adapt in response to change but not always very effectively or with some delay; 3 -- Institutions are highly adaptive, responding effectively and immediately to change.	**1.5**	
	Institutions have effective internal mechanisms for monitoring, evaluation, reporting and learning.	0 -- There are no mechanisms for monitoring, evaluation, reporting or learning; 1 -- There are some mechanisms for monitoring, evaluation, reporting and learning but they are limited and weak; 2 -- Reasonable mechanisms for monitoring, evaluation, reporting and learning are in place but are not as strong or comprehensive as they could be; 3 -- Institutions have effective internal mechanisms for monitoring, evaluation, reporting and learning.	**1**	There are some mechanisms for monitoring, evaluation and reporting following government' requirements and procedures.

STRATEGIC AREA OF SUPPORT	ISSUE	SCORECARD	EVALUATION INITIAL SCORE	EVALUATIVE COMMENTS
	Individuals are adaptive and continue to learn.	0 -- There is no measurement of performance or adaptive feedback; 1 -- Performance is irregularly and poorly measured and there is little use of feedback; 2 -- There is significant measurement of performance and some feedback but this is not as thorough or comprehensive as it might be; 3 -- Performance is effectively measured and adaptive feedback utilized.	**1**	

Note: 32 Questions in total with a maximum total score of 96 points.

Table A2.2: Analysis of MONRE's baseline scores by Strategic Areas of Support

STRATEGIC AREA OF SUPPORT		SCORE	TOTAL POSSIBLE POINTS	% SCORE FOR EACH STRATEGIC AREA OF SUPPORT & ALL AREAS
1	Capacity to conceptualize and formulate policies, legislations, strategies and programmes (3Qs = 9)	4.5	9	50%
2	Capacity to implement policies, legislation, strategies and programmes (16 Qs= 48)	10	48	21%
3	Capacity to engage and build consensus among all stakeholders (5 Qs =15)	8	15	53%
4	Capacity to mobilize information and knowledge (3 Qs =9)	3	9	33%
5	Capacity to monitor, evaluate, report and learn (5Qs =15)	6.5	15	43%
6	Total All Strategic Areas of Support	32	96	33%

Annex 3: Stakeholder Involvement Plan

A. Background and Objectives

Stakeholder participation in the GEF Project is guided by the overall objective to facilitate the implementation of the "Conservation of Critical Wetland Protected Areas and Linked Landscapes" in a manner reflective of the shared vision "Coherent and consistent policies and plans formulated or updated, and operationalized for establishment of a wetlands protected areas (PA) system, more effective management of three protected areas systems (terrestrial, marine & coastal, and wetlands), and biodiversity conservation at national and community levels" . Interventions and potential benefits will be realized at central, provincial and communes levels, including NGOs and mass organizations. The stakeholder consultation and involvement would bring key stakeholders to find solutions, share commitment and knowledge in sustainable wetland management.

Wetland stakeholder groups can be categorized according at different groups, such as Central government agencies, local government and organization, research institutes and universities, NGOs and related projects, all play roles in wetlands management, biodiversity conservation, social economic development in the coastal zone areas, etc. The project implementation and replication, as well as community-based resource management initiatives, will engage local level stakeholders including community/people's organizations, local government units, NGOs, mass organizations, academic and the private sector, as key partners. National level stakeholders will be instrumental in the formulation, adoption and implementation of wetland and coastal zone management, biodiversity conservation policies, and in establishing network and collaboration links with different government agencies and other stakeholders. In addition, key stakeholders will be involved in sustainable fisheries/aquaculture and agriculture, and conservation of biodiversity, pollution from domestic and agriculture, degradation from land-based human activities; environmental monitoring, reporting and knowledge management; capacity-building and awareness raising.

The involvement of the stakeholders will depend on their roles, responsibilities, strengths as well as experience in the field and in the demonstration sites. The Stakeholder Involvement Plan (SIP) represents an integral part of the project document and will be update regularly during the annual review, based in consultation with the stakeholders. The SIP reflects commitment for the effective participation by key stakeholders and ensures good coordination and cooperation during the project planning, implementing, reporting, monitoring and evaluation.

The SIP aims to:

- ensure that project interventions and processes integrate community participation and stakeholder inputs;
- support systematic mainstreaming and engagement of stakeholders in the process for a good coordination and cooperation at central level, provincial and communities for the efficient and ;

- provide support to capacity-building activities that will support effective engagement processes, such as providing access to information through consultation process and knowledge sharing;
- ensure widely and actively participation and involvement in local, national activities, especially at demonstration sites.

There are many ways that stakeholders can be involved in the process. The Plan indicates the level of influence and interest by clustering these according to the following: *primary stakeholders* (targeted participants in an activity), *secondary stakeholders* (intermediary participants) and *external stakeholders* (include people and groups not formally involved but who may impact or be affected by the activity).

The forms of engagement will involve consultation through regular meetings, information, commitment, communication, dissemination, joint planning, implementation, and monitoring and evaluation to exercise social accountability.

The integration of stakeholder participation in the Project seeks to be not only as instrumental to the project implementation but also in providing opportunities to strengthen the capacities of local communities through access to information, participation in decision-making process, participation in planning, implementation, monitoring of the project activities and other socio-economic development programme.

B. Stakeholders Involvement for Project Conceptualization and Development

During the PPG - project design and preparation of the Project Document on "Conservation of Critical Wetland Protected Areas and Linked Landscapes", MONRE and UNDP mobilized stakeholders to participate in the process. The key stakeholders involve in the process are including the government agencies, both from central and provincial and local levels, international organization, and community representatives participating in the project preparation as working group members and during the series of workshop/consultations, field visits, meetings with stakeholders and communities conducted.

From August 2013, national workshops, provincial workshops, filed visits and meetings were carried out in Hanoi, Thua Thien-Hue, Nam Dinh, Ninh Binh, Hai Phong and Thai Binh provinces. Field visits by MONRE-UNDP working group with the consultants paid to Tam Giang-Cau Hai, Nghia Hung, Kim Son, Thai Thuy and Tien Lang and meetings with local people during the project preparation to learn about the proposed demonstration sites, the feasibility of the establishment of wetland conservation areas, the possibility of livelihood improvement in parallel with biodiversity conservation, sustainable management of wetland and wetland conservation areas establishment, building climate change resilience and promotion of gender equality.

The consultation process highlighted the government commitment on sustainable development in general, sustainable wetland management and protected areas management in particular, to identify proposed activities that are national priorities, and to confirm stakeholders' willingness and commitment to undertake/participate in project implementation. In each case, consultations involved a review of policies, projects and programs related to sustainable development of coastal areas, biodiversity conservation and planning, identification and discussion on barriers and constraints to establish the national wetland protected area system. The Project Identification Form (PIF) and PPG Initiation Plan served as a primary resource document for the consultations process at central, provincial and local levels. The outputs of these consultations were then consolidated in the Project related Documents.

C. Stakeholder Identification and Involvement in Project Implementation

The SIP was prepared through the identification of the stakeholders that have been involved in biodiversity conservation, protected areas management, wetland management, environmental management, sustainable agriculture and fishery, partners working with communities, who played critical roles during the preparation and maybe involve in the project implementation. Results of stakeholder identification and involvement of potential partners, major stakeholders are found in attached table. Stakeholders' roles and responsibilities are also indicated in the table. These range from primary, secondary and external stakeholders. As a tool in planning for the engagement process such labels are meant to guide planning and activity implementation and ensure that these are directed at the intended groups.

D. Knowledge Sharing

Capacity building and community participation in the wetland conservation area management would be an important part of the project. The Project would also facilitate active and wide participation of different stakeholders, including governments, civil society and the local people in planning, implementation, monitoring and reporting. It would enhance exchange of ideas, information and knowledge on understanding issues and processes on wetlands, coastal environment, sustainable development as well as the utilization of traditional knowledge in decision-making.

Knowledge and experience on sustainable wetland management, sustainable livelihood, awareness raising, communication on biodiversity conservation, etc will be shared with the network and stakeholders, as well as general public. The development of a training and knowledge sharing system that helps to bridge the information and knowledge gap, through such initiatives as: web page development and electronic networking, e-learning program development and implementation, meta database formulation and applications, outreach programs for recruiting scientific experts and qualified professionals, brokering exchange of experience and capacity building opportunities between IW projects across regions, and overall application of the Internet to benefit transboundary waters management. This would be particularly supportive for transferring PEMSEA experience in ICM to other GEF projects in other regions, such as the Bay of Bengal, the Pacific SIDS projects, as well as collaborative efforts with the GEF Red Sea project in transferring ICM experience to the Red Sea region.

The communication and knowledge sharing will ensure that all project activities are adequately assessed and the lessons learned from their implementation are captured and disseminated to other provinces and to other countries embarking on similar processes. Adapting to climate change is a relatively new sector and requires innovation while working at coastal wetland areas. This project is one of the first projects in Vietnam supporting the establishment of new Wetland Conservation Areas. Hence, it is expected that the project will be a source of vital information on sustainable wetland management, integrating biodiversity conservation, sustainable agriculture, fishery and tourism, taking into consideration of gender equality, climate change adaptation in planning and management of wetland conservation areas and linked landscapes/seascapes.

Project lessons will be captured through a dedicated data-base, and they will be disseminated using appropriate communication channels and techniques. A communication strategy, to be developed in the project early stages, will identify most appropriate tools from, for example, fact sheets, newsletters, brochures, DVD, mini-films. A national institution experienced in knowledge management may be sought out to be used for these purposes.

E. Social issues

As the project would have positive social impacts on local communities living in surrounding areas of the new Wetland Conservation Areas. The project's immediate objective is to establish two new wetland conservation areas in different ecosystems and to create capacities for their effective management to mitigate existing and emerging threats from connected landscapes. The two sites for establishing new wetland CAs are Tam Giang-Cau Hai lagoon with the total area of 21,620 ha and Thai Thuy coast with an area of 13,696 ha. Zonation and management plan for each site will be defined during the project implementation, but in general these will be located in aquaculture ponds, agricultural land, fishing ground and mangrove forest areas. Livelihood supports and capacity building activities toward conservation-friendly manner will be implemented within the project framework. Some positive impacts can be listed such as improving living standard, generating jobs, creating alternative sources of income, increasing the role of women and building up a more democratic society

Scaling up on-the-ground integrated management of wetlands, river basin, biosphere reserves, coastal and watershed areas at the local government/community level to ensure the livelihood improvement, health, environmental and economic security of local populations on a sustainable basis; taking into consideration in planning and implementation of the project activities, providing opportunities for women, young people and the poor to develop and implement initiatives aimed at conservation and sustainable management of the wetlands, restoring coastal and marine resources, while enhancing social well-being and livelihoods of local communities, in collaboration with other government programme, other partners' projects and the GEF/UNDP Small Grants Programme; In addition, involvement of local communities, mass organizations and NGOs in formulation of plans, policies and legislation; participate in participatory monitoring, management and business planning of wetland conservation areas in order to sustainable management and wise use of wetland, reducing environmental pollution, improve

resilience to disaster and climate change; mobilization in information dissemination; and in the enforcement of local level ordinances governing resource use.

STAKEHOLDER INVOLVEMENT PLAN

STAKEHOLDER	ROLES & RESPONSIBILITIES	Component	Involvement plans and Mechanisms
NATIONAL LEVEL			
Ministry of Natural Resources and Environment (MONRE)	MONRE has many responsibilities and functions, including responsibility for performing state management of biodiversity, including wetlands conservation. Since the passage of the 2008 Biodiversity Law, MONRE is also responsible for overseeing the establishment and administration of wetland CAs. MONRE's BCA was established in 2008 to implement the Biodiversity Law, while its ISPONRE undertakes research and develops policy.	1,2,3	Chair the Project Steering Committee; Assume all duties assigned to the National Executing Agency. - Annual Review meeting on the project planning and reporting. - Appraisal and approval Project related documents, AWP, QWP
Within MONRE:			
Vietnam Environment Administration (VEA)	VEA is a subsidiary body under MONRE, headed by MONRE's Vice-Minister established to advise and assist the Minister of MONRE in the field of environment management and to provide public services in compliance with the laws (Decision No. 132/2008/QD-TTg). Regarding biodiversity, VEA is implementing nationwide survey, inventory, monitoring, and assessment of biodiversity; assessing trans-provincial or transboundary degraded ecosystems and proposing measures to conserve, rehabilitate and maintain sustainable use of biological resources. VEA's Biodiversity Conservation Agency is the main body to implement and execute this GEF project. VEA is also responsible for coordinating related stakeholders within VEA and supporting the overall implementation of the project. VEA has past experience of managing UN Projects, including GEF funded-projects in the field of Persistent Organic Pollutants (POP) and Biodiversity Conservation.	1,2,3	- Member of the PSC - Participating in Annual Review meeting, planning and reporting.
Within VEA:			
Biodiversity Conservation Agency (BCA)	BCA is responsible for the implementation of the biodiversity conservation provisions of the Biodiversity Law in cooperation with other ministries. BCA is the focal point of the CBD, Ramsar Convention, Cartagena Protocol on Biosafety, and Nagoya Protocol on ABS. Institutionally BCA is the agency authorized for preparation of NBSAP, biodiversity master planning, and reporting of biodiversity. BCA will implement this project together with	1,2,3	Co-implementing partner of the project management and implementation. Carry out activities regarding policy development, capacity building, pilot activities at demonstration sites- Wetland

STAKEHOLDER	ROLES & RESPONSIBILITIES	Component	Involvement plans and Mechanisms
	ISPONRE.		Conservation Areas
Pollution Control Department (PCD)	The main tasks of PCD are to advise VEA and MONRE on state management of the overall environment and to develop and issue policy and legal documents on pollution control that apply nationally, including to protected areas. This includes the application of water pollution standards. PCD is also an important source of information on environmental pollution and existing and potential measures to prevent and minimize the negative impacts of pollution from economic activities on wetland and biodiversity conservation.	1,2	Cooperate with BCA and ISPONRE and Provinces in guidance on environmental monitoring and pollution control; participate in workshop, trainings and in development of the water standards
Department of Waste Management and Environment Promotion (DWMEP)	Department of Waste Management and Environment Promotion focuses on supplying guidance and implementing the mission under the scope of responsibilities assigned in the sewage controlling, environmental protection in river basin and coastal areas, improving the environment. DWEMP is also a source of valuable on river basin management.	1,2	Cooperate with BCA, ISPONRE and provinces in river basin management, and waste management.
Other MONRE agencies			
Institute of Policy on Natural Resources and Environment (ISPONRE)	*Mandate:* ISPONRE is the policy advice unit of MONRE, in charge of strategy and policy development and research activities. ISPONRE mandate covers all sectors within MONRE. The Institute has lead responsibility for conducting research and related work on reviewing, revising and developing environmental protection laws and regulations, policies and management mechanisms, planning, and biodiversity conservation issues as directed by the Minister of MONRE. Amongst other things, ISPONRE was assigned responsibility to develop the new Law on Biodiversity. ISPONRE will be jointly implementing the project together with BCA. ISPONRE will also provide technical support to project activities relating to policy revision and development, ecosystems services valuation and institutionalization new models for wetlands CAs in the policy framework for wetlands conservation. Currently ISPONRE is responsible for development of National Strategy for Sustainable Marine Resources and the 5 Year Plans for Natural Resources & Environment.	1,2,3	Lead agency in the project implementation and management. Refers as Implementing Partner. Carry out activities regarding policy development, capacity building, pilot activities at demonstration sites- Wetland Conservation Areas. Responsible for coordinating stakeholders.
Vietnam Administration of Seas & Islands (VASI)	VASI is the state agency responsible for managing activities related to exploitation and utilization of seas and islands, including coastal areas; conducting research in coastal, marine, and island environment and resources monitoring and control. VASI is mandated to undertake and guide local government in implementation of integrated coastal management. VASI is an	1,2	Cooperate on integrated coastal zone management. Participate in training workshops, supporting in policy development.

STAKEHOLDER	ROLES & RESPONSIBILITIES	Component	Involvement plans and Mechanisms
	important source of information on wetland policies, regulations and best practices for coastal environmental monitoring and management.		
Department of Water Resource Management (DWRM)	The main duty of DWRM is the execution of the State administration on water including wetland, surveying and mapping and some other fields in the whole country. Given the critical importance of water for wetlands, DWRM is an important stakeholder in the long-term sustainable management of wetlands, and has a particularly important role to play given that it's mandate covers the wider landscape of importance to a given wetland. However, there is currently no integration of biodiversity values in DWRM's work.	1,2	Cooperate on water management, water standards and river basin management.
The Vietnam Institute of Meteorology, Hydrology and Environment (IMHEN)	IMHEN does not currently play any direct role in wetlands management, but is clearly relevant given its mandate to undertake research and development on science and technology in the fields of meteorology, hydrology, oceanography, water resources and environment. IMHEN is thus likely to be an important source of information on water resources, meteorology and hydrology which is vital for effective wetlands management planning.	1,2	Cooperate in hydro-meteorological monitoring, climate change adaptation and mitigation measures.
Ministry of Agriculture and Rural Development (MARD)	MARD has primary and long-standing responsibility for forest and fisheries management including forest and marine biodiversity. MARD has also been responsible for developing the national PA system, including the more recent establishment of 'marine PAs', some of which include coastal wetlands. Some earlier PAs included wetlands as well, notably Xuan Thuy National Park, which is also a Ramsar Site. MARD has also been given responsibility for establishing Inland Water Conservation Areas. Additionally, MARD is responsible for enforcing wildlife protection regulations and thus play an important role in preventing overexploitation of a range of species, including wetland species.	1,2	Cooperating partner on conservation and protected areas systems.
Within MARD:			
Directorate of Fisheries (DOF/MARD)	The Directorate of Fisheries is a state agency under MARD responsible for managing fishery activities including marine biodiversity and thus plays an important role in formulating and implementing fisheries policy and regulations, both of which have implications for wetland biodiversity management.	1,2	Cooperating on sustainable fishery and aquaculture, especially with the inland water conservation.

STAKEHOLDER	ROLES & RESPONSIBILITIES	Component	Involvement plans and Mechanisms
Department for Capture Fisheries and Resources Protection (DCFRP)	DCFRP is particularly key to wetlands management and conservation as the state agency responsible for managing fishery resources including conservation and protection of endangered fish species, inland habitats and marine protected areas. Since 2008, DCFRP has been responsible for planning the development 45 Inland Water Protection Areas, which focus on protection and conservation of fishery resources. DCRF has experience of testing and promoting best practices for sustainable fisheries and aquaculture management, which are key to conserving wetlands biodiversity in Vietnam.	1,2	Major partners active in the fields, especially in Tam Giang- Cau Hai. Promoting sustainable fishery and providing guidance for community participation in wetland management.
Vietnam Administration of Forestry (VNFOREST)	VNFOREST takes overall responsibility for the management and development of forests in Vietnam including protected areas established in SUFs. Furthermore, VNFOREST is the REDD and CITES focal points for Vietnam and implementing agency for Vietnam Conservation Fund which provides financial supports to protected areas with high biodiversity values. Within VNFOREST, FPD and the Division of Nature Conservation (DNC) within FPD play a particularly important role in relation to wetlands biodiversity conservation. The FPD is the state agency that is specifically responsible for managing forest resources, six National Parks. The FPD is also national focal point of CITES and the implementing agency for the Vietnam Conservation Fund which provides financial supports to protected areas with high biodiversity values. Within the FPD, the NCD has responsibility for biodiversity conservation in the forestry sector.	1,2	Major cooperating partner in mangrove management, special use forest management and on protected areas management.
Research Institute for Forest Ecology and Environment (RIFEE)	Research Institute for Forest Ecology and Environment (RIFEE) is a research institution under MARD's Forest Science Institute of Vietnam (FSIV). RIFEE mission is to address current issue in forestry sector, predict threats in the future and develop solutions for such problems. RIFEE's strategic research and development program is focused around three central themes (i) sustainable uses of forests and forestland including wetland, (ii) forest and wetland ecology and physiology and (iii) monitoring and assessment of forest biodiversity.	2	Cooperating with project in capacity building activities.

STAKEHOLDER	ROLES & RESPONSIBILITIES	Component	Involvement plans and Mechanisms
UNESCO Man and Biosphere National Committee (MAB Vietnam)	MAB Vietnam, which has an office within the Hanoi University of Education, is a coordinating agency for national and international exchange amongst biosphere reserves and sister-systems of nature reserves, including research results, management methods and experiences relating to biosphere reserves. The committee facilitates cooperation in scientific research, monitoring, environmental education and training. Through these activities, it provides advice and recommendations to the Government on important issues concerning nature conservation and sustainable use in the Vietnam's Biosphere Reserves, many of which encompass important wetlands, such as the Red River Delta Biosphere Reserve where one of the project's demonstration sites is located.	1,2	Cooperating to support the RRDBR management and planning. Participating in capacity building, policy development.
Local Government			
Provincial People's Committees (PPCs)	PPCs are headed by a Chairman and supported by Vice-Chairmen for each major sector including a Vice Chairman for Natural Resources & Environment. PPCs play a major role in provincial development and sector planning and implementation. They are responsible for coordinating the biodiversity conservation activities of various line departments at the provincial (and city) level. PPCs currently have management responsibility for most SUFs and MPAs. PPCs also have an important role in ensuring that biodiversity is integrated into sectoral plans and programs at the local level. The project will be working with Thua Thie Hue PPC and Thai Binh PPC to establish wetlands conservation areas in Tam Giang-Cau Hai and Thai Thuy, respectively. PPCs of selected sites will be also responsible for coordination the activities of provincial departments to implement the management mechanism in newly established WL conservation areas.	1,2,3	Co-implementing partners, together with MONRE to implement and manage the project. Participating in capacity building, establishment of the new Wetland Conservation Areas. Mobilizing funding for social economic development at local level. Guidance in river basin management. Participate in the Project Steering Committee.
District and Commune People's Committees (DPCs/CPCs)	District and Commune PCs are important in supporting local socio-economic development and being closest to local communities play an important role in overseeing and supporting development activities in their districts and communes. Thus, DPCs and CPCs have a key role to play in terms of ensuring environmental sustainability, particularly in relation to activities such as fishing, aquaculture, rice and other forms of agricultural production and overexploitation that are known to negatively impact wetlands. DPCs and CPCs will be key project partners at site level, particularly in relation to	1,2,3	Guidance for implementing activities at local level.

STAKEHOLDER	ROLES & RESPONSIBILITIES	Component	Involvement plans and Mechanisms
	implementing activities targeting at reducing threats to biodiversity arising from current livelihood practices.		
Provincial Departments			
Department of Natural Resources & Environment (DONRE)	DONRE is the provincial arm of MONRE and the thus the state agency responsible for managing natural resources and environment at the provincial level (including issues related to biodiversity. Currently a key part of DONRE's responsibilities are on land administration. DONRE also undertakes activities on pollution monitoring. DONRE will now have to play an increasing role in supporting biodiversity management generally and in this instance in assisting PPCs to establish and manage new wetlands conservation areas. DONRE is the primary technical government partner of this project at local level along with DARD.	1,2	Responsible in planning for wetland conservation areas, biodiversity conservation planning. Participating in wetland management. Workshops, training and carrying out environmental monitoring at demonstration sites
Department of Agriculture and Rural Development (DARD)	DARD is the provincial arms of MARD and thus critically important for wetlands management given its responsibilities for the agricultural and fisheries and aquacultural sectors. DARD also has considerable experience of managing PAs cross Vietnam and of establishing aquatic reserves in one of the project demonstration sites. DARD also has greater manpower and is thus very important at the local level for ensuring wetlands biodiversity conservation. They will be a key project partner at the local level along with DONRE.	1,2	Cooperating with DONRE in establishment and management of the wetland conservation areas, as well as in guiding sustainable livelihood activities
Local communities & Community-based Organizations, e.g. Fisheries Associations (FA), Farmers Unions, Women's Unions and Youth Union	Local communities will be participants and beneficiaries of the project through community based resource management agreements (CBNRM). Their involvement will be sought in both the management of new wetland PAs and wider landscape management. Appropriate sustainable harvesting zones will be identified to ensure that communities are not completely stopped from traditional use practices from wetlands. If such practices are not biodiversity friendly, alternatives will be identified with their full participation and agreements. The project will ensure that gender considerations and considerations on the traditional practices of any indigenous communities are also respected and are incorporated into management planning of protected areas and wider landscapes. At the local level in Tam Giang Hai lagoon, a number of local Fishers Associations exist, which had been active in several aspects of wetland management and conflict resolution. They will be actively involved in the project. Vietnam also has social organisations such as Farmer Union, Woman Union, Youth Union, and Veteran Union at community level and their involvement will be sought for appropriate activities at both sites. If required,	1,2	Involving in planning, awareness raising, monitoring and implementation of the project activities as well as the local socio-economic development plan

STAKEHOLDER	ROLES & RESPONSIBILITIES	Component	Involvement plans and Mechanisms
	the project will also facilitate the establishment of relevant community groups to support conservation and sustainable livelihoods actions and ensure their participation in protected area management boards.		
Government & Academic Research Institutions	A number of universities/institutes have strong environment research units with knowledge and experience relevant to this project. These include universities and institutions at national and provincial level and are detailed further in the Stakeholder Involvement Plan. For example, the Vietnam Academy of Science & Technology (VAST) conducts multi-disciplinary studies in socio-economic development, ecology and environmental management, policy analysis, culture. Two VAST Institutes are of particular relevance to this project, namely the Institutes of Ecology and Biological Resources (IEBR) and Marine Environment and Resources (IMER). IEBR has a number of wetlands experts, while IMER has considerable experience of working in the Tam Giang-Cau Hai area and will be an important partner in relation to seagrass conservation zone establishment and monitoring. College of Economics under Hue University has been involved in different projects on economic valuation of wetland and sustainable financing mechanism for wetland conservation in Thua Thien Hue province. Research Institute for Forest Ecology and Environment (RIFEE) is a research institution under MARD's Forest Science Institute of Vietnam (FSIV). RIFEE mission is to address current issue in forestry sector, predict threats in the future and develop solutions for such problems. RIFEE's strategic research and development program is focused around three central themes (i) sustainable uses of forestsand forestland including wetland, (ii) forest and wetland ecology and physiology and (iii) monitoring and assessment of forest biodiversity. The Institute carried out studies and training on forest ecosystem, wetlands and mangrove that are relevant to the feasibility study on the establishment of Wetland Conservation Areas, and capacity building for wetland CA management.	1,2	Participating in capacity building, studies and researches, support local communities and local authorities in planning and management of the wetlands.
Local & International NGOs supporting Wetlands Biodiversity	The project will also build on good work being done in Vietnam by local and international NGOs on wetland conservation. The latter include work done by IUCN, Birdlife International and WWF on protected areas management and	1,2	Participate in biodiversity monitoring, policies development, wetland conservation and sustainable livelihood,

STAKEHOLDER	ROLES & RESPONSIBILITIES	Component	Involvement plans and Mechanisms
Conservation in Vietnam	wetland conservation. **IUCN** Vietnam's mission is: 'To influence, encourage, and assist Vietnam's biodiversity conservation and equitable sustainable use of natural resources for improving its people's quality of life.' Its vision is: 'To become the leading knowledge-based conservation and environmental organization, working in partnership with the government of Vietnam, civil society, and the private sector in order to promote best practices for sustainable development; maintain environmental integrity; and support sustainable livelihoods for its people.' IUCN has made important contributors to biodiversity conservation and environmental protection, primarily through support to the development of laws and policies such as the National Conservation Strategy (1984), the National Biodiversity Action Plan (1995), the National Environment and Sustainable Development Plan (1991-2000), the Forest Law (2004), the Environment Law (2005) and the Biodiversity Law (2008). While IUCN has historically focused on policy formulation, it now looks increasingly at policy implementation. IUCN is working on revision of laws, policies on biodiversity/wetlands, payment for ecosystem services including mangrove/wetlands, advocacy for sustainable wetland management and biodiversity conservation. IUCN will be a key partner for this project. **WWF** was one of the first international non-government organizations working in Vietnam. In the 1990s, WWF began working on a national conservation strategy; and since then has worked closely with the Vietnamese government on a diverse range of environmental issues and implemented field activities across the country. WWF has four strategies in Vietnam including (i) securing landscape integrity and climate change resilience, (ii) ensuring sustainable hydropower development, (iii) strengthening law enforcement and protected area management, and (iv) securing sufficient sustainable financing. Local conservation NGOs are increasing number and the following are of particular relevance to wetlands conservation generally and to this project. WWF is supporting a TTH a project on mangrove planting and biodiversity planning (and the establishment of a new Sao La Nature Reserve) in TTH. WWF is also working on communication, education and awareness raising. **MCD** is a civil society organisation focusing on effective management of coastal resources and enhancement of coastal community livelihoods through localising relevant international knowledge and experience		toward sustainable development for the demonstration sites. Participating in workshops, consultations, technical working group. Providing consultancy services for the project when applicable.

STAKEHOLDER	ROLES & RESPONSIBILITIES	Component	Involvement plans and Mechanisms
	into adaptive practical models in the Vietnamese context. MCD has implemented a number of projects in coastal areas of Vietnam including Thai Binh, Nam Dinh to promote ecotourism development and has cooperated with MAB Vietnam, provincial authorities and local communities in RRDBR and supported the development of the interprovincial management regulation of the RRDBR. The **Vietnam Wetlands Association** (VNWA) is an organization under VACNE, specializing on sustainable development of wetlands in Vietnam. While VACNE was established in 1988 and is very active, VNWA is a relatively new organization. The main functions of VNWA are (i) doing research, training, providing consulting services for sustainable management of wetland ecosystems in Vietnam; (ii) developing, coordinating and implementing projects in the field of rehabilitation and sustainable management of wetland ecosystems; (iii) research and advise on policies, strategies and legislation on the conservation and sustainable management of wetlands and (iv) wetland networking to exchange information and propose appropriate regulatory measures and policy to promote wetland conservation activities in the country. VNWA maybe involve in networking and implementing project activities at pilot sites, especially in networking in building capacity of local stakeholders. **Viet Nature** is a national NGO that developed out of Bird Life International's work in Viet Nam over 20 years through its Indochina Programme. Viet Nature has considerable experience and knowledge of globally significant birds in Viet Nam through its work on Important Bird Areas and associated bird surveys including at the proposed project sites. They also have experience of undertaking ecosystem services assessment.Viet Nature currently focuses on conservation on the ground, biodiversity monitoring and linking biodiversity to human wellbeing in the context of a changing climate. Viet Nature'sexpertise is particularly relevant to project activities related to developing a bird and wetlands monitoring programme with community engagement as well as ecosystem-services assessment.		

Annex 4: Ecosystem Health Index (Narrative and Draft Scorecard)

Brief Summary of the Ecosystem Health Index (EHI) Methodology

Definition: Ecosystem Health is taken to be the suitability of a site to continue to provide secure conditions for survival of component species and delivery of key ecological services, including resilience to climate and other changes.

Objective: EHI is a not an evaluation. It is a dynamic, constantly varying index that reflects biodiversity health, just as a financial index reflects economic performance.

- EHI provides a baseline against which targets for maintaining or achieving a given level of health can be set
- EHI can be used as a results based indicator of project achievement and impacts
- EHI can indicate where the project is succeeding or failing and allow revision of activity efforts throughout the project
- EHI is complimentary to the Management Effectiveness Tracking Tool (METT) in project monitoring and evaluation.

Introduction: Ecosystem health is reflected in the ability of a site to maintain its biodiversity values and ecological functions. These will vary significantly from site to site. The index developed to assess this health has three components: 1) score of habitat suitability for maintaining important biodiversity; 2) status of that biodiversity and 3) the broader environmental context. The score does not necessarily indicate stability. Many wetland sites are very dynamic but what we are interested in is the ability of the biota to adapt to or even thrive with the changes. This will become increasingly important as climate and water flow patterns change. A simple scoring system is recommended to give the results transparency and robustness. Each site using this index should undertake a baseline survey which also selects indicators and target species for subsequent surveys. Indicators should include key wetland birds, important aquatic fauna – fish, molluscs; selected indicator insects; endangered mammals; major components of vegetation; incidence of AIS.

The index establishes a snapshot value at the time of surveying; can relate present scores against baselines established at an earlier date, identifying trends in the different indicators; and can establish reasonable targets for improvement for each different indicator, and compare current state against identified targets.

Just as a human body may appear healthy in not yet showing much physical deterioration, we can identify several indicators of lifestyle that certainly constitute health threats (excessive drinking and smoking habits, lack of sleep, lack of inoculation, living in region of known diseases, poor hygienic habits, lack of medical facilities etc.). In the same way we can recognize several threats to ecosystem health in the external context that may not be immediately reflected in condition of habitat or status of species. Such indicators include the levels of external development threats, the level of secure legal protection enjoyed, and the level of human use pressures being applied or expected in the future.

Use of the EHI scoresheet

1. **Forming the monitoring team**

   Should include manager, ecologist, consultant, local experts and if possible local community member/members)

2. **Classifying and mapping main habitat types**

   The scoring of habitat sub-index requires assessing whether the extent, diversity, connectivity and condition of key habitats is maintained. For this it is necessary to classify, map, measure extent and status of specific habitats. For ease of work and subsequent analysis it is recommended to use a

simple hierarchical habitat classification. An example for Poyang Lake is given below but it is not important to follow any formal classification system and use of whatever classification is already used by management or researchers in the area is usually adequate. If no suitable classification is already in use, it is recommended to follow the classification system of wetlands international (see Asian Wetlands Inventory Handbook) for wetland types. For terrestrial vegetation, use classifications in current use at local level. Google maps can be downloaded from internet and provide basis for mapping different recognizable vegetation formations. These can then be compared with later imagery to monitor changes in distribution. Use of GIS is useful but not essential. Once mapped, the area of habitat types can be calculated by counting dots on transparent sheets. Retain maps and results for future comparisons.

Suggested habitat classification and hierarchy (example only; not comprehensive for Viet Nam!)

Ist Order	2nd Order	3rd Order	4th Order
Water bodies	Natural Fresh water	Lakes	Open Lake
			Shallows
			Small Lake
		Rivers	Large River
			Small River
	Artificial	Ponds	Reservoir
			Small Pond
Terrestrial	Barren	Sparse vegetation	Beach
			Mudflats
		No natural vegetation	Bare Land
			Urban area
	Arbour	Woodlands	Willows
			Poplar plantation
			Mixed plantations
			Natural mixed forest
		Scrub	Scrub
	Herbaceous	Marshes	Reed-beds
			Lotus-beds
		Grasslands	Miscanthus meadow
			Phalaris meadow
			Carex meadow
			Artemisia meadow

3.Identify main threats to be monitored

- Key threats have already been identified for each project area at the PIF stage. These can be reviewed at PPG stage.
- Additional threats can be tagged for attention when local teams are assembled or if unpredicted changes occur during the project cycle. There should be a good match between indicator species selected and the specific threats they indicate.

4.Identifying suitable indicator species to be monitored

- Conservation target species (n.b. rarely seen species give little data)
- Commoner species that are sensitive to habitat quality – amphibia, dragonflies, birds
- Easily identified – large mammals
- Easily quantified (harvest levels of fish, crabs etc. or plants)
- Alien species of concern

5.Undertake baseline measurements

This will involve checking in the field, examining plans, maps and other documents, interviewing managers and local community members and undertaking status assessments of selected indicator species (this latter task should be incorporated into routine monitoring activities but baselines need to be established).

6.Calculate baseline indices

Pick the score for each indicator that best meets your observations. Most important is to complete the notes explaining on what basis this score was selected and listing the requirements that should be targeted by the project for improving this score. Identification of areas where improvement can be expected is the key to calculating the target index score that the project can realistically hope to achieve.

7.Periodically repeat measurements (minimum would be mid-term and end of project). Routine monitoring of indicator species should be more often than this and at least twice per year.

8.Analyze observed changes in relation to established targets

Note changes in relation to baseline or previous evaluations

9.Report results and feed into project planning revisions

Append full notes, maps, tables of scored species, or any data on human uses and activities, tourism entries etc. on which the answers were based. This is important as the next team to evaluate may be different and need to see the basis for determining if conditions change or get worse.

It is recommended that the first 6 steps will have expert assistance, but local teams can undertake subsequent monitoring and scoring.

The EHI scorecard

The EHI scorecard is designed for simplicity and robustness.

Different teams should reach similar scores Team members do not require high levels of literacy, biological knowledge or statistical skills!! The EHI scorecard is designed to match and augment the Management Effectiveness Tracking Tool (METT) being used in GEF Biodiversity projects and can be filled out at the same time.

At national level, MONRE should monitor EHI scores of focal sites, other wetland sites within project provinces and a selection of sites not directly affected by the project as part of overall monitoring of conditions and programme impacts.

TEMPLATE OF THE ECOSYSTEM HEALTH INDEX

Name of Site:	**Wetland Ecosystem Health Index (EHI) Score Sheet**			**Scored by (names):**	**Date completed:**
Issue	**Criteria**	**Score: tick only one box per question**		**Comment/explanation**	**Target to improve?**
Component 1. Habitat Health Assessment					
Habitat connectivity	Habitats severely fragmented by inhospitable barriers	0			
	Habitats fragmented but some connections or corridors remain	1			
	Habitats partly fragmented	2			
	Habitats enjoy good connectivity	3			
Habitat heterogeneity	Site composed of only one major habitat	0			
	Site contains only a small proportion of full range of regional wetland habitats	1			
	Site contains most of regional representative habitats	2			
	Site contains mosaic of all representative habitats of regional wetland type	3			
Original habitat diversity retained	Range of original habitats severely reduced by habitat losses and changes	0			
	50-80% of original habitats still well represented	1	1		
	>80% of original habitats still well represented	2			
	Full range of original habitats all well represented	3			
Habitats degraded	Most habitats severely degraded in structure, composition or productivity	0			
	Some habitats severely degraded	1			
	Minor habitat degradation	2			
	All habitats in healthy natural condition	3			
Water pollution	Water toxic causing death of fish, mollusks and other biota, presence of toxic algae or plankton	0			

	Water visibly dirty or smelly, surface scum visible	1			
	Slight discoloration, smell or cloudiness apparent	2			
	Water remains clear and potable	3			
Sediment load	Water seriously loaded with erosion sediments	0			
	Water opaque, cannot see bottom of ponds, streams	1			
	Water fairly clear but contains significant sediment	2			
	Sediment levels entirely normal	3			
Oxygen levels	Severe hypoxia kills fish and mollusks	0			
	Some signs of hypoxia, fish gulping at surface	1			
	Oxygen levels close to natural original figures	2			
	Oxygen levels remain at natural healthy levels	3			
Water supply	Water supply and water table seriously modified and damaging ecological functions	0			
	Water supply modified by major diversions, drainage or extractions	1			
	Water supply peaks (droughts and floods) exaggerated by regional changes in flow	2			
	Water supply remains in original seasonal pattern	3			
Physical disturbance (construction, fish traps, barrages, noisy activity)	Site is transformed by artificial developments, structures or disturbances	0			
	Site faces much disturbance from construction and disturbance	1			
	Minor structures or disturbances only	2			
	Original physical state preserved	3			
Disaster damage	Ecology irreversibly modified by natural or artificial disaster	0			
	Serious disasters frequent and ecological	1			

	recovery period long				
	Severity and frequency of disasters increased through human activities but ecology shows high recovery rate	2			
	Frequency of disasters remains natural, capacity to recover remains high	3			
Design resilience (size,altitude,NS axis,lithology,dynamics,multiple catchments)	Site is too small, isolated and homogeneous to offer ecological resilience	0			
	Site is naturally vulnerable to change	1			
	Site enjoys moderate resilience design	2			
	Site enjoys natural high resilience	3			
Sub-total of habitat health risks		**Sum score**		**% of total maximum**	**Index (HI) =**
Component 2. Species Health Assessment					
Health of target species	All target species show declines	0			
	Most target species show declines	1			
	Some target species show declines	2			
	All target species stable or increasing	3			
Health of vertebrate indicator species	All indicator species show declines	0			
	Most indicator species show declines	1			
	Some indicator species show declines	2			
	All indicator species stable or increasing	3			
Health of plant indicator species	All indicator species show declines	0			
	Most indicator species show declines	1			
	Some indicator species show declines	2			
	All indicator species stable or increasing	3			
Health of invertebrate indicator species	All indicator species show declines	0			
	Most indicator species show declines	1			
	Some indicator species show declines	2			
	All indicator species stable or increasing	3			
Species diversity retained	Richness of faunal/floral communities irreversibly depleted	0			
	Significant gaps appearing in reporting of local species	1			
	Minor reductions in species richness noticed	2			

	Site retains full original species diversity with high proportion of locally potential species	3			
Highest trophic carnivores still present	No high trophic carnivores remain at site	0			
	Few carnivores remain at site	1			
	Some high trophic carnivores lost from local fauna	2			
	All high trophic carnivores or original fauna still presnet	3			
AIS resilience	AIS out of control and permanently replacing some local species	0			
	AIS degrading ecosystem functions or displacing local species	1			
	Some AIS noticed at site but not seriously damaging ecosystem or local species	2			
	No AIS established in site	3			
Breeding/wintering success of target species	High mortality on wintering/breeding areas of site	0			
	Survival of some species a concern	1			
	Moderate survival	2			
	Key species all surviving well at site	3			
Key new species using site	Total species no. dropping over time	0			
	No new species recorded but species richness stable	1			
	Some new species (other than AIS) noted	2			
	No. of new colonizing species exceed local extinctions	3			
Economic harvest species (legal and illegal)	Uncontrolled overharvesting eliminating some species	0			
	Harvesting results in serious declines in several species	1			
	Harvesting results in minor declines of some species	2			
	No harvesting, or harvesting appears entirely sustainable	3			
Mortality/disaster of key species (fires, droughts, floods, diseases)	Disasters have caused irreversible or long term declines to important species	0			
	Disasters have caused serious damage to	1			

	important species				
	Disasters cause minor damage to some species	2			
	No diseases, disasters in recent years or species recovery fast and complete	3			
Sub-total of species health risks		**Sum score**		**% of total maximum**	**Index (SI) =**
Component 3. Environmental Context Health Assessment					
Site boundaries and zones	Adequate boundaries not clearly marked or respected	0			
	Boundaries inadequate or not respected	1			
	Some boundaries marked, partially respected	2			
	Effective boundaries, zones in place and marked	3			
Legal framework	No legal protection for site	0			
	Weak legal protection or protection for only part of site	1			
	Legal status assured but some weaknesses remaining	2			
	Strong legal security and law enforcement procedures in place	3			
Tourism impacts	Tourism uncontrolled and causing serious damage and disturbance to site	0			
	Some controls in place but tourism exceeds safe carrying capacity	1			
	Tourism controlled but causing some negative impacts	2			
	Tourism absent or well controlled and within safe limits	3			
Human resource use pressures	Pressure on natural resources of site out of control	0			
	High levels of collection or use of renewable resources	1			
	Low levels of pressure for resources or land-use (e.g. grazing)	2			
	No human pressure on resources, or pressures now contained by alternative	3			

	livelihood program				
Additional threats or stresses from external developments (existing or planned)	Water diversion plans, dams, drainage would completely change nature of the site	0			
	External developments negatively affect the ecosystem of site	1			
	Low risk or low impacts can be absorbed by ecosystem	2			
	No threats from external developments	3			
Local community relations	Local community alienated and oppose establishment of protected area on site	0			
	Local community accept existence of protected area but neutral and mostly not involved	1			
	Local community enjoy some benefits through employment or alternative livelihoods	2			
	Local communities strongly supportive; respect protected area and collaborate in protection, reporting work	3			
Sub-total of environmental context health risks		**Sum score**		**% of total maximum**	**Index (CI) =**
Overall EHI score (HI+SI+CI)/3 =				**Target identified for project**	**Index (CI) =**

Annex 5: Criteria And Process Used to Select Sites to Establish Demonstration Wetland Conservation Areas (WCAs)

Development of site selection criteria and screening process: A set of criteria were developed at the beginning of the project preparation phase for selecting the sites for establishing the first two Wetland Conservation Areas under this project. Initial criteria included the following:

- biogeographic representativeness
- global environmental significance
- socio-cultural diversity
- socio-economic feasibility
- geographic area
- level of threat
- criteria used by the Ramsar Convention to define a Ramsar site
- protection status

The criteria of global environmental significance and national environmental significance were applied sequentially to screen lists of the following sites:

- 126 current SUFs
- 16 MPAs
- 45 Inland Water Fishery Conservation Areas proposed by MARD; and
- 68 Wetland Sites of National Biodiversity and Environmental Values proposed by MONRE

This generated a long list of one hundred key wetlands of Viet Nam.

The draft criteria and the long list of 100 sites were presented at a national stakeholder consultation workshop in August 2012 attended by participants from MONRE, MARD, NGOs, research institutes and individual experts with experience of wetlands sustainable use and management in Viet Nam. This resulted in a jointly agreed set of criteria, which are summarized in Table A4.1.

These criteria were then applied to the long list through further discussion and consultations. This resulted in a shortlist of four potential sites: Nghia Hung in Nam Dinh Province and Kim Son in Ninh Binh Province, both in the south of the Red River Delta Biosphere Reserve; Thai Thuy coastal wetlands in the north of the Red River Delta in Thai Binh Province; and Tam Giang–Cau Hai lagoon in Central Viet Nam in Thua Thien Hue Province. This last had already been proposed in the PIF. The other site included in the PIF Pa Khoang Lake was deemed not to be of sufficient global significance to qualify.

Table A4.1: Final Criteria for Selecting Demonstration Sites for establishing WCAs

No.	CRITERIA	JUSTIFICATION
1	Biogeography representation	Site represents a biogeographically distinct and recognizable wetland type of Viet Nam.
2	Global biodiversity significance	Site supports vulnerable, endangered, or critically endangered species or threatened ecological communities (e.g. globally threatened species listed in the IUCN Red Data Book) **OR** site contains a rare or unique example of a natural or near-natural wetland type found within a unique biogeography region.
3	National significance	Site of national priority for biodiversity conservation and environmental/ agricultural or fishery resource/ cultural/ historical/ research values.
4	Protection status	The area is not already under some form of formal protection.
5	Level of threats	Site has high or accumulating threats and would become severely degraded or even lost without immediate action
6	Having linked landscapes	Site should have linked landscapes where interventions are needed to ensure long-term sustainability of target wetlands.
7	Size	Site area should not be less than 10,000 ha with at least 70% of this area as water surfaces or comprise typical/natural wetlands.
8	Socio-economic & cultural diversity	Site should have a typical but diverse mix of local communities and livelihoods to be able demonstrate a range of strategies to address livelihoods-related threats and promote sustainable wetlands use.
9	Social feasibility	Site should have support of key local stakeholders, especially local government and local communities. Thus, site should have a high likelihood of strong and steady commitment to WCA establishment and management from the local authority to ensure support and support for wetlands conservation during and beyond the project's life. Additionally, site should have effective community-based institutions and ideally local NGOs working on issues of relevance to wetlands conservation and sustainable use.
10	Economic feasibility	Site characteristics are such that planning & establishing an effective WCA are economically feasible, i.e. the benefits of competing land uses and economic activities are not so large that the chances of being able to protect the wetlands even in the short-term are very low. Site should offer opportunities or have the potential to generate sustainable financing for the long-term management of the WCA. (in kind as well as cash e.g. through greater community engagement in monitoring and management as a result of value of benefits received from wetlands).
11	Management feasibility	Site has good potential to establish proper WCA Management Board, in terms of government interest and commitment as well as past comparable experience. Since the project is only 4 years, it is ideal that at least some people capable of participating effectively in the planning, establishment and management of new wetland PAs management are already available at the site, to facilitate further capacity development so that to kick start the

		capacity building process.
12	Not overlap with any completed or on-going projects	Site chosen should not have or have previously had comparable support as being proposed under the GEF-supported project in order to avoid duplication of financial support.

Further screening and consultations:

The shortlist of four potential sites for WCA establishment was put under deep discussion during the Stakeholder Consultation Workshop of August 2012. Experts and managers with rich knowledge and experiences in biodiversity and wetland management in Viet Nam discussed about pros and cons of selecting each site, based on agreed criteria. The selection of Tam Giang – Cau Hai lagoon site was more easily agreed by most participants as the area meets most of the agreed criteria, while coastal wetlands in the Red River Delta, a global and national priority region for wetlands conservation, received more diverse comments. The selection of Nghia Hung and Kim Son coastal wetlands as a combined site – to be called the Day River Mouth Wetland – received considerable supported from a generating more diverse management experience point of view this would require an inter-provincial approach to wetlands PA management as well as greater direct engagement by MONRE as inter-provincial PAs are established and managed directly by national government. However, the Thai Thuy coastal wetlands, which are also an Important Bird Area, where a number of globally threatened migratory species have been recorded were strongly supported by Birdlife International, IUCN and biodiversity experts.

Field work and final decision: The project preparation team and members of MONRE's Working Group for project development undertook a field visit to Nghia Hung and Kim Son areas in 2012 to verify global significance of the two sites and discuss the feasibility of establishing a WCA here with local managers and communities. Considerable time and effort were invested in collecting relevant secondary information about biodiversity value, trends in biodiversity and environmental qualities, socio-economic conditions, communities' livelihoods and development plans in and around the target wetlands. Results from the field work plus analysis of the secondary information and further consultation with relevant experts led to the conclusion that the proposed Day river mouth wetland (or Nghia Hung – Kim Son wetlands) was not an appropriate site for the proposed project because the following reasons:

- These wetlands no longer support any globally significant species.
- These wetlands have been significantly modified by intensive aquaculture practice (mainly clam farming), so that they are lacking biodiversity value and diverse livelihoods.
- These wetlands are within the boundary of the soon-to-be Coastal Economic Development Zone of Nghia Hung district, Nam Dinh province and much larger negative impacts are anticipated which are likely to be beyond the capacity of a project, particularly a new one, to address.

This led the team to a more serious consideration of the Thai Thuy coastal wetlands as recommended by biodiversity experts. After a field trip to the site and discussions with a range of stakeholders, Thai Thuy wetland was confirmed as the second site for WCA establishment.

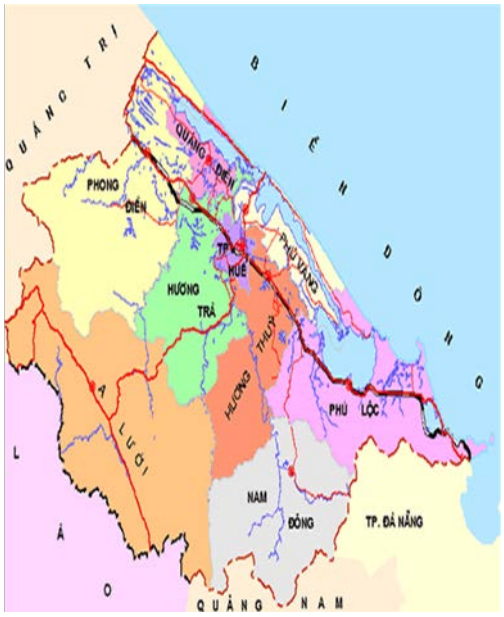
Profiles of Tam Giang-Cau Hai lagoon complex and Thai Thuy coastal wetlands and their surrounding landscapes are given in Annex 5.

Annex 6: Profiles of Tam Giang-Cau Hai Lagoon System and Thai Thay
ANNEX 6A:
THUA THIEN HUE PROVINCE & TAM GIANG – CAU HAI LAGOON

THUA THIEN HUE

Geography

Thua Thien Hue is situated in Central Vietnam, on the West-East axis, connecting Myanmar, Thailand, Laos, Vietnam and the East Sea. The province has a favorable traffic network and is one of the four provinces of the Central Focal Economic Region of the country. Thua Thien Hue has 9 cities and districts namely Hue, Quang Dien, Phong Dien, HuongThuy, Huong Tra, Phu Vang, Phu Loc, Nam Dong and A Luoi. It borders Quang Tri province in the north Dang Nang City and Quang Nam province in the south with Hai Van mountain pass, People Democratic Republic of Laos in the west with Truong Son range and East River in the east. Hue is 600 km from Hanoi and 1,080 km from Ho Chi Minh City. Thua Thien –Hue is on the East - West strategic corridor where passing national road No,1AI No.49 and Ho Chi Minh road, having Ku - Tai frontier pass connecting neighbouring Laos, Chan May deep - sea port, Phu Bai alrport, etc.



The weather

Thua Thien Hue is in the monsoon tropical area, under the influence of the interfered weather between Asian tropical weather in the north and the tropical weather in the south. Its weather is with two clear seasons of wet and dry with the rainy season lasting March to August and the dry season from September to October. The annually average temperature is about 25.6^0C.

Area and terrain

Thua Thien Hue province has an area of 5,062 km^2 with the average width of 60 km and the length of 127 km. It is along the direction of North West - South East parallel with the coast, with various terrains of mountains, hills, coastal plains and lagoons. The terrain gets lower in the east, of which the west is mainly hills with the most height of less 500m and main features of wide top, slope side, mostly hundreds width "bowl-shaped" hills. The large rivers' basins create down wrapping including narrow coastal plain covering the lagoon area of 22,000 ha, such as Tam Giang, Ha Trung and Cau Hai lagoons, An Cu area and three gates to the sea: Thuan An, Tu Hien and Lang Co. In the plain, the terrain is 5m - 30m long sand-banks parallel with the coast.

Socio-economic context

Population of Thua Thien Hue in 2011 was 1,103,136. The general population density of the entire province is 219.17 persons/km^2. This number is relatively high in districts of the coastal plain such as Phu Vang (629 persons/km^2), Quang Dien (514 persons /km2), and Hue (4,778 persons/km^2), and is relatively low in mountainous districts, namely A Luoi (36

persons/km2) and Nam Dong (35 persons/km2). Urban population is 534,320 people, accounting for 48.44% of total population. Male occupies 49.5% of the population while 50.5% is made up of females.

There are about 1000 households living on small boats (sampan) along Huong River and channel flowing through the Hue city. The boat household use surface water for drinking and at the same time discharge wastewater into the rivers. The water from septic tanks, unhygienic latrines, and domestic chemicals is a serious source of pollution. The average waste per capita is about 6-12 grams of nitrogen, 2-3 grams phosphorus and 400 kinds of bacteria, germs and protozoa, hundreds of which affect the people's health. Domestic wastewater is high in nitrogen, phosphorus, and bacteria, especially coliform bacteria. Wastewater, gutter, and canal are breeding places for flies, mosquitoes, and other diseases transmitting insects, which can cause widespread epidemics. Hue City has implemented a project to resettle boat people since 1997. The first phase of the project has been finished. In the plan for the period from 2009 until 2012, it is expected that at least 70% of the population of the boat village (6,160 people, 800 households) will be moved to Phu Mau resettlement area and other places.

The province has a workforce of 571,239 people, accounting for 51.8% of total population. The encouraging fact is that the rate of population growth in recent years is approximately 1.3% and has the decreasing tendency.

The gross domestic products (GDP) of Thua Thien Hue achieved 26,498,376 billion VND in 2011; its average growth rate was 11%/year during the last 10 years. The GDP per capita was 24 million VND in 2011. The economic structure of the Province shifts to the direction of increasing percentage of industry and service, and decreasing that of agriculture-forestry-fisheries in GDP. Despite the overall relative decrease of the agriculture-forestry-fisheries sector, it must be emphasized that within this sector, the aquaculture sector is showing explosive growth.

Thua Thien Hue has a coastline of more than 127 km in length, 224.525 ha of forestland, including 176,400 ha of natural forest with diverse and abundant biological resources, and more than 25 types of minerals, regularly distributed over the whole province.

It is obvious, that the whole coastal zone of Thua Thien Hue is very sensitive and vulnerable to many impacts from different socio-economic development activities, as well as impacts of natural disasters. The consequences are reflected specially in the environment pollution, habitat and aquatic resource degradation and biodiversity loss. The main threats to the coastal resources and environment have been identified and can be reviewed as follows:

- Pollution in water and sediment of Tam Giang - Cau Hai lagoon due to the waste from the industrial, tourism-service, agricultural, aquacultural and living activities around the lagoon.
- Over- and destructive exploitation of aquatic resources by local coastal communities, particularly in Tam Giang - Cau Hai lagoon area.
- Inappropriate exploitation of coastal resources and minerals, sand and gravel in rivers, sandy land at the coast, wetlands, etc, causing negative impacts to the habitats and the natural balance of ecosystems.
- Natural disasters such as floods, inundations, coastal erosion and inlet instability threaten the safety of lives and values in the coastal zone
- Salinity intrusion into Huong River, causing problems in water supply for domestic use and manufacturing.
- Conflicts in the lagoon use between fisheries, tourism, agriculture and living activities.

TAM GIANG -CAU HAI LAGOON

Geography

The Tam Giang - Cau Hai Lagoon system is located some 7 km north-east of the provincial capital. The system, which is the largest in South-East Asia, extends from O Lau river mouth in the north-west to Vinh Long mountain in south-east with a total length of 68 km and a total area of about 21,620 ha or 4.3% of Thua Thien–Hue province area. At its widest the lagoon is 10km wide and at its narrowest, less than 1km wide. The system is comprised of a series of coastal lagoons – the Tam Giang, Thanh Lam (Sam, An Truyen), Ha Trung, Thuy Tu and Cau Hai lagoons - that are separated from the sea by narrow sand dune barriers. Over its total length of 68km, it receives flows of most rivers in the province and discharges to the sea through two narrow tidal inlets, namely Thuan An inlet and Tu Hien inlet.

Socio-economic background of Tam Giang - Cau Hai lagoon

About 300,000 inhabitants from 32 communes in 5 districts live around the lagoon in 236 villages (table 1) and earn their living by directly or indirectly exploiting natural resources in and around the lagoon (Nguyen and De Vries, 2004).

Table 1: Districts and communes in Tam Giang - Cau Hai Lagoon

	COMMUNES	NATURAL AREA (ha)	LAGOON WATER SURFACE AREA (ha)	AQUACULTURAL AREA (ha)
	Phong Dien Dist.	**2,695**	**649.41**	
1	Dien Hoa	1,349.0	89.15	0
2	Dien Hai	1,346.0	560.26	0
	Quang Dien Dist.	**12,436**	**3,618.67**	**573.3**
3	Quang Thai	1,841.0	257.17	0
4	Quang Loi	3,328.0	1,107.63	19.0
5	Quang Phuoc	1,226.	492.54	147.0
6	Quang Ngan	1,099.0	435.34	84.0
7	Quang Cong	1,375.0	646.67	104.0
8	Quang An	1,335.0	400.42	135.0
9	Quang Thanh	1,043.0	104.37	38.3
10	Sia Town	1,189.0	174.53	46.0
	Huong Tra Dist.	**2,412.2**	**775.42**	**265.0**
11	Hai Duong	838.2	341.44	55.0
12	Huong Phong	1,574.0	433.98	210.0

	COMMUNES	NATURAL AREA (ha)	LAGOON WATER SURFACE AREA (ha)	AQUACULTURAL AREA (ha)
	Phu Vang Dist.	**20,849.8**	**7,635.23**	**1,442.0**
13	Thuan An Town	1,706.0	1,058.64	321.2
14	Phu My	1,150.0	178.06	140.0
15	Phu An	1,119.0	613.59	214.0
16	Phu Xuan	3,017.0	1,256.09	129.0
17	Phu Da	2,978.0	283.96	36.8
18	Vinh Phu	734.8	244.34	11.5
19	Vinh Ha	3,245.0	2,036.85	271.0
20	Vinh An	1,530.0	123.69	4.0
21	Vinh Thanh	1,066.0	142.87	11.5
22	Vinh Xuan	1,844.0	379.15	57.0
23	Phu Dien	1,382.0	659.94	180.0
24	Phu Thuan	738.0	457.03	57.0
25	Phu Hai	340.0	183.02	9.0
	Phu Loc Dist.	**31,516**	**9,239.94**	**825.5**
26	Vinh Hung	1,495.0	427.81	337.0
27	Vinh Giang	1,879.0	1,019.36	144.0
28	Vinh Hien	2,280.0	1,634.32	45.0
29	Loc Binh	2,762.0	1,328.75	34.0
30	Loc Tri	6,272.0	1,162.25	30.5
31	Loc Dien	11,380.0	2,308.73	182.0
32	Phu Loc Town	2,743.0	1,245.23	53.0
33	Loc An	2,705.0	113.49	0
	Total	**69,909.1**	**21,918.67**	**3,105.8**

Source: Thua Thien Hue PC

In Tam Giang - Cau Hai, lagoon communities generally depend on three main income generating activities: capture fisheries, aquaculture and agriculture, including forestry and livestock. Other complementary occupations include trade, seasonal work, construction and service. From the survey done by IMOLA project, it appears that people doing aquaculture as

the main activity also do agriculture, livestock and capture fisheries, whilst farmers doing agriculture as the main activity also do livestock but limited aquaculture and capture fisheries. Fisherfolk are also involved in shrimp farming and livestock but not in agriculture.

Table 2: Administrative and demographic characteristics of Tam Giang - Cau Hai Lagoon

DISTRICT	LAGOON COMMUNES/ DISTRICT COMMUNES + TOWN (%)	LAGOON COMMUNES AREA/ DISTRICT AREA ha (%)	POPULATION IN LAGOON/ TOTAL POPULATION
Phong Dien	2 / 16 (13%)	2,660/95,400 ha (3%)	9%
Quang Dien	8 / 11 (73%)	12,184/16,307 ha (75%)	68%
Huong Tra	2 / 16 (13%)	2,596/52089 ha (5%)	16%
Phu Vang	13 / 20 (65%)	20,636/28,031 ha (74%)	71%
Phu Loc	7 / 18 (39%)	29,062/72,809 ha (40%)	41%
Total	**32 / 81 (40%)**	**67,138/264,636 ha (25%)**	**44%**

Source: IMOLA project

The result of household living standard survey of Thua Thien Hue Department of Labour, Invalid and Social Affair (DOLISA) in 2008 was shown in table 3.

Table 3: Household (HH) living standards in Tam Giang - Cau Hai lagoon (%)

	DISTRICT	RICH HH	HH WITH INCOME ABOVE THE AVALAGE LEVEL	HH WITH AVARAGE INCOME	POOR HH
1	Phong Dien	0.50	19.64	63.58	16.27
2	Quang Dien	0.66	15.00	67.03	17.17
3	Huong Tra	0.50	20.00	65.52	13.98
4	Phu Vang	4.84	26.06	50.61	18.47
5	Phu Loc	2.60	26.96	51.10	19.31
6	**Thua Thien Hue**	**2.69**	**22.33**	**58.75**	**16.93**

Source: Thua Thien Hue DOLISA

It appreared that the districts of Phu Vang and Phu Loc with relatively high percentages of lagoon water surface and aquacultural areas have a higher numbers of rich households.

Livelihoods in Tam Giang - Cau Hai lagoon

Fisheries

The fisheries sector plays a key socio-economic role in Tam Giang - Cau Hai area, providing a source of income for almost 12% of total population of Thua Thien Hue. Fisheries sector consists mainly of two distinct sub-sectors: (1) aquaculture, and (2) capture fisheries.

Table 4: Labour force in fishery sector of Tam Giang - Cau Hai

	INDICATOR	FISHERY SECTOR OF THUA THIEN HUE	FISHERY SECTOR OF TAM GIANG – CAU HAI	%
1	Total labour force	33,084	25,726	77.76
2	Total household	17,034	14,577	85.6
	Capture fishery	11902	10,487	88.11
	Aquaculture	2,730	2,730	100
	Fish processing	455	321	70.5
	Other	1,947	1,039	53.6

Source: Statistical data

Aquaculture

Aquaculture started in Tam Giang - Cau Hai lagoon about twenty years ago and has developed significantly in recent years. Thousands of hectares of agricultural land were converted into aquaculture ponds and farming cages have mushroomed around the lagoon. According to DARD, aquaculture has gained many achievements and helped to increase the income of local people. In Tam Giang - Cau Hai lagoon aquaculture includes shrimp, fish, mollusc and crab culture.

Tiger shrimp (*P. monodon*) is the mainly farmed species, with minor production of greasy-back shrimp (*Metapenaeus ensis*). Shrimp are mainly raised in ponds with a median size of 5,000m^2.

Several freshwater, brackish and marine fish species are currently farmed around the lagoon. Farming is conducted using a wide range of systems: earth ponds (median size of 700m^2), net enclosures in lagoon (median size 8,500m^2), floating and submerged cages, and in rice-cum-fish culture (median size 4,000m^2). Marine species include snappers (*Lutjanus* sp.), groupers (*Epinephelus* sp.), rabbitfish (*Siganus guttatus*) and black kingfish, also called "cobia" (*Rachycentron canadum*). Freshwater fish include silver carp (*Hypophthalmichthys molitrix*), grass carp (Ctenopharyngodon idella), common carp (Cyprinus carpio carpio), normal strain and monosex tilapia (*Oreochromis niloticus* and *O. mossambicus*), catfish and eel (*Anguilla anguilla*).

Mollusc culture and crab culture has been farmed in Tam Giang - Cau Hai as second crop usually in polyculture with other species, including shrimp.

Capture Fisheries

Capture fisheries is a traditional occupation for lagoon communities in Tam Giang - Cau Hai where it can be defined as a small-scale and subsistence artisanal fisheries. Moreover it is a multi-species multi-gear fishery, very common in tropical countries. Fisherfolks might use one or more type of fishing gear according to location and season. Capture fisheries is carried out mainly in the lagoon but in some communes it takes place in rivers and sea in-shore as in Quang Cong and Loc Binh.

More than 35 different fishing gears are currently used by lagoon fisherfolks to catch fish, crustaceans and molluscs. Several of them are prohibited including electric devices which are commonly used in lagoons, according to the Decision No. 4260/2005/QD-UBND. Other fish aggregating devices are used to capture juveniles to be farmed in cages and net enclosures.

Table 5: Fishing gears in Tam Giang - Cau Hai

	2000	2004	2005	2006
Total fishing gears	4,110	6,694	7,665	6,367
Of which				
Electric fishing gears	1,514	2,528	3,797	3,262
Traditional fishing gears	2,596	4,166	3,868	3,105

Source: Statistical data

However, conflicts can occur among fisherfolks, and between fisherfolks and other activities such as aquaculture and agriculture. For the former, conflicts may arise from (i) competition over fishing ground areas occupation, and (ii) people using different kind of gears (e.g. stake trap and gill net) but mainly between fisherfolks using legal gears versus those using illegal and destructive gears. Usually they are more common between fisherfolks from one commune and outsiders from another commune.

Agro-forestry sector

The agro-forestry of Tam Giang - Cau Hai includes agriculture, forestry and livestock activity. Agriculture is a traditional livelihood activity for many communes surrounding the lagoon. It is considered the source of livelihood in the area which has brought a reasonably stable income.

According to Thua Thien Hue DSO there were 17,700 ha of agricultural land along the lagoon, of which land for food-grains and paddy field made up 11,448 ha (645%). The agricultural land of Tam Giang - Cau Hai accounts for 37.98% of total agricultural land of the whole province. The rice productivity of Tam Giang - Cau Hai is about 3.5 ton per ha per crop. Besides rice, additional crops are grown like cassava, potatoes, peanuts, chilies, coriander and green melon. These provide food for humans and feed for animals. The sweet potato and cassava used are local varieties and their productivity is low.

Compared with the inland mountainous areas in province, the forestry sector around the lagoon is not considered a key activity for livelihood. Forestry is relatively popular in Loc Binh (total forest area 923 ha), Loc Tri and Vinh Phu.

The quality of soil for agriculture varies around the lagoon. In some places soil is affected by salinity and aluminium. Thus the rice productivity is not high.

Policies affecting the development of Tam Giang - Cau Hai

Here are a number of policies affecting the development of Tam Giang - Cau Hai

Thua Thien Hue Province's Integrated coastal zone management strategy – Thua Thien Hue ICZM strategy.

Objectives of the Strategy. The ICZM Strategy was approved by Thua Thien Hue PC in 2004 under the support of the Royal Netherlands. The ICZM Strategy identifies the main objectives

and short- and long-term actions to be taken to tackle the complex issues related the development of the coastal zone. The Strategy also provides a setting to develop an effective multi-sectoral coordination mechanism to improve the administrative processes, including the provincial multi-annual socio-economic development planning process. The strategy gives directions to provincial authorities to help balance interests to mitigate the environmental pollution and resources degradation, particularly the aquatic resources and biodiversity, prevent and mitigate damages from natural disasters, support poverty alleviation, and improve the livelihoods of local communities in the coastal zone of the Province.

Scope of the Strategy: In compliance with the concerns and capacity of the stakeholders in Thua Thien - Hue, the strategy focuses on the coastal part of the Province, which includes the strip of coastal plain and sandy land, the Tam Giang - Cau Hai lagoon and coastal water of the Province up to 40m deep, in 6 districts, including Phong Dien, Quang Dien, Huong Tra, Huong Thuy, Phu Vang, Phu Loc and Hue city, for the period from 2004 to 2020.

The ICZM Strategy comprises 4 main strategic components**:**

- ICZM Capacity Building;
- Protection of Resources and Environment;
- Integration of NDM with coastal resource management
- Sustainable use of Coastal Resources.

Each of the four strategic components has been sub-divided into a series of action plans, which all contribute to fulfilling the specific objectives of the respective strategic components. A total of 27 Action Plans have thus been specified. Table 6 summaries the key points of ICZM strategy.

Table 6: ICZM Strategy for Thua Thien Hue Province

General objectives *Optimise the use of resources in a sustainable way, protect and improve the environmental quality, minimize and mitigate negative impacts of natural disasters, impulse socio-economic development in order to improve and enhance living conditions of local communities.*	
Strategy components and action plans	**Priority Action Plans**
Strategy component 1 – ICZM capacity building	
1. Action Plan 1.1 – ICZM Awareness raising	PAP I
2. Action Plan 1.2 – ICZM Training for government staff	
3. Action Plan 1.3 – Training programmes on sustainable development in education	
4. Action Plan 1.4 – Strength community participation	
5. Action Plan 1.5 – ICZM administrative procedures and legal adjustments	PAP II
6. Action Plan 1.6 – Apply results of scientific researches in ICZM	
7. Action Plan 1.7 – Survey programmes on status of coastal resources	
8. Action Plan 1.8 – Integrated environmental and physical monitoring programme	
9. Action Plan 1.9 – Develop information management system	

Strategy component 2 – Protection of Resources and Environment	
10. Action Plan 2.1 – Identify and establish conservation areas	PAP III
11. Action Plan 2.2 – Mitigate environmental pollution	PAP IV
12. Action Plan 2.3 – Strictly implement Decision No. 64/2003/QĐ-TTg	
13. Action Plan 2.4 – Develop and maintain the waste collection and treatment systems	
14. Action Plan 2.5 – Intensify EIA for all investment projects	
15. Action Plan 2.6 – Abolish the illegal residence in the lagoon area	
16. Action Plan 2.7 – Strengthen enforcement of destructive coastal fisheries	
Strategy component 3 – Integration of NDM with coastal resource management	
17. Action Plan 3.1 – NDM zoning & policy development	PAP V
18. Action Plan 3.3 – Integrated responses for NDM	PAP VI
19. Action Plan 3.2 – EIA of all projects/constructions with respect to NDM	
Strategy component 4 – Effective and sustainable use of resources	
20. Action Plan 4.1 - Assess carrying capacity of eco-system, give advice on wise use	PAP VII
21. Action Plan 4.2 – Zoning plan for the use of the coastal area	
22. Action Plan 4.2 – Adjust and amend fishery activities (lagoon space and resources)	
23. Action Plan 4.3 – Sustainable aquaculture	PAP VIII
24. Action Plan 4.4 – Develop and implement clean agriculture methods	
25. Action Plan 4.5 – Agriculture methods on coastal sandy land	
26. Action Plan 4.6 – Sustainable tourism	PAP IX
27.Action Plan 4.8 – Coordinated planning/development urban area and infrastructure	

Source: ICZM strategy (2004)

- ***Thua Thien Hue's Integrated coastal zone management action plan 2005-2008 – ICZM Action plan***

ICZM action plan has been developed within the framework set by the ICZM Strategy and was approved by Thua Thien Hue PC in 2004. Out of 27 Action Plans defined by ICZM strategy, 9 Action Plans were earmarked as Priority Action Plans (PAPs), for inclusion in a first ICZM Action Plan Document (see table 6).

The Action Plan Document has identified, for each Priority Action Plan, a multitude of activities that need to be carried out by provincial departments and agencies in the next 3

years. Some of these activities can be carried out by the departments themselves with provincial funds. Other activities will require funding and support from outside the province, from domestic or foreign organizations.

- ***Decision No.1955/QD-TTg of November 27, 2009, approving the Scheme on socio-economic development of Tam Giang - Cau Hai lagoon region, Thua Thien Hue province, through 2020 – Socio-economic development strategy of Tam Giang - Cau Hai***

On November 27, 2009 the Government of Vietnam approved the Scheme on socio-economic development of Tam Giang - Cau Hai lagoon region, Thua Thien Hue province, through 2020. The general objectives is to take advantage of all resources for developing the Tam Giang - Cau Hai lagoon into an economically developed region of the province by 2020 and to develop tourism as a leading industry in association with sustainable rural development so as to create a considerable progress for the region by 2020, making it a coastal region with strong economic development.

The specific objectives cover three aspects as follow:

- **Economic objectives:**
  - ✓ To focus on the strong development of potential industries, promoting economic restructuring toward tourism-fishery-cottage industry and handicraft-ecological agriculture. To strive for a per-capita income equal to 90% of the province's average by 2020;
  - ✓ To build the Tam Giang - Cau Hai lagoon region into one of ecological tourism, greatly contributing to developing the province's tourism.
- **Social objectives:**
  - ✓ To strive for the targets that by 2015, the secondary education universalization will be basically completed; the rate of trained laborers will reach over 50%; over 90% of health stations and schools reach the national standards and the resettlement of people evacuated for hydroelectric development will be basically completed. By 2020, the poor household rate will drop to below 5%; the rate of malnourished under-five children will drop to below 15% and 90% of households will have access to hygienic water.
- **Environmental objectives:**
  - ✓ To protect the environment and biodiversity of the lagoon region; to minimize the pollution of surface water;
  - ✓ To conserve and develop submerged coastal ecological forests; to increase the forest coverage to over 30%;
  - ✓ Urban centers, industrial complexes and craft villages in the region will have their wastewater treated and their solid wastes collected and treated up to prescribed standards before being discharged into the environment;
  - ✓ To prevent, avoid and minimize environmental pollution and damage caused by storms and floods.

Biodiversity conservation is among the main objectives of the strategy. The strategy also defined a list of priority investment projects in Tam Giang - Cau Hai region including Construction of a central coastal nature conservation zone and conservation of biodiversity of the Tam Giang - Cau Hai lagoon region.

- ***Decision No.2293/QD-UBND of December 5, 2012, approving the plan on zoning the coastal zones of Thua Thien Hue until the year 2020, vision to 2030***

Pursuant to the Government's Decision No.1955/QD-TTg on socio-economic development of Tam Giang - Cau Hai lagoon region, Thua Thien Hue province, through 2020, on December 5, 2012 the PC of Thua Thien Hue approved the plan of zoning the coastal zone of Thua Thien Hue until the year 2020, vision to 2030.

According to the Decision No.2293, the coastal zone of Thua Thien Hue is divided into 11 zones, which can grouped into 4 areas: (a) Conservation, protected and restoration areas; (b) Buffer areas; (c) Development areas and (d) Reservation areas.

Biodiversity significance of Tam Giang – Cau Hai Lagoon

Description of site

The Tam Giang - Cau Hai lagoon complex comprises a series of coastal lagoons, situated about 7 km from Hue city. This is a large wetland area with a length of 70 km (Northwest-Southeast direction) and a width of 1-10 km, occupying 21.620 ha. It is considered as the largest coastal lagoon system in South-east Asia. This is a potential economic zone of Thua Thien Hue province, belonging to 44 communes of 5 districts, namely Phong Dien, Quang Dien, Huong Tra, Phu Vang and Phu Loc. It is separated from the sea by long sand dunes from 1 to 4 km wide and linked with the sea through Thuan An and Tu Hien inlets. There are 5 major rivers discharging into the lagoon area; therefore, the lagoon has typical brackish water with abundant habitats, high biodiversity and important role in socio-economic aspects and natural resources and environment.

Biodiversity values

Diversity of habitats

Tam Giang - Cau Hai lagoon is one of the rare representatives for a tropical coastal ecosystem with a complex and diversified habitat: river delta, shallow open water areas, water grassbeds, estuaries and inlets surrounded by sand dune barriers. According Ramsar's classification of wetland, the Tam Giang - Cau Hai lagoon is classified as J type – brackish coastal lagoon. There are four groups of wetland habitats in this system, including:

- vegetated wetlands, that mainly comprise marshes/swamps;
- non-vegetated wetlands, that comprise mudflats and sand flats;
- permanently submerged wetlands, some of which support seagrass;
- man-made wetlands, comprising aquacultural ponds and rice fields.

Species richness

It is estimated that about 1000 species living in the Tam Giang - Cau Hai lagoon, among them 921 species have been named, of which phytoplankton has the highest in number of species – 287 species. Other groups include:

- Zooplankton: 37 species
- Benthophyte: 54 species
- Seaweed: 43 species

- Aquatic plants: 15 species
- Surface plants: 31 species
- Zoobenthos: 37 species
- Fish: 223 species, including 6 species recorded in the Red Book of Vietnam and one endemic species, *Cyprinus centralis*.

The main reason of high biodiversity on number of species in the lagoon is complex changes in environment. Particular, the changing in salinity between two seasons (dry and rainy season) that affected to genetic origin of biota. For example in rainy season, the freshwater grass *Valisneria spiralis* is dominated accompany with thriving of *Macrobranium* species, *Palaemonetes* species, *Corbicula* species. In contrast, in the dry season, brackish species are dominated such as squids *Loligo* sp, *Sepia* sp, shrimp *Penaeus* species, crab *Portunus* species, fish *Siganu*s species. The thriving of organism is regularly alternate between seasons and biota (fresh and saline water) that create a sustainable ecosystem and resource for the area.

With regards to avifauna, the lagoon system is considered as important area for birds. A list of 73 species of waterfowl has been identified; out of which 34 are migratory species. Among them, 21 species enlisted in the EU List of Strict Protection, such as *Ardae purpurea, Pandion haliaetus, Falco tinnunculus,* and one species *Limnodromus sesmipalmatus* is recorded in the Red Book of Vietnam as endangered species.

However, the results of a rapid biodiversity survey by BirdLife International and the Institute of Ecology and Biological Resources in 2002 suggest that Tam Giang - Cau Hai may be of lower importance for migratory waterbirds than certain sites in the coastal zone of the Red River Delta, due to the high levels of human disturbance and degraded habitats at the site. In June 2001, a single Lesser Adjutant *Leptoptilos javanicus* was captured in the finger lakes to the north of Tam Giang lagoon. This record was presumably of a wandering individual, as it is highly unlikely that the site regularly supports a significant population of this globally threatened species. Further survey work is required to elucidate the importance of the lagoon complex for waterbirds.

Although Tam Giang - Cau Hai does not have a high proportion of global significant species but this area is particular rich in wetland habitats and its associated species. The lagoon system harbours hundreds of animal and plant species. These resources create thousands ton of production which are main nutrient source for about 500 thousand people living in 5 districts around the lagoon.

Description of O Lau River Mouth wetland site

The wetland of O Lau river mouth is located in the North of Tam Giang - Cau Hai lagoon system. It is an intersection zone between freshwater of the rivers and brackish water of the lagoon, creating a distinct estuary ecosystem that is diversified and rich in plants and animal species. The area is also a spawning place for aquatic species and serves larger parts of the lagoon and is one of the stepping stones for migratory birds. Therefore, O Lau river mouth makes an important contribution to natural resources management and biodiversity conservation for the entire lagoon system.

In 2008, the Department of Natural Resources and Environment of Thua Thien Hue Province has proposed a O Lau Wetland Restoration Area which covers 1,700 ha. The core zone has an area of 400 ha, including 4 islands with an area of 75 ha and 325 ha of shallow open water.

Biodiversity value of o Lau River Mouth

Among 39 birds species were recorded in the survey 1997, many of them were migratory birds with thousands of individuals. Migratory species were also recorded with a great number, namely *Anas penelope, Anas qerquedula, Fulica atra, Tringa erythropus, Anser anse*. However, compared with the previous years, the number of birds has greatly reduced. *Anser anser, Fulica atra* have been rarely seen. At present, the common species are *Egretta grazett, Bubulcus ibis, Ardea cinerea*, purple heron, lesser whistling-duck and the number of their individuals are reduced to hundreds or even fewer.

Regarding fish diversity: species composition of the fishes in O Lau river is quite diverse. Surveys during 2008 – 2009 carried out by Hue University have revealed that there are 109 species belonging to 76 genus, 31 families and 11 orders, among which, the Cypriniformes is the one being the most plentiful with 47 species reaching (43.12%). Among 109 species in O Lau river, 16 species have high economic values and 5 valuable and rare species listed in the Red Data Book of Viet Nam (2007). All 5 species are brackish water or migratory species that are classified as level VU (Vulnarable), including: *Anguilla bicolor, Anguilla marmorata, Bagarius rutilus, Elopichthys bambusa and Megalops cyprinoides*.

Threats to Biodiversity in Tam Giang - Cau Hai Lagoon

There are a number of threats to the lagoon complex. These include natural processes of topographical change caused by sedimentation and erosion. For example, Nguyen Chu Hoi *et al.* (1998) cite the example of the Tu Hien inlets of Tam Giang lagoon, which were cut off from the sea by storms in December 1994. This led to a decline in salinity, the submergence of 1,000 ha of rice paddies and loss of production from 30 ha of shrimp ponds.

In addition to natural processes, the biodiversity of the lagoons is threatened by a range of human activities. The aquatic ecosystems are being polluted by pesticide run-off from agricultural and forest land, and by organic effluents from Hue city and other towns and villages in the surrounding area. An additional source of pollution is oil: a number of studies have shown that the lagoons are polluted by oil from boats and ships. Other threats from human activities include land reclamation for urban development, over-exploitation of aquatic resources, such as fish, shellfish, *Gracilaria* algae and seagrass beds, and destructive fishing practices. Finally, reservoir construction threatens to reduce nutrient inflows and alter hydrological regimes in the catchments of some rivers that drain into the lagoons. Deforestation threatens to make the rivers of this area more prone to sudden flooding, and may also increase turbidity and sedimentation.

ANNEX 6B:

THAI BINH PROVINCE

Geography

- Thai Binh is a coastal province locating in the Red River Delta in close proximity to the so called Triangle of Development consisting of Hanoi, Hai Phong, and Quang Ninh. The total geographical area of Thai Binh is 1,570 square kilometers, or 0.5 percent of the country area.

- The province comprises of 7 districts, namely Dong Hung, Hung Ha, Kien Xuong, Quynh Phu, Tien Hai, Thai Thuy, Vu Thu, and Thai Binh city. In total, there are 286 communes and urban wards.

- According to 2011 statistics, Thai Binh's population was estimated at 1,786,300, and of them 90 percent was rural. The average family size was 3.75 persons per household. Working aged population was large with 1,010,100 labours; 59.4 percent of the labour force were working in the agricultural sector; 25 percent were in manufacturing and construction; and 11 percent were in commerce and service. Regarding the quality of the labour force, less than one quarter (23.5%) were trained in vocational training, (13.5%), middle schools (5.5%), colleges and universities (4.5%).

Natural characteristics

- ***Land.*** With the natural land area of 1,570 square kilometers, agriculture land accounts for 107,610 ha, water surface - 10,177 ha. The soil in Thai Binh province is fertile because it is aggrandized alluvium by Thai Binh and Red river system. Most of land is improved to grow 3 – 4 seasons per year. The land area that can be grown winter crops is 40,000 ha. Beside to rice area, land is very suitable to food crop (such as potato, cucumber, salad, onion, groundnut, soybean and capsicum), short term industrial crop (jute, mulberry, rush), tropical food crops (orange, apple, guava, litchi, longan, banana) and bonsais, flowers.

Table 1: Land use in Thai Binh

CLASSIFICATION	TOTAL AREA (ha)	PERCENTAGE (%)
Agriculture (of which)	**107,610.11**	**100**
Annual crops	92,912.14	82.95
Perennial crops	5,645.04	5.25
Forestry land	1,405	1.31
Water surface for aquaculture	11,023.33	10.24
Produce salt	50.45	0.05
Others	219.18	0.20
Non-agriculture land	**47,699.85**	**100**
Specialized area	27,030.53	56.67

CLASSIFICATION	TOTAL AREA (ha)	PERCENTAGE (%)
Residential area	12,931.88	27.11
Others	6,737.44	14.12
Unused area, rivers, mountains etc.	1,693.93	100

Source: Thai Binh DSO, 2011

- ***Topography.*** Thai Binh is a delta province. The topography is fairly flat, slope less than 1%, changed from 1–2 m higher than sea water level and gradually slopes from northwesters to southeastern.

- ***Climate.*** Thai Binh province located in tropical monsoon, the decree on average of the year is 23–34oC (the lowest decree is 4oC and highest decree is 38^0C).

- ***River and canal.*** Thai Binh province is bounded by a closed river and sea system. Coastal sea's length is over 50 km. Four big river flow through this province; Hoa River in the northern and northeastern (35.5 km), Luoc River in the northern and north eastern (it is a small branch of the red river with 53 km length), Lower section of the red river in western and southern (67 km), Tra Ly river flow from western to eastern is the first branch of the red river with 65 km length. It also has 5 big rivermouths (Van Uc, Diem Dien, Ba Lat, Tra Ly, Lan). All of river is affected by tide. In the summer water level is rapidly increasing, big water flow, high alluvium content. In the winter, the water flow is reduced much, low alluvium and salt water deeply impacted on mainland from 15–20 km.

Map of Thai Binh

Socioeconomic context

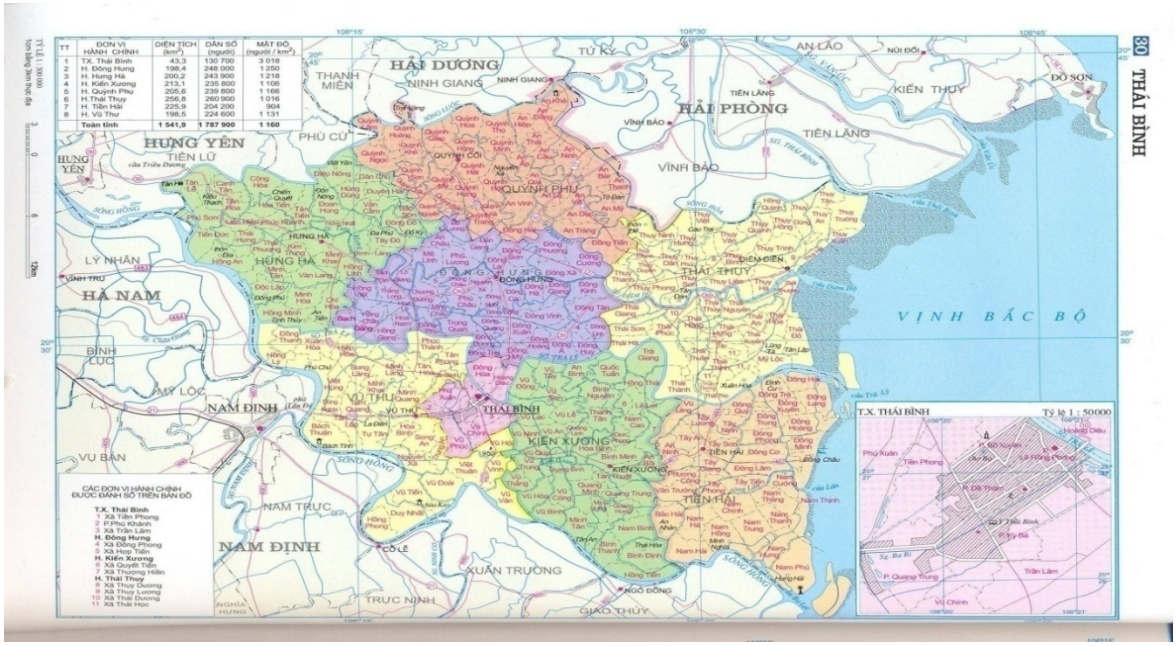
- In 2011, the total revenue of provincial budget was more than VND8,000 billion, total social investment capital was approximately VND 15 billion.

- The gross domestic products (GDP) of Thai Binh achieved 12,574 billion VND in 2011; its average growth rate was 10.12/year during the period 2006-2010. The GDP per capita was 22.09 million VND in 2011. The economic structure of the Province shifts to the direction of increasing percentage of industry and service, and decreasing that of agriculture-forestry-fisheries in GDP. In 2011 the contribution of industry and manufacturing sector to Provincial GDP was 31%, service and tourism was 31.76% and agriculture and fisheries was 37.625%. Despite the overall relative decrease of the agriculture-forestry-fisheries sector, it must be emphasized that within this sector, the fishery sector is showing explosive growth.

- Cultural-social situation and the local residents' living standards have been significantly improved; poverty rate reduced to 9.86%. The education system develops strongly both in terms of scale and quality: 66.4% of schools in the province meets the national standard. There are 03 universities, 03 colleges, 03 high schools and a big number of vocational centres.

THAI THUY COASTAL WETLANDS

- The conservation area of Thai Thuy covers the territory of 05 coastal communes Kim Thuy Truong, Thuy Xuan, Thuy Hai, Thai Thuong and Thai Do.



THAI THUY DISTRICT

Background information

- Thai Thuy is a rural district situated in Thai Binh Province's coastal zone, where there is diversification in natural conditions, natural resources and land use orientation due to the interactions between marine-mainland factor and human activities.

- The total area Thai Thuy district is 265.84 km2 (including tidal flat area); agricultural land accounts for 64%, and 87% of which (or 56% of the total area) is for paddy rice and other

vegetation. It means that agriculture, especially paddy and vegetation crops, is the major economic activity in the district. Thai Thuy has a 16 km stretch of coastline, bordered by the Thai Binh river to the north and the Tra Ly river to the south.

- Thai Thuy is biggest among 8 districts of Thai Binh by area and population, but smallest by population density. As of 31 December 2011, Thai Thuy has the total population of 247.670 people living in 48 town and communes, of which 5 are coastal communes. The population density is 932 persons/km².

- The gross output of Thai Thuy achieved 2,958 billion VND in 2011 with the growth rate of more than 10%. The GDP per capita was 22.09 million VND in 2011. In 2011 the contribution of industry and manufacturing sector to gross output of the district34.1%, service and tourism was 27.8%% and agriculture and fisheries was 38.1%. Despite the overall relative decrease of the agriculture-forestry-fisheries sector, it must be emphasized that within this sector, the fishery sector is showing explosive growth.

- There 5 costal communes in Thai Thuy namely Thuy Truong, Thuy Xuan, Thuy Hai, Thai Thuong and Thai Do with a total population of a little over 35,000 and a further nearly 10,000 people living in Diem Dien, the main township of Thai Thuy. Local livelihoods are centred on fishing, aquaculture and agriculture. Some households are also engaged in salt production, while a few wealthier households undertake clam farming on the beach. In Thuy Xuan and Thuy Hai communes, c. 70% undertake mainly fishing and aquaculture, while 20% are involved in salt production. In Thuy Truong near the Thai Binh river mount, on the other hand, communities are largely engaged in agriculture, primarily rice production, which is cropped twice a year. Aquaculture in Thuy Truong is carried out outside the main dyke in concrete-banked ponds each c. 5 ha in size and includes fish, crab and shrimp farming. Additionally, local residents undertake some clam farming along the Thai Thuy beach. There is also small-scale local trade that has developed in connection with local aquaculture and agriculture. Near the mouths of the Thai Binh and Tra Ly rivers are the largest remaining areas of old-growth mangrove in the Red River Delta, of which 700ha concentrates in Thuy Truong. To the south of the Thai Binh river mouth are extensive intertidal mudflats, formed by sediment deposition. Large areas of these mudflats have been afforested with mangrove. To the west of the Thai Binh river mouth is an area of saltpans. Finally, the area around the Tra Ly river mouth is dominated by aquacultural ponds. To the north, Thai Thuy borders Tien Lang wetland.

- Recently, shrimp hatching activities have been increasingly developing in the coastal zone due to an enormous economic benefit, and it contributes to considerably increase export turn-over of aquatic products in our country. Besides, shrimp hatching activities, in whole country in general, and in Thai Thuy coastal zone in the particular, have been causing negative impacts on soil and water environment. In Thai Thuy, the initial research show that the shrimp hatching activities mainly include 3 modes: advanced extensive aquaculture, semi-intensive aquaculture, and intensive aquaculture. The results of analysis of physico-chemical parameters in the soil samples indicated that the effected level of shrimp hatching activities on the environment depends on the intensive level of aquacultural activities. The highest pollution was found on the lagoon with intensive aquaculture mode, then on semi-intensive aquaculture and advanced extensive aquaculture.

- There is no big conflict on land use in Thai Thuy since the mangrove is outside the dike. This land is not regulated under the Land Law 2003. Local people can rent the surface water from communes' PC for aquaculture production on short term basis.

Potential Threats to Thai Thuy's Biodiversity and ecological integrity

- A major on-going threat to Thai Thuy's wetlands is the loss of habitat due to conversion to other forms of use, particularly new afforestation of intertidal mudflats with mangroves as a means of coastal defence, the creation of aquaculture ponds and, more recently, conversion to clam culture. Another key direct threat is overexploitation of fish, including use of destructive techniques such as electric fishing. Unregulated shellfish collection on mudflats is another source of disturbance. Hunting of birds using mistnets, airguns and shotguns was a major problem in the past and is thought to have led to the disappearance of some globally threatened species that were previously recorded here, including the Chinese Egret (Egretta eulophotes), Black-headed Ibis (Threskiornis melanocephalus) and Black-faced Spoonbill (Platalea minor). These activities are now strictly controlled and hunting of birds was not mentioned as a major problem by stakeholders consulted during project preparation. However, pollution remains a key threat. Pollution results mainly from agricultural run-off, inputs used for aquaculture and clam culture (e.g. medicines) and the outflow from two industrial processing units, which flow into the rivers that drain into the area. Additionally, there is some lopping of old-growth mangroves for wood by local communities.

- Indirect threats include provincial and sector plans to expand the area under mangroves and clam culture in Thai Thuy. There is also on-going interest to expand the area under aquaculture. Additionally, in 2011 The Prime Minister agreed on Thai Binh Province's proposal to create the Thai Binh Coastal Economic Zone and to include it into the Vietnam Coastal Economic Zones Master Plan toward 2020. This will cover 30,000 ha of Tien Hai and Thai Thuy districts. The province of Thai Binh is entrusted to closely collaborate with involved ministries to complete the project proposal and to submit it the Prime Minister for approval.

- The establishment of Thai Binh 2 Thermo Power Plant. The plant funded by the Vietnam Oil and Gas Group (PetroVietnam), covers an area of 43 hectares in My Loc commune, Thai Thuy district in Thai Binh province. The plant includes two turbines with a total capacity of 1,200-MW and has a total investment of more than US$1.6 billion. The construction of the plant began in February 2011 and it is scheduled to begin operating in 2015, generating around 6.7 billion kWh of electricity annually for the national grid. The plant is expected to put its first and second turbines into operation 39 months and 45 months following the signing of the contract. The EIA report was approved by MONRE.

Existing Conservation Initiatives in Community Area

There have been some projects regarding biodiversity conservation in Thai Binh in general and Thai Thuy in particular.

In 1986, the Danish Red Cross, supported by the Danish International Development Agency (DANIDA) began planting and protection of 2000 ha of Kandelia mangroves along almost 26 km of coastline (average depth of the buffer zone - 800 m) in front of sea-dykes protecting five communes in Thai Thuy District. In a second phase of the project (1997-2000), up to a further 6000 ha of mangrove are being planted in three neighbouring coastal districts in Thai Binh and in neighbouring Nam Dinh Province (Tien Hai, Giao Thuy and Nghia Hung districts).

From 30 August 2010, Thai Binh PC approved the action plan on biodiversity conservation until the year 2020. Projects related with wetland conservation is listed in the table below:

No	PROJECTS/ ACTIVITIES	TIME	ORGANIZATION IN CHARGE	ORGANIZATION INVOLVED	SOURCE OF FINANCE
2.2	Rehabilitation plan for WL in vulnerable area	2013-2015	DONRE	DARD	State budget
2.3	Forest plantation	2011-2020	DARD	DONRE, PC of Thai Thuy and Tien Hai	Government program
4.1	Establishment of biodiversity monitoring network in NP and important WL	2014-2016	MONRE		Development and Investment fund
4.2	Eco-tourism development plan	2011-2020	Department of Culture, Sport and Tourism	DONRE, PC of Thai Binh and districts	State budget
4.3	Developing the database for biodiversity in Thai Binh	2015-2020	DONRE	DARD and DOST	State budget
5.1	Human resource development plan on biodiversity	2011-2013	DIA	DONRE and DARD	State budget
5.2	Public awareness raising on biodiversity law and regulation	2012-2015	DONRE	DOJ, DARD	State budget

The biodiversity program at district level has been also approved.

Some other activities have been taken in the coastal zone of Thai Thuy

- Danish Red Cross and the Vietnamese Red Cross project on mangrove afforestation and protection of existing areas of mangrove (DARD)
- National Project on Forest afforestation (DARD)
- Project on marine conservation of Sida (DARD)
- Projects on sustainable livelihood intervention for coastal communities (DARD-DONRE)
- The WB project on forest afforestation (DARD)

Biodiversity importance of Thai Thuy coastal area

General description

Thai Thuy coastal area covers 13,696 ha (as identified in the proposal for establishment of Thai Thuy Nature Reserve by the Thai Thuy district PC and FIPI in 1996 - 1997).

The site includes 16 km of coastline bordered by the Thai Binh River to the north and the Tra Ly River to the south. Within the area, there is a Dien Ho river connecting to the sea. Main habitats

in Thai Thuy coastal area include intertidal mudflats with mangroves, sand beachse, Casuarina forest (44ha) and aquacultural ponds (175 ha).

Near the Tra Ly and Thai Binh rivermouths are the largest remaining natural areas of old-growth mangrove in the Red River Delta (300 ha), where *Sonneratia caseolaris* is dominated. The remaining mangroves are replanted with Kandelia candel species. Most coastal land in the district has been converted into aquacultural ponds, enclosing large areas of mangrove within them. The change of tidal regime has caused the destruction of vegetation inside the ponds and dieback of the mangrove. Other human impacts include felling of mangrove, and draining of ponds through water level control using sluice gates. A few small patches of sedge still exist inside aquacultural ponds. To the south of the Thai Binh rivermouth are extensive intertidal mudflats. Large areas have been afforested with mangrove (by a Danish Red Cross Project and National 661 Programme), with fish traps and shellfish farms outside the mangrove areas. West of this rivermouth is an area of saltpans. To the north, the site borders Tien Lang IBA (Nguyen Duc Tu and Le Trong Trai 2005).

Biodiversity values

A part from a variety in habitats, Thai Thuy is well known of its importance for avifauna. Thai Thuy is one of the most important wintering areas for migratory birds in the Red River Delta, with around 100 species recorded at the site during 2005/2006 including six globally threatened or Near-Threatened species. Notably these included a maximum of 288 Saunders's Gulls *Larus saundersi*, some 3.4% of the Asian biogeography (global) population,2 and four individuals of the increasingly rare Spoon-billed Sandpiper *Eurynorhynchus pygmeus*. The others were two species of duck; Baer's Pochard *Aythya baeri* and Ferruginous Pochard *A. nyroca*, and two raptors; Greater Spotted Eagle *Aquila clanga* and Imperial Eagle *A. heliaca*, although the site is not likely to hold significant populations of any of these. All except the last of these threatened species are newly reported from the site, but of concern is the fact that the small populations of Chinese Egret *Egretta eulophotes*, Black-headed Ibis *Threskiornis melanocephalus* and Black-faced Spoonbill *Platalea minor* have apparently dwindled and disappeared over the last decade (Tordoff (ed.) 2002). The site continues to remain important for many species of shorebirds, herons, gulls and passerines. Of particular note are 503 Great Egrets *Casmerodius albus* (2% of the Asian biogeography population) reported in January 2006, 520 Common Greenshanks *Tringa nebularia* (close to 550, 1% of the Asian biogeography population) in December 2005 and 253 Gull-billed Terns *Gelochelidon nilotica* (1% of the Asian biogeography population) in November 2005.

Particularly common species at the site include Black-tailed Godwit *Limosa limosa* (up to 349), Chinese Pond Heron *Ardeola bacchus* (up to 210), Black-crowned Night Heron *Nycticorax nycticorax* (up to 700), Little Egret *Egretta garzetta* (up to 2,500), Black-headed Gull *Larusridibundus* (up to 1,245), Kentish Plover *Charadrius alexandrinus* (up to 450) and White-shouldered Starling *Sturnus sinensis* (around 2,000 birds). The site is also one of few regular locations for Purple Heron *Ardea purpurea* in northern Vietnam and a record of 100 White-vented Mynas in January 2005 is notable (Doppagne pers. comm.).

Conservation status

In 1996, the site was proposed as a nature reserve by the Thai Binh Provincial People's Committee and MARD, and an investment plan was prepared by FIPI and Thai Thuy District People's Committee in 1997. This proposed the establishment of a 13,696 ha nature reserve,

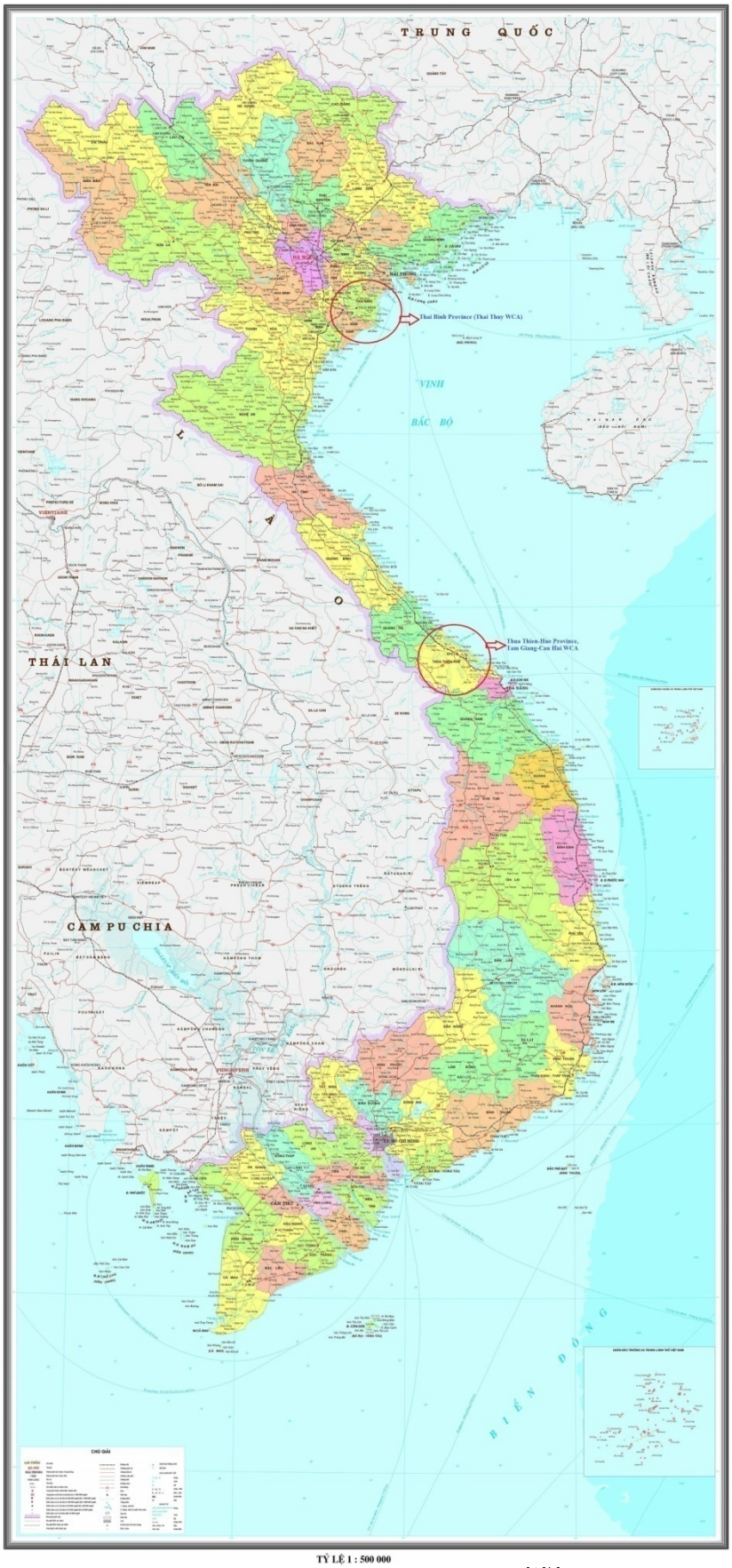
comprising a strict protection area of 4,463 ha, a forest rehabilitation area of 7,695 ha and an administration and services area of 1,538 ha. In 2004, the site was still on sources book of existing and proposed PAs in Vietnam, which was prepared by MARD and Birdlife International. However, the proposal has not yet been approved.

In 2002, due to its global importance in bird conservation, Thai Thuy has been identified as IBAs by the Birdlife International.

In 2004, the Red River delta Biosphere Reserved is approved by UNESCO, and Thai Thuy becomes a buffer zone of this Reserve. Yet, there is not much conservation projects and activities for this area since then.

Changes since 1996. Thai Thuy continues to be the most important site for the globally threatened Saunders's Gull *Larus saundersi* in Vietnam, with significant numbers of birds recorded annually, and an apparent increase over the last decade. The site has also maintained its importance for terns (in particular Gull-billed Tern *Gelochelidon nilotica*) and egrets, especially Great Egret *Casmerodius albus*. Four globally threatened species have been recorded for the first time since 1996: Spoon-billed Sandpiper *Eurynorhynchus pygmeus*, Baer's Pochard *Aythya baeri*, Ferruginous Pochard *A. nyroca* and Imperial Eagle *Aquila heliaca*, and the first of these is especially significant. On the downside, the small but regular numbers of Black-headed Ibis *Threskiornis melanocephalus* and Black-faced Spoonbill *Platalea minor* that used to occur have both apparently dwindled to zero since 1996.

Map of Vietnam and demonstration sites



TỶ LỆ 1 : 500 000

Annex 7: Proposed Management Framework for Tam Giang-Cau Hai and Thai Thuy Wetland Conservation Area

Two new Wetlands Conservation Area (WCA) established in this project will be designed in a way that most relevant to current legislation of biodiversity conservation and natural resource management in Vietnam, with respect to the particular situation in provinces while still corresponding to international standards for PAs and following other countries' experience in wetland conservation.

Below are general descriptions of proposed framework for 2 WCAs.

Suitable IUCN Protected Area category:

Category VI – Protected area with sustainable use of natural resources

Best relevant category under the Vietnam Law on Biodiversity:

Species/Habitat Conservation Area

Primary Management Objective:

- Primary objective is to protect natural ecosystems and use natural resources sustainably, when conservation and sustainable use can be mutually beneficial.

Other Objectives

- To promote sustainable use of natural resources, considering ecological, economic and social dimensions;
- To promote social and economic benefits to local communities where relevant;
- To facilitate inter-generational security for local communities' livelihoods – therefore ensuring that such livelihoods are sustainable;
- To integrate other cultural approaches, belief systems and world-views within a range of social and economic approaches to nature conservation;
- To contribute to developing and/or maintaining a more balanced relationship between humans and the rest of nature;
- To contribute to sustainable development at national, regional and local level (in the last case mainly to local communities depending on the protected natural resources);
- To facilitate scientific research and environmental monitoring, mainly related to the conservation and sustainable use of natural resources;
- To collaborate in the delivery of benefits to people, mostly local communities, living in or near to the designated conservation area;
- To facilitate recreation and appropriate small-scale tourism.

Key features of this category:

- Relatively large in areas, not only by its boundaries, but also by linking with other protected areas, biological corridors or ecological networks. This category is appropriate for large natural areas, such as complex wetland systems or coastal region.

- Sustainable use of natural resources as a means to achieve nature conservation, together and in synergy with protection.

- Though human involvement is a large factor in the management of these conservation areas, it is not designed to accommodate large-scale production. Industrial use is also not accepted.

- A proportion of the area is retained in a natural condition as a no-take management zone.

What makes IUCN's Category VI different from other common PA categories in Vietnam (National Park and Nature Reserve):

- Category VI does conserve biodiversity but sees sustainable use as a way of achieving the conservation of natural ecosystems. Thus, unlike Vietnam's Nature Reserves, it would not involve strict protection from human use and activities throughout the area. However, varying levels of protection would be applied depending on ecological status and conservation management objectives. Scientific research is mainly applied to ensure and enhance the sustainability of natural resource use and in order to understand how to minimise the risks to ecological sustainability.

- In category VI, tourism just plays as a part of local communities' socio-economic strategies (unlike in National Park category, where recreation and tourism play key role to local economy, particularly to local communities).

Management approaches applied in this PA category

- Landscape-scale and ecosystem approaches: which look at the wetland as a system – one in which there are connections between land, water, people and other living organisms.

- Integrated water resource management: is a coordinated, goal-directed process for controlling the development and use of river, lake, ocean, wetland, and other water assets. In practice, this approach is adopted where regulatory decisions such as water allocation and pollution licensing are implemented at the scale of the river basin or catchment. This has been accompanied by the emergence of institutional arrangements for water resources management that based on hydrological boundaries. Most of these institutions can be grouped as River Basin Organisations (RBOs)

- Multiple stakeholders involvement: this model requires involvement of all actors who impacted the system – the resource users and the polluters. It is required to takes into account the differing priorities of these actors, demanding careful institutional arrangements and approaches to innovative governance.

- Community-based resource management: local community, who live and use the resources play a key role in managing these conservation areas.

- Man and Biosphere Reserve approach: A biosphere reserve is a voluntary, cooperative, conservation reserve created to protect the biological and cultural diversity of a region while promoting sustainable economic development. Each biosphere reserve must contain three elements: ***core areas*** (as protected sites for conserving biological diversity and undertaking non-

destructive research and other low-impact uses); ***buffer zones*** (may be used for cooperative activities compatible with sound ecological practices, including environmental education, recreation, ecotourism and applied and basic research and ***transition, or cooperation zones*** (like towns, farms, fisheries, and other human activities and are the areas where local communities, management agencies, scientists, non-governmental organizations, cultural groups, economic interests, and other stakeholders work together to manage and sustainably develop the area's resources).

Principles for zonation of a wetland PA (according to Ramsar guidelines)

- Any zonation scheme should recognize the existing multiple uses of the PA and their surroundings, and ensure that management objectives for the core zone are designed primarily to maintain the ecological character of the wetland. Also management objectives for any form of surrounding buffer zone are consistent with this maintenance of the ecological character. Clear, separate but complementary and mutually supportive management objectives should be established for each zone.

- Another approach to zonation (that is not mutually exclusive to the 'core/buffer zonation' approach) is that of establishing zonation for a particular use of a site. An example could be the use and development of a wetland for ecotourism. Here zonation would be used to establish in which parts of a site ecotourism access can occur, where ecotourism infrastructure should be placed (e.g., the sensitive siting of a visitor centre), and from which parts of a site ecotourism should be excluded owing to the sensitivity of those parts of the ecosystem to disturbance. Such zonation schemes will generally cut across the core and buffer zones.

Applying the above described theory framework to the project demonstration sites:

Tam Giang – Cau Hai Wetland Conservation Area

Proposed areas: 21, 620 ha

Values:

- Tam Giang - Cau Hai lagoon is one of the rare representatives for a tropical coastal ecosystem with a complex and diversified habitat: river delta, shallow open water areas, water grassbeds, estuaries and inlets surrounded by sand dune barriers.
- This area is habitat for almost a thousand of species, including fish, migratory birds and other wildlife species.
- The lagoon system provides main nutrient source for about 500 thousand people living in 44 communes of 5 districts around the lagoon.

Threats:

- Natural processes of topographical change caused by sedimentation and erosion
- Intensive and extensive aquaculture
- Agro-chemicals from rice farming
- Unsustainable fishing practices

- Industrial and domestic pollution
- Loss of ecosystem connectivity (blocking fish migratory routes, alternating water quality and salinity).

Proposed Zonation: In principle, there are seven zones within Tam Giang – Cau Hai WCA in order to meet overall management objective. They could include the following:

- Core zone: main functions are habitat conservation and threat reduction. This area will serve as no-take area of the CA (no harvesting, hunting, extraction). Not permit construction and ecosystem modification. Core zones in Tam Giang-Cau Hai include (1) O Lau river mouth (400 ha) as important wintering area for migratory birds, (2) Con No – Con Dai (300 ha) in Phu Tan commune of Phu Vang district and Ba Con (230 ha) in Vinh Ha commune of Phu Loc district as important seagrass beds (3) and 10 Fishery Conservation Zones established since 2008 by the PPC/DARD.
- Restoration Zone: Main functions of this zone are habitat management and restoration as well as threat reduction. Permitted activities include research, non-motorised tourism, and seasonal fishery permit and very limited subsistence use. Not permit permanent infrastructure, economic exploitation of resources and natural ecosystem modification. This zone may include Ru Cha mangrove forest, 10 seagrass beds as proposed by Institute of Marine Environment and Resources and others (to be defined in consultation with Thua Thien Hue stakeholders)
- Sustainable Use Zone: Main functions of this zone are ecosystem/cultural/historical conservation and sustainable use of resources/ecosystem. This zone is where low-impact sustainable exploitation and use of resources are allowed, such as ecotourism, eco-village model, eco-friendly aquaculture, collection of seagrass and seaweed, community forestry or fisheries, non-polluted agriculture. This zone is not permitted activities of economic exploitation, environmentally damaging infrastructure and pollution. Areas around core zones will fall into this zone, including 1,300 ha around O Lau river mounth and areas round 10 Fishery Conservation Zones where community-based sustainable fish catch is applied.
- Transition zone/Corridors: areas where voluntary agreements between PPC/WCA Management Board and local community/user groups/private sector which help to protect the integrity of the wetland CA. This zone may not have a defined boundary but rather it includes the entire administrative unit of relevant landscape. This zone is most relevant to upstream part of the WCA (forest, urban development, infrastructure development project, dam/reservoir construction site, craft village and small-scale industrial production).

Management measures and livelihood options can be applied in Tam Giang – Cau Hai WCA

- Enforcement of current relevant regulations
- Traditional fishing methods in harmony with nature
- Customary law/traditional regulation
- Seasoning exploitation of fish/rotations in fishing
- Organic farming

- Pollution control at sources
- Ecotourism
- Community-lead control of bird hunting
- Community-based monitoring

Institutional arrangement for management of the WCA

A **Management Board** (MB) will be established for the Tam Giang – Cau Hai WCA. This MB is directly under DONRE with minimum 5 staffs at the start, including a Director (from DONRE – working on a part-time basic), a Vice-Director (from DARD/Fishery or Forestry Division – working on a part-time basic), 2 full-time technical staffs who preferably have expertise/knowledge in community-based/livelihood development and wetland/biodiversity management. There should be one full-time staff who is responsible for administration issues.

Since the Tam Giang – Cau Hai lagoon is very large and management approaches for this wetland PA are mainly landscape and integrated –based, it is recommended that a **Technical Advisor Committee for Tam Giang – Cau Hai WCA (Hội đồng tư vấn kỹ thuật KBT đất ngập nước Tam Giang – Cầu Hai)** to be established by Thua Thien Hue PPC. Its membership consists of leadership of the Management Board (play as Chairperson); representatives from relevant functional offices (DARD, DONRE) and experts in water resources, land use planning, biodiversity conservation, and sustainable livelihood development and pollution control.

This Committee shall meet regularly twice per year and may have on-call meeting if there is an urgent/special need for technical advice.

Roles of different stakeholders:

- PPC has authority to establish the WCA, assign relevant provincial agencies to manage the conservation area.
- DONRE is assigned by PPC, responsible for establishing WCA Management Board and in charge of coordinating tasks relating to the CA. Water resource use issues and control of pollution within and into the CA are also DONRE's responsibility.
- DARD is responsible for management of forest and fishery resources in the CA, such as giving permit for sustainable level of catch, catching season and sustainable degree of aquaculture
- Department of Culture, Sport and Tourism is responsible for eco-tourism development as additional livelihood for local community.
- Local groups like Women Union, Farmer Union, Fishery Association… will play key role in implementing sustainable development activities as well as community-based monitoring of biodiversity changes.

Thai Thuy Wetland Conservation Area

As part of a Red River Delta Biosphere Reserve, Thai Thuy Wetland Conservation Area can apply principles and approach of the UNESCO Man and Biosphere Reserve where conservation is integrated with sustainable use.

Proposed area: 13,696 ha

Values:

- Thai Thuy is one of the most important wintering areas for migratory birds in the Red River Delta, with around 100 species recorded at the site during 2005/2006 winter including six globally threatened or near-threatened species. Notably these include Saunders's Gulls *Larus saundersi*, Spoon-billed Sandpiper *Eurynorhynchus pygmeus,* Baer's Pochard *Aythya baeri*, Greater Spotted Eagle *Aquila clanga* and Imperial Eagle *A. heliaca.*

- The site continues to remain important for many species of shorebirds, herons, gulls and passerines.

- Dense well growth mangrove forest in Thuy Truong and Tay Do communes provide good protection against storms and typhoons arising more severe these days as a result of climate change.

Threats:

- Loss of habitat through afforestation of intertidal mudflats with mangrove
- Over use of mudflat area for aquaculture
- Use of destructive fishing gears
- Illegal bird hunting
- Potential hazard from pollution from agricultural run-off and oil leakage from fishing boats

Proposed zonation:

- Core zones: serves as a strict protection area within the conservation area. It includes (1) mature mangrove forests in Thuy Truong – Thuy Xuan Communes and in Con Den of Thai Do Commune; (2) all intertidal mudflats up to 2m deep at low tide along Thai Thuy coastline.

- Sustainable use zone: where development activities can be applied but in a sustainable manner, such as promoting diversified species in aquaculture and eco-tourism, introduction of alien species is not allowed. All clam farming ponds and other aquaculture area within the Thai Thuy WCA will fall into this zone.

Management measures and livelihood options can be applied in Thai Thuy WCA

- Enforcement of current relevant regulations
- Traditional fishing methods in harmony with nature
- Customary law/traditional regulation
- Seasoning exploitation of fish/rotations in fishing
- Organic and diversified farming/aquaculture
- Pollution control at sources
- Community-based Ecotourism
- Community-lead control of bird hunting

- Community-based monitoring

Institutional arrangement for management of the WCA

A **Management Board** (MB) will be established for the Thai Thuy WCA. This MB is directly under DONRE with minimum 5 staffs at the start, including a Director (from DONRE – working on a part-time basic), a Vice-Director (from DARD/Fishery or Forestry Division – working on a part-time basic), 2 full-time technical staffs who preferably have expertise/knowledge in community-based/livelihood development and wetland/biodiversity management. There should be one full-time staff who is responsible for administration issues.

Since the Thai Thuy WCA is within boundary of the Red River Delta Biosphere Reserve, it is recommended that representative of the Thai Thuy WCA (Director or Vice-Director) will be a member of interprovincial management/coordination committee of the RRDBR. Operation Plan and/or Management Plan of the Thai Thuy WCA should reflect general terms/directions of the overall RRDBR management regulation to ensure an unified conservation and management of the whole landscape.

Roles of different stakeholders:

- PPC has authority to establish the WCA, assign relevant provincial agencies to manage the conservation area.

- DONRE is assigned by PPC, responsible for establishing WCA Management Board and in charge of coordinating tasks relating to the CA. Water resource use issues and control of pollution within and into the CA are also DONRE's responsibility.

- DARD is responsible for management of forest and fishery resources in the CA, such as giving permit for sustainable level of catch, catching season and sustainable degree of aquaculture

- Department of Culture, Sport and Tourism is responsible for eco-tourism development as additional livelihood for local community.

- Local groups like Women Union, Farmer Union, Fishery Association will play key role in implementing sustainable development activities as well as community-based monitoring of biodiversity changes. Particularly, current two local community groups taking care of Thuy Truong and Thuy Xuan mangroves will be enhanced their capacity to play a pioneer role in monitoring of biodiversity changes.

Annex 8: METT And Mainstreaming Tracking Tools

[Refer to separate file]

Annex 9: UNDP Environmental And Social Screening

[Refer to separate file for UNDP Environmental and Social Screening checklist]

Annex 10: Terms Of Reference

National Project Director (NPD) (part-time, 30%)

The NPD is appointed by the Government of Vietnam. He/she will be accountable to both the Government and the UNDP. The main duties and responsibilities are:

- Ensures that the expected results of the project are of satisfactory substantive quality and that they contribute to the achievement of the intended outcome identified in the UN One Plan. This will be discharged through the (i) approval of project work plans, TORs, reports, (ii) follow-up on the implementation of recommendations made by regular project reviews and/or external evaluations, and (iii) conduct of internal reviews and evaluations as/if needed.
- Ensures that project resources, national as well as international, are effectively utilized for their intended purposes through the (i) verification of project budgets and payments, (ii) approval of budget revisions within the agency flexibility limit, (iii) follow-up on the implementation of recommendations made by external audits and (iv) conduct of internal audits as/if needed.
- Ensures that counterpart funds are made available by the Implementing Partner in sufficient quantities and in a timely manner to support project implementation.
- Ensures that project parties, particularly national parties (including the Implementing Partner) fully participate in project implementation, effectively collaborate in project activities and duly benefit from project results.
- Ensures that the results achieved and lessons learned by the project are properly documented, proactively disseminated to and duly shared with all project parties, particularly national parties.
- Selects, arranges for the appointment of and supervises the Project Manager (PM), in consultation with UNDP, to make sure that the PM and other national project staff are empowered to effectively perform their day-to-day project duties.
- Selects, arranges for the appointment of International Consultants, in consultation with UNDP, to make sure that international project personnel contribute expert inputs of the highest quality to the expected outputs of the project.
- Represents the Implementing Partner at major project reviews, evaluations, audits and other important events.
- Provide regular updates to the PSC.

Project Manager (PM) (full time)

Overall, **t**he PM will be responsible for the day-to-day running the project, including overall coordination, planning, management, implementation, monitoring & evaluation and reporting of all project activities:

1. Prepare and update project work plans (AWP and QWP), and submits these to the NPD and UNDP for clearance.
2. Ensure that all agreements with implementing agencies are prepared, negotiated and agreed upon.

3. Prepare TORs for key inputs (i.e. personnel, sub-contracts, training, and procurement) and submits these to the NPD and UNDP for clearance, and administers the mobilization of such inputs.
4. With respect to external project implementing agencies/ sub-contractors:
    a. ensuring that these agencies mobilize and deliver the inputs in accordance with their letters of agreement or contracts, and
    b. Providing overall supervision and/or coordination of their work to ensure the production of the expected outputs.
5. Assume direct responsibility for managing the project budget by ensuring that:
    a. project funds are made available when needed, and are disbursed properly,
    b. expenditures are in accordance with the project document and/or existing project work plan,
    c. required financial reports are prepared,
    d. financial operations are transparent and financial procedures/regulations for NEX projects are properly applied; and
6. Assume direct responsibility for managing the physical resources (e.g. office equipment, and furniture) provided to the project by UNDP.
7. Supervise the project staff and local or international short-term experts/consultants working for the project.
8. Prepare project progress reports of various types and the Final Project Report as scheduled, and organizes review meetings and evaluation missions in coordination with UNDP.
9. Report regularly to and keeps the NPD and UNDP PO up-to-date on project progress and problems.

Selection criteria

- University degree (preferably post-graduate degree) in environment management, natural resources management or related fields;
- Knowledge of Result-based management and at least 05 years of experience in project coordinator/management;

Project Accountant and Administration Assistant

This Project Accountant/Assistant Positions will be responsible for:

1. Prepare quarterly advance requests to get advance funds from UNDP in the format applicable.
2. Assist the PM and NPD in project budget monitoring and project budget revision.
3. Set up accounting system, including reporting forms and filling system for the project, in accordance with the project document and the NEX procedures;
4. Maintain petty cash transactions. This includes writing of receipts, preparation of payment request form, receipt and disbursement of cash and clearance of advances;
5. Prepare cheques and withdraw money from the bank;
6. Prepare project financial reports and submit to PM and NPD for clearance and furnish to UNDP as required;
7. Enter financial transactions into the computerised accounting system;
8. Reconcile all balance sheet accounts and keep a file of all completed reconciliation;

9. Check and ensure that all expenditures of projects are in accordance with NEX procedures. This includes ensuring receipts to be obtained for all payments;
10. Check budget lines to ensure that all transactions are booked to the correct budget lines;
11. Follow up bank transfers. This includes preparing the bank transfer requests, submitting them to the bank and keeping track of the transfers;
12. Ensure Petty Cash to be reviewed and updated ensuring that there is up-to-date records;
13. To continuously improve system & procedures to enhance internal controls to satisfy audit requirements.
14. Prepare monthly bank reconciliation statement, including computation of interests gained to be included into reports.
15. Maintain the inventory file to support purchases of all equipment/assets.
16. Undertake other relevant matters assigned by the NPD.

Selection criteria

- University degree in accounting, finance or related fields;
- Solid experience of budgeting, planning and reporting on foreign funded project.
- Knowledge in administrative and accounting procedures of the Government
- Good computer skills in common word processing (MS Word), spreadsheet (MS Excel), and accounting software.
- Appropriate English language skills, both spoken and written.

Project Assistant:

As a Project Assistant, he/she will be responsible for:

1. Assist in preparation of project work plans and reports;
2. Keep track of all the in–out documents and processing data within the Project; be responsible in filing documents and maintaining office equipment in accordance with the project document and the NEX procedures;
3. Undertake preparation for project events, including workshops, meetings (monthly, quarterly and annual), study tours, trainings, etc. This also includes preparation of background materials for use in discussions and briefing sessions on the Project's matter;
4. Assist in providing logistical arrangements. This includes providing assistance for visa, transportations, hotel bookings for projects staff, consultants and invited guests coming for the Project's activities;
5. Arrange meetings, mission schedules, transportation, receive and guide visitors, provide them with necessary logistical and administrative support;
6. Contact Government officials and donor/UNDP agencies on the Project and administrative matters and convey messages and documents for review and approval;
7. Assist with the Project's communication activities as required.
8. Responsible for preparation work and procurement of office equipment, stationeries and support facilities as required;
9. Regularly update the contacts of the Project's partners, Government officials and donor/UNDP agencies working in biodiversity conservation/wetland management;
10. Undertake other appropriate tasks as assigned by the PD.

Selection criteria

- University degree; Accounting, Finance, Administration or related fields is priority;
- Minimum 5 years' experience in administration
- Strong organizational skills and understanding of administrative procedures;
- Experience in management; been leader will be priority;
- Demonstrated ability to work in a multicultural environment, and establish harmonious and effective working relationships, both within and outside the organization.
- Advanced computer skills (Word; Excel; Outlook Express; PowerPoint; etc.);
- Fluently Vietnamese, Good English skill (been interpreter will be priority)
- Knowledge of UNDP project's procedures would be an asset;

OVERVIEW OF INPUTS FROM TECHNICAL ASSISTANCE CONSULTANTS

CONSULTANT	RATE $/ PERSON WEEK	PERSON WEEK	TASKS AND INPUT
For Project Management/Monitoring and Evaluation			
Project Manager	300	180	*The primary task of the **Project Manager** is to plan, organize and implement the project under the direction of the NPD. He/she will be responsible for in management of input mobilization and day-to-day project operations including timely resolution of issues, problems or bottlenecks. He/she will report to the Project Director Board. He/she will manage the technical and administrative staff of the Vietnam Project team established by the ISPONRE/BCA.* *The following tasks:* • Prepare and update project work plans (AWP and QWP), and submits these to the NPD and UNDP for clearance. • Ensure that all agreements with implementing agencies are prepared, negotiated and agreed upon. • Prepare TORs for key inputs (i.e. personnel, sub-contracts, training, and procurement) and submits these to the NPD and UNDP for clearance, and administers the mobilization of such inputs. • With respect to external project implementing agencies/ sub-contractors: o ensuring that these agencies mobilize and deliver the inputs in accordance with their letters of agreement or contracts, and o Providing overall supervision and/or coordination of their work to ensure the production of the expected outputs. • Assume direct responsibility for managing the project budget by ensuring that: o project funds are made available when needed, and are disbursed properly, o expenditures are in accordance with the project document and/or existing project work plan, o required financial reports are prepared, o financial operations are transparent and financial procedures/regulations for NEX projects are properly applied; and • Assume direct responsibility for managing the physical resources (e.g. office equipment, and furniture) provided to the project by UNDP. • Supervise the project staff and local or international short-term experts/consultants working for the project. • Prepare project progress reports of various types and the Final Project Report as scheduled, and organizes review meetings and evaluation missions in coordination with

			UNDP. • Report regularly to and keeps the NPD and UNDP PO up-to-date on project progress and problems.
Project Accountant/Assistant	163	180	Project Accountant: • Prepare quarterly advance requests to get advance funds from UNDP in the format applicable. • Assist the PM and NPD in project budget monitoring and project budget revision. • Set up accounting system, including reporting forms and filling system for the project, in accordance with the project document and the NEX procedures; • Maintain petty cash transactions. This includes writing of receipts, preparation of payment request form, receipt and disbursement of cash and clearance of advances; • Prepare cheques and withdraw money from the bank; • Prepare project financial reports and submit to PM and NPD for clearance and furnish to UNDP as required; • Enter financial transactions into the computerised accounting system; • Reconcile all balance sheet accounts and keep a file of all completed reconciliation; • Check and ensure that all expenditures of projects are in accordance with NEX procedures. This includes ensuring receipts to be obtained for all payments; • Check budget lines to ensure that all transactions are booked to the correct budget lines; • Follow up bank transfers. This includes preparing the bank transfer requests, submitting them to the bank and keeping track of the transfers; • Ensure Petty Cash to be reviewed and updated ensuring that there is up-to-date records; • To continuously improve system & procedures to enhance internal controls to satisfy audit requirements. • Prepare monthly bank reconciliation statement, including computation of interests gained to be included into reports. • Maintain the inventory file to support purchases of all equipment/assets. • Undertake other relevant matters assigned by the NPD. Project Assistant • Assist in preparation of project work plans and reports; • Keep track of all the in–out documents and processing data within the Project; be responsible in filing documents and maintaining office equipment in accordance with the project document and the NEX procedures; • Undertake preparation for project events, including workshops, meetings (monthly, quarterly and annual), study tours, trainings, etc. This also includes preparation of background materials for use in discussions and briefing sessions on the Project's matter; • Assist in providing logistical arrangements. This

			includes providing assistance for visa, transportations, hotel bookings for projects staff, consultants and invited guests coming for the Project's activities; • Arrange meetings, mission schedules, transportation, receive and guide visitors, provide them with necessary logistical and administrative support; • Contact Government officials and donor/UNDP agencies on the Project and administrative matters and convey messages and documents for review and approval; • Assist with the Project's communication activities as required. • Responsible for preparation work and procurement of office equipment, stationeries and support facilities as required; • Regularly update the contacts of the Project's partners, Government officials and donor/UNDP agencies working in biodiversity conservation/wetland management; • Undertake other appropriate tasks as assigned by the PD.
For Technical Assistance			
Outcome 1			
International/regional contracting			
International wetland policy expert	2750	6	Working closely with the Project Director and Project Manager and national consultants the International expert will provide technical support for outputs 1.1, which supporting MONRE to lead the establishment and institutionalization of wetland protected areas management functions (planning, patrolling and enforcement, monitoring, community relations and conflict management) and sustainable financing of wetlands PAs at local and national levels. Tasks include: - Advise the MONRE in key strategic and policy issues related to biodiversity conservation strategy and wetland protected area planning -strengthen the legal and planning framework for wetlands conservation; up-to-date wetlands inventory; a new decree on the conservation and sustainable use of wetlands -support to revise, update and consolidate existing inventories of wetlands in Viet Nam using the agreed national wetlands classification system to consolidate information on the most those wetlands of greatest global significance -support to develop new five-year National Wetlands Action Plan.
International wetland management expert	2750	24	Working closely with the Project Director and Project Manager and the National consultants, the international expert will provide part-time but continuous technical support for outputs under

			Outcomes 1.4-5 for the duration of the project period. Tasks are including: - Provide capacity building support to MONRE and two provinces staff on wetland management; - Bring in international experiences to ensure that the project will operate making full use of global experiences, good practices and lessons learned in sustainable wetland management; - Be responsible for ensuring a sound conservation basis for project intervention and intended biodiversity conservation outcomes of the project; Provide advice on capacity assessment and capacity building programme for staff at central and provincial, and for the demonstration sites managers. - Advise the provinces regarding the development of a business management plan for the wetland conservation area, wetland protected areas subsystem and sustainable wetland management - Provide technical advice and support for sustainable financing for the wetland conservation area system including development of a demonstration in Tam Giang-Cau Hai and Thai Thuy Provide technical support for establishment and management of the wetland conservation areas.
Evaluation experts for mid-term (1) and final (1) evaluation.	2750	16	The standard UNDP/GEF project evaluation TOR will be used. This will include: leading the mid-term and the final evaluations; working with the local evaluation consultant in order to assess the project progress, achievement of results and impacts; developing the draft evaluation report and discussing it with the project team, government and UNDP; and as necessary, participating in discussions to extract lessons for UNDP and GEF.
National contracting			
National consultants on wetland policy, wetland system, ecological economics	1000	40	-Working closely with the Project Director and Project Manager and international consultant to provide technical support for outputs 1.1, 1.2, 1.3,1.4 and 1.5, which supporting MONRE to lead the establishment and institutionalization of wetland protected areas management functions (planning, patrolling and enforcement, monitoring, community relations and conflict management) and sustainable financing of wetlands PAs at local and national levels. Tasks include: - Review key strategic and policy issues related to biodiversity conservation strategy and wetland protected area planning, including international policies and legal document -Carry out and/or supervise specific policy studies as requested by the NPD. -Research policy gaps, barriers and incentives frameworks in the extractive another high biodiversity impacts sectors. - Strengthen the legal and planning framework for wetlands conservation; up-to-date wetlands inventory, especially for the two demonstration sites of Thua Thien Hue and Thai Binh provinces; a new decree on the conservation and

			sustainable use of wetlands -Support to revise, update and consolidate existing inventories of wetlands in Viet Nam using the agreed national wetlands classification system to consolidate information on the most those wetlands of greatest global significance -Support to develop new five-year National Wetlands Action Plan
National consultants on social economic development and institutional development	1000	67	- Liaise with wetland conservation areas managers, sectoral agencies and technical specialists to apply sector specific standards and safeguards to the wetland conservation sites in order to reduce threats -Support communities, including women union, youth union to participate in the wetlands conservation - Advise MONRE and Provinces in establishment of the new wetland conservation areas. - Carry out feasibility studies and develop plan for wetland conservation, focusing on sustainable wetland management. - Support the establishment of the new wetland conservation areas, support working group on wetland management.
National Consultants on wetland management	1000	140	-National consultants provide support for MONRE, Provinces, and local authorities and the Wetland Conservation Areas management. -Oversee the development of professional competence for the management of wetland conservation - Ensure that biomonitoring results are used effectively for project M&E and results based management -Liaise with MONRE, PPC and other agencies to ensure that management plan development processes and formats are consistent with wetland conservation areas system - Liaise with MONRE and Provinces regarding detailed requirements for the establishment of the wetland conservation areas, including the pilot/interim management groups for the wetland areas. - Liaise with Government agencies and other stakeholders regarding detailed requirements for designation of the new Wetland Conservation Areas in Tam Giang- Cau Hai and in Thai Thuy. -Oversee the production of communications products on wetland management and implementation of the social marketing campaign, targeting appropriate audiences across a range of sectors - Provide inputs to the communication plan, including written materials on the new wetland conservation system -Directly work with provinces, local authorities and communities for the wetland management at demonstration sites. - Laise with contracting services and provinces in carrying out activities contributing to outputs 1.4 and 1.5., including technical guidance on the design of a participatory process for the development of site management plans in line with international best practice - Provide technical guidance and assistance during the preparation of demonstration site management

			- Ensure that monitoring is integrated into the management plans, including the biomonitoring and other monitoring related to the project's M&E requirements at site level -Provide technical review of the final model site management plans to ensure consistency with international standards.
National Consultants on GIS and landscape management/landuse management	1000	44	-GIS consultants provide support for database of wetland conservation areas, mapping and land use plan for the wetland conservation areas - survey and mapping and land-use planning and the geo-referencing of key biodiversity information relating to wetland areas; - supporting planning for the conservation areas with buffer zones. - suggest in planning for landscape/seascape management, including land use planning for the areas; zoning of wetland conservation areas.
Evaluation experts for mid-term (1) and final (1) evaluation	1000	16	The standard UNDP/GEF project evaluation TOR will be used. This will include: supporting the mid-term and the final evaluations; assisting the international evaluation consultant in order to assess the project progress, achievement of results and impacts; supporting the drafting of the evaluation report and discussing it with the project team, government and UNDP; and as necessary, participating in discussions to extract lessons for UNDP and GEF.
Outcome 2			
International/regional contracting			
International wetland management/ environmental economic expert	2750	22.5	Working closely with Project Manager and national consultants, and the Provinces, the International expert will provide technical support for outputs 2, which supporting Provinces in establishment of a new wetland protected area; - Provide ecosystem/wetland valuation for the two sites; identify risks and threat in wetland management. Tasks include: - Wetland ecosystem evaluation for the two wetland protected area planning - Provide inputs to the feasibility studies, Business and Management plan for the wetland conservation areas - Support to design activities for communities for livelihood enhancement and reduce threat for the wetlands - Support for communication, reporting and experience/lesson learned
National contracting			
National consultants on knowledge management, communications, and coordination of the ecosystem valuation	1000	25	-To assist and support the International Consultant in the task of undertaking a systematic assessment and valuation of the ecosystem services generated by TGCH and TT wetlands and the threats these currently face in order to demonstrate their economic importance and the

			consequences of their degradation and loss - Develop and implement a communication strategy in order to disseminate important wetlands-related information via different media to target audiences (e.g. provincial and district planners and decision-makers; private sectors; industries; key associations of local communities) at site, landscape and national levels. - Identify key landscape-level, ecological components and functions that are critical to maintaining ecological integrity and ecosystem services provided by TGCH and TT wetlands. - Develop and implement a public awareness campaign in coordination with MONRE, and the two provincial governments where the project is working to target both national and provincial audiences.
National consultants on land use planning, environmental management	500	40	- Provide guidance and technical assistance for capacity building for local communities on wetland management helping local authorities with changing in land use planning. - Planning for local communities to mitigate environmental risks, reduce pollution, adapt to climate change. - Directly involved in participatory planning and implementing activities on integrating wetland management into socio-economic development of the areas. - Facilitate the partnership with local authorities, central level and communities
National Consultants on extension services (agriculture, fisheries, rural development)	500	50	-Support provinces in training, awareness raising and know-how on sustainable agriculture, fisheries and rural development - Coordinate with DARD and extension services to integrating the project activities as well as to coordinate with other interventions, including the government programmes and other partners' programmes at local communities. -Hand over experience for the local communities - Oversee capacity building, demonstration activities at communities - Facilitate operation of wetland working group at wetland conservation areas - Promote gender equality in all activities at local level.
National Consultants for coordination and management at WCAs (budget from UNDP funding)	1000	150	Working closely with the Project Director and Project Manager and UNDP CO to provide technical support for outputs which supporting provinces in the establishment and institutionalization of wetland protected areas management functions and sustainable financing of wetlands PAs at local and national levels. Tasks include: - Review the plan and implementation activities at two demonstration sites -Carry out and/or supervise specific policy studies as requested by the NPD and UNDP. - up-to-date wetlands inventory, especially for the two

			demonstration sites of Thua Thien Hue and Thai Binh provinces; a new decree on the conservation and sustainable use of wetlands.

Annex 11: Co-Financing Letters

[Refer to separate file for letters of co-financing commitment]

Annex 12: LOA

[Refer to separate file]