



**United Nations Development Programme**  
**Country: Thailand**  
**PROJECT DOCUMENT<sup>1</sup>**

**Project Title:** Conserving Habitats for Globally Important Flora and Fauna in Production Landscapes

**UNDP Strategic Plan:** Inclusive Growth and Sustainable Development

**Expected CP Outcome(s):** Thailand is better prepared to coherently address climate change and environmental security issues through the enhancement of national capacity and policy readiness.

**Expected CP Output(s):**

- (1) Enabling framework and capacity to manage Endangered Species (ES) in productive landscapes strengthened
- (2) Critical Habitat management demonstrated for three Endangered Species

**Implementing Partners:**

Office of Natural Resources and Environmental Policy and Planning (ONEP)

**Responsible Party:** Zoological Park Organisation (ZPO)

**Brief Description**

The aim of the project is to mainstream the conservation of globally important and endangered biodiversity into the management of production landscapes through improved management of critical habitats. At the national level, it will develop a legislative, regulatory and enforcement framework to guide endangered species (ES) and critical habitat conservation and management. This will be supported by capacity building within key ministries and agencies to enhance cross sector coordination in critical habitat management, and to effectively monitor critical habitats and ES to better inform decision makers.

These approaches will be piloted for three species namely the Eastern Sarus Crane (*Grus antigone sharpii*), the Spoon-billed Sandpiper (*Eurynorhynchus pygmeus*) and the Water Lily (*Crinum thaianum*) in three distinct geographical locations. Within each location the project will also build the capacity of local authorities, communities, private sector groups, and NGOs to develop environmentally friendly goods and services, which can provide a sound economic basis for ongoing critical habitat management and economic development.

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<sup>1</sup> For UNDP supported GEF funded projects as this includes GEF-specific requirements

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Agreed by (Office of Natural Resources and Environmental Policy and Planning):



Ms. Raweewan BHURIDEJ, Ph.D, Secretary-General

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Agreed by (UNDP):



Mr. Luc STEVENS, UN Resident Coordinator and UNDP Resident Representative

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## ACRONYMS AND ABBREVIATIONS

BCST	Bird Conservation Society of Thailand
BEDO	Biodiversity Based Economy Development Office
DMCR	Department of Marine and Coastal Resources
DNP	Department of National Parks, Wildlife and Plants Conservation
DTCP	Department of Town and Country Planning
EIA	Environmental Impact Assessments
ES	Endangered Species
ESC	Eastern Sarus Crane
IEE	Initial Environmental Enquiry
IUCN	International Union for the Conservation of Nature
KKCC	Khok Kham Conservation Club
KPI	Key Performance Indicators
LDD	Land Development Department
MFF	Mangroves for the Future
MoAC	Ministry of Agriculture and Cooperatives
MoI	Ministry of Interior
MoInd	Ministry of Industry
MONRE	Ministry of Natural Resource and the Environment
MOTS	Ministry of Tourism and Sport
N-ACT	North Andaman Community Tourism Network
NEB	National Environment Board
NEF	National Environment Fund
NEQA	National Environmental Quality Act
ONEP	Office of Natural Resources and Environmental Policy and Planning
PA	Protected Areas
PAO	Provincial Administrative Organization
PIO	Provincial Irrigation Office
PONRE	Provincial Office of Natural Resources and the Environment
RFD	Royal Forestry Department
RID	Royal Irrigation Department
SBS	Spoon-billed Sandpiper
SEIA	Strategic Environmental Impact Assessments
TAO	Tambon Administrative Office
ZPO	Zoological Parks Organisation

# 1 SITUATION ANALYSIS

## 1.1 Introduction

### Overall socio-economic context

Thailand's geographical location is the meeting point of several major forest complexes and watersheds, with a number of major rivers, which stream down to the Gulf of Thailand. The country has a long history of being a trading hub, with excellent agricultural land, fisheries and forest resources.

The country began a period of rapid development during the 1960s with increases in agricultural production driven by an expansion of land under cultivation as well as investments in infrastructure to facilitate access to markets<sup>2</sup>. The 1<sup>st</sup> national development plan in 1960 was focused on rapid infrastructure development, industrialization and mono cropping for export. As the country continued to industrialize growth in the agriculture sector has been sustained through increasing productivity within agricultural areas supported by increased mechanization and use of chemical pesticides, herbicides, fertilizers and improved seed stocks. This increased productivity has been responsible for significant reductions in rural poverty while industrialization helped to sustain rapid economic growth. The period, however, has also been associated with considerable environmental decline with significant forest clearance and wetland draining for agriculture, unmanaged application of chemicals to land and high levels of pollution from newly created factories.

The 8<sup>th</sup> National Economic and Social Development Plan (NESDP) (1997-2001) recognized the important role that this period of rapid development has played in forming Thailand today but also the negative impacts that unsustainable development was having on the environment and Thai society more broadly. With these challenges in mind the plan launched the concept of “people-centred development” where by economic policies were considered tools to strengthen the quality of life, and the idea of progress shifted toward a holistic approach that aimed to incorporate economic, social and environmental dimensions<sup>3</sup>. The plan however also coincided with an economic crisis, which hit Thailand’s rapidly expanding industrial and financial sectors and reduced the capacity of government to fully implement the new approach, despite it becoming even more relevant.

The Ninth Plan further shifted the narrative from one of pure economic growth with the formal adoption of the “Sufficiency Economy” as the guiding philosophy for the country’s development. This stressed the balance between issues of social, economic, natural resource and environmental development, with a central goal of an improved quality of life for Thai people. The Plan was also designed to support Thailand’s recovery from the crisis and secure long-term sustainable and high quality development for the country. The planning process was shifted from “for the people, by the government” to “people’s participation” in setting the direction of progress<sup>4</sup>. Over this period a shift in central policies towards a more environmentally conscious development pathway also occurred. A logging moratorium was introduced and there was a growth in environmental policies and legislation.

A process of decentralization also occurred during this period both economically and administratively, with the roles of the Provincial Governor being strengthened. Community-based organizations (CBOs) were promoted and formed to strengthen action on a wide range of issues from housewife groups, to more complicated models of cooperatives for development of agricultural products. As a recovery mechanism, the government introduced the One Tambon One Product (OTOP) policy, which aimed at boosting local native economies and integrating local identity with the optimum use of natural resources and the sufficiency economy philosophy.

The Tenth Plan reiterated the vision of the Sufficiency Economy although, building on an analysis of the country’s endowment for development its economic, social, and natural resource capital conducted during its

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2 Leturque, H. and Wiggins, S. (2010) Thailand’s progress in agriculture: Transition and sustained productivity growth ODI Development Progress Series. Available at <http://www.odi.org/publications/5108-thailand-agriculture-growth-development-progress>

3 GoT 11th National Economic and Social Development Plan (2012-16)

4 Ibid

development, it placed more emphasis on social harmony and sustainable co-existence between Thai society and natural resources and the environment.

### **Recent Developments**

As Thailand moved into its 11<sup>th</sup> NESDP, the country has continued to evolve economically and socially and faces both internal and external challenges. Thailand's production sector is facing increasing competition within the international market place. With depleting natural resources and increasing labour wages, mono-cropping and manufacturing for export are destined to become less popular as ASEAN economic integration progresses. Environmentally, Thailand has also been hit by a combination of high levels of local pollution that have been highly publicized at the national level and a number of natural disasters which have highlighted limitations within Thailand's existing environmental management approaches. In the case of water management, in particular, these concerns have been combined with concerns over climate change to gain significant attraction within the agricultural and industrial sector.

The current national development plan has sought to address some of these issues and has introduced the "creative economy" as guidance to add value to raw materials with less-resources in the supply chains. This includes an integration of cultural heritage and the "greening" of product life cycles. This combined with active civil society campaigns on environment have started a movement within the Thai public towards increased awareness of optimum consumption and environmental-friendly practices, which will help sustain the resource base for the next generation. These conditions have led to environmental conscious production shifting from environmental activism to private businesses with a significant increase in corporate social responsibility (CSR) amongst large-scale producers in particular. Many of these groups have initiated efforts through philanthropy, launching campaigns for iconic species such as the elephant, tiger, and dugong. These campaigns not only focus on conservation of endangered species<sup>5</sup> (ES) themselves but also increasing the public awareness on their vulnerable habitats. CSR campaigns have also engaged more companies in establishing "green practices" in their production process to reduce environmental damage and improve their brand image.

Several carbon off-setting and trading projects have also been developed targeted at the clean development mechanism and the country is investigating ways to reduce its greenhouse gas emissions and develop a green economy. Payment for Ecosystem Services (PES) mechanisms are also at a trial stage in Thailand (see Section 1.6: Stakeholders Analysis for examples of companies engaging in PES trials). PES mechanisms are well-recognized by a number of key stakeholder groups as a modality by which the business sector can prove the viability of its CSR work, while also providing long term financing for environmental protection. The idea has been adopted by the leading agencies under MONRE, namely the Department of National Parks Wildlife and Plants Conservation (DNP), the Biodiversity-based Economic Development Organization (BEDO), and planning agency i.e. the Office of Natural Resource and Environment Policy and Planning (ONEP). Instead of issuing direct legislation in these areas and making approaches compulsory, current approaches are focused on voluntary matching between the buyers who are willing to pay (as gratitude to nature), and service providers who guarantee environmental safeguard.

Interest in the development of environmentally friendly products and services have also led to the expansion of certification schemes for agricultural and industrial products with both international and domestic standards being utilised. Within the agricultural sector organic products have seen a significant increase with market value growing from US\$ 0.8million in 1996 to over US\$ 65million in 2011. Within this, organic rice for both domestic and export markets has seen a significant increase, with exporters looking to international standards to help maintain international market access as well as price premiums. Domestically government standards for organic produce have been developed by the Ministry of Agriculture and Commerce (MOAC), the Office of Standard Organic Agriculture certify organic products, as private sector stamp and a Bio Certificate has been developed by the Biodiversity based Economy Development Office (BEDO) within the MONRE.

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<sup>5</sup> A species is considered endangered if it is in danger of extinction throughout, or within a significant portion of its range in Thailand. A species is considered threatened if it is likely to become endangered in the foreseeable future.

## Tourism in Environmental Protection and Degradation

Thailand's magnificent coastal and marine areas, tropical and subtropical mountain ranges, and unique and diverse cultures have long provided a draw for tourists and it is a sector that has grown substantially over the past two decades. The sector is now a major employer and revenue provider with more than 10 percent of the workforce currently employed directly or indirectly in the tourism sector which also contributed 6.5% of Thailand's GDP in 2012. Mass tourism has, however, also been a driver of environmental degradation causing the clearance of coastal mangrove forests as well as other environmental challenges. The clearance of mangrove areas, pollution of near-shore marine environments, and destruction of coral reefs by the industry as well as other sectors threaten the very environments that tourists come to see as well as endangering the nation's important fisheries. Mass tourism while bringing significant economic benefits to the country has, in many areas also failed to fully address the challenges of local communities leaving them excluded from the economic gains. This has resulted in rising pressures on natural resources as communities attempt to maintain and strengthen their livelihoods while in direct conflict with large tourism enterprises.

In response to this, and international and domestic demand, there has been a rise in community-based eco- or 'creative'<sup>6</sup> tourism as a niche-market. The promotion of OTOP (One Tambon One Product) has also supported this providing an opportunity for locations to market not only natural beauty or cultural heritage but also specific economic and often 'traditional' commodities that are unique to that area. Examples of such approaches include home-stays for the "unseen sights" mostly managed by the communities, to undertake activities such as squid fishing with local fishermen, learning about sustainable fishing and local food production. Such eco or 'creative' tourism activities have been able to deliver significant social and environmental gains within some key areas of Thailand with finance from eco-tourism most often benefiting women within a household and being used to support local conservation initiatives. The concept of eco-tourism has, however, also been vulnerable to miss use within the country and the Tourism Authority of Thailand (TAT) are making efforts to increase standards across tourism providers while also promoting further 'greening' of tourism activities and further growth within the sector. One of the key initiatives within this is the "7 greens" which provide criteria for tourists to undertake green activities<sup>7</sup>. The Authority also provide awards to the best green operators on an annual basis.

## 1.2 Thailand's Biodiversity and its Global Significance

Thailand is situated at the centre of the Indochinese Peninsula. The country's borders extend from the Indian Ocean on the western peninsular coast to Myanmar in the north, Laos to the northwest across the Mekong River, Cambodia to the southeast, and Malaysia to the south. With a total area of 513,120 km<sup>2</sup> (510,890 km<sup>2</sup> land and 2,230 km<sup>2</sup> water), it also straddles two major bio geographical regions, the Indochinese region in the North and the Sundae region in the South.

The country can be further sub-divided into six bio-geographical units with unique floral and faunal associations, namely: (1) the Northern Highland, (2) the Korat Plateau, (3) the Central Plain of the Chao Phraya River, (4) the Southeast Upland, (5) the Tenasserim Hills, and (6) the Southern Peninsula. The country forms part of the Indo-Burma Global Biodiversity "hotspot", while the subtropical moist forests (in the north as well as in the Cardamom Mountains), dry forests and the Mekong River are listed within WWF's Global 200 eco-regions due to their exceptional biodiversity.

Thailand has 7 endemic mammal species, 2 endemic bird species, 47 endemic reptile species, 7 endemic amphibian species, 72 endemic fish species and 757 endemic species of plants. Thailand's 15,000 plant species

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<sup>6</sup> "Creative *Tourism* – forms part of the government's 'creative economy' philosophy and can be defined as *a travel experience with an authentic experience, that enables the traveller to learn about the history, arts, cultures, lifestyles, heritage, or special characters of a community or place, through participation, getting closer to local people, and sharing good experiences by chatting, doing, and spending time together.* (Definition is adapted from "Study of Creative Tourism Investment and Promotion" Information Provider and Promotion Consultants Co. January 2013.).

<sup>7</sup> <http://7greens.tourismthailand.org>

constitute 8% of the global plant species inventory<sup>8</sup>. Of these, at least 1,424 plant species are threatened and endangered (757 of which are endemic). The species inventory further includes 302 species of mammal, 928 bird species, 350 of reptile and 137 of amphibians<sup>9</sup>. Thailand's freshwater ecosystems, encompassing rivers, reservoirs, swamps and ponds, contain about 7% of the world's freshwater species count<sup>10</sup> including 143 endemic species, 606 freshwater fish species and an array of globally-threatened species such as the Irrawaddy Dolphin, the Siamese Crocodile, and the Giant Catfish.

Coastal ecosystems extend over an area of more than 2,000 km<sup>2</sup> and include coral reefs, sandy beaches, muddy beaches, and sea grass beds. Thailand's recorded 2,000 marine fish species account for 10% of the global marine fish species assemblage, and over 11,900 species of marine invertebrates have been recorded. Finally, agro-ecosystems, which cover about one fifth of the country, support a range of biodiversity, including agro-biodiversity (i.e. rice species and cultivars).

Many of these species are, however, endangered or threatened. The IUCN's Red List notes that Thailand has over 575 globally threatened species<sup>11</sup>, comprising of 57 mammal species, 47 bird species, 27 reptile species, 4 amphibian species, 96 fish species, 15 molluscs, 196 other invertebrates and 133 plant species<sup>12</sup>. Thailand's Country Red list data expands this list further to identify a total of 1,059 threatened species<sup>13</sup>.

**Table 1: Thailand Country Red List Data<sup>14</sup>**

	Extinct	Extinct in Wild	Critically Endangered	Endangered	Vulnerable	Total Threatened National List	Total IUCN list Animals
Mammals	1	4	12	35	69	121	57
Birds	2	2	43	66	71	184	47
Reptiles		1	11	5	16	33	27
Amphibians					5	5	4
Fish	3		18	42	155	218	96
Molluscs							15
Other Invertebrates							196
Plants				131	367	498	133
<b>National Totals Animals</b>	6	7	84	148	316	561	
<b>Totals IUCN Animals</b>	2	0	33	93	316		442
<b>National Total Plants</b>				131	367	498	
<b>Totals IUCN Plants</b>			36	40	57		133
					<b>Total:</b>	<b>1,059</b>	<b>575</b>

The project will contribute to the conservation of these species through improvements in the management of critical habitats for endangered species. This will be effected through a strengthening of institutional capacity and legal frameworks for ES conservation as well as demonstration activities for three endangered species – Eastern Sarus Crane (*Grus antigone sharpii*), Spoon-billed Sandpiper (*Eurynorhynchus pygmeus*) and Water Lily (*Crinum thaianum*)

<sup>8</sup> Office of Natural Resources and Environmental Policy and Planning. 2009. Thailand: National Report on the Implementation of the Convention on Biological Diversity. Ministry of Natural Resources and Environment, Bangkok, Thailand. 76 p.

<sup>9</sup> Ibid

<sup>10</sup> Science Society of Thailand and Scientific Research Society of Thailand 1991

<sup>11</sup> Threatened includes all species classified as – Extinct, Extinct in Wild, Critically Endangered, Endangered, and Vulnerable

<sup>12</sup> IUCN Red List of Threatened Species – Thailand Country Data – available at [http://www.iucnredlist.org/about/summary-statistics#Tables\\_5\\_6](http://www.iucnredlist.org/about/summary-statistics#Tables_5_6) accessed 06/2014

<sup>13</sup> The national Red List statistics also use IUCN criteria but are applied at the national level resulting in many species being classified as more threatened than at the international level.

<sup>14</sup> Data from Thailand Red List Data compiled by ONEP – assessments conducted in 2005 for fish, birds, mammals, amphibians, and reptiles, and in 2006 of plants. Information available from ONEP Clearing House <http://chm-thai.onep.go.th/chm/publication.html#V1> Accessed 06/2014 with updates for figures on Amphibians (33 to 5) and plants (133 – 131 Endangered and 363 to 367 Vulnerable) provided by ONEP pers comms



### 1.3 Threats and Root Causes

Thailand has undergone a rapid process of development over the last three decades that has lifted large numbers of people from poverty. This development has been based on rapid processes of industrialization, urbanization, and by intensified agricultural production and fishing. In each area development has relied heavily on the country's abundant and diverse natural resources but has also resulted in degradation of land, the loss of natural habitats, and generated increasing levels of air and water pollution. By 2004 - 2005 levels of air and water pollution were significantly serious to be identified as costing the country between 1.6 and 2.6% of GDP per year<sup>15</sup>.

These challenges have presented a number of threats to the maintenance of biodiversity and the survival of endangered species. These include:

- Habitat loss and degradation
- Over exploitation of resources

**Habitat loss and degradation** has occurred and is happening as a result of combined rapid economic development and population growth resulting in an increasing demand for land for infrastructure (e.g. road and dam construction), agriculture and industry.

Thailand's agricultural sector has expanded rapidly over the past 60 years. Initial expansion focused mainly on expansion of agricultural areas by forest clearance and high levels of domestic labour, in 1970 some 70% of the population were employed in agriculture. More recent expansion has focused on increased intensification of agriculture as labour has become more costly and expansion of farmed area more difficult. Land clearing does, however, still continue with the Office of Agricultural Economics estimating that the areas of land used for agriculture increased by 45,000 ha per annum from 2005 to 2010. Much of this clearance occurs on forested land or through the reclamation of wetlands or other natural habitats.

Production increases have come from increases in mechanization as well as the use of improved chemical inputs and seed varieties. While this progress has made Thailand one of the world's most important exporters of agricultural products, and consistently among the top three rice exporters, weak regulation of the use of some chemicals has led to widespread pollution and damage to the broader agricultural environment.

Expansion of the economy has also been driven by significant industrialization and the development of the infrastructure to support both it and improved access to markets by agricultural suppliers. These developments, however, have required significant land areas to be converted, resulting in reductions in a range of ecosystems. Industrial development has also led to significant levels of pollution with limited regulations on levels of pollutant discharge by factories resulting in high levels of both air and water contamination.

Tourism has had a significant impact within many areas with mass tourism contributing to the clearance of coastal mangrove forests, as well as inland forest areas. The Department of National Parks (DNP) estimate that forestland cleared for other uses other than agriculture especially tourist resorts ranged from 7,386 ha in 2004 to about 2,841 ha in 2007.

The impact of these changes are also being exacerbated by changes in climate across the country resulting in longer periods of dry weather and subsequent higher intensity periods of rainfall. These conditions are putting further pressure on fragmented and vulnerable habitats particularly wetland areas, with low lying areas close to the coast also vulnerable to large storm events as well as gradual increases in salinity due to rising sea levels.

The rapid expansion and intensification of industry and agriculture has also resulted in increasing demands on and resultant, **unsustainable use of natural resources**. High demands for water within both agricultural and

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<sup>15</sup> World Bank Thailand Environment Page – accesses 06/14 - <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/EASTASIAPACIFICEXT/EXTEAPREGTOPENVIRONMENT/0,,contentMDK:20266329~menuPK:537827~pagePK:34004173~piPK:34003707~theSitePK:502886,00.html>

industrial sectors has led to significant changes in the hydrology of many areas putting significant pressure on many freshwater species, an issue that is further heightened by high levels of pollution. Such unsustainable practices are not limited to terrestrial activities. In the fisheries sector overharvesting of fish stocks is estimated to have reduced fishing yields by 90%<sup>16</sup>. While such unsustainable practices are prohibited within protected areas there is limited protection for areas outside protected sites putting increasing pressure on species and habitats linked to productive sectors.

Hunting of wild animals and endangered species for both domestic uses and international trade (both exotic pet and traditional medicine) remains a significant challenge in Thailand despite progress in enforcing laws and regulations against it.

These threats are being further exacerbated by ongoing changes in climate that are increasing the severity and unpredictability of weather events within Thailand. Small increases in temperature have the potential to significantly impact Thailand's major rice crops with many farmers seeking to address environmental stresses through increased chemical usage. At the same time increased periods of draught followed by intensive periods of rainfall are also increasing pressure on water resources as farmers seek to increase irrigation and deforested watersheds are increasingly vulnerable to flooding.

## Threats to Target Species

### The Spoon-billed Sandpiper

The Spoon-billed Sandpiper<sup>17</sup> (SBS) was listed as Critically Endangered in 2012 as it has an extremely small population that is rapidly decreasing in size. The main factors driving this decline are habitat loss in its breeding, passage and wintering grounds that are compounded by disturbance, hunting and the effects of climate change. Fledging success and juvenile recruitment are also very low, leading to fears that the population is ageing rapidly.

The SBS has a naturally limited breeding range on the Chukotsk peninsula and southwards up to the isthmus of the Kamchatka peninsula, in north-eastern Russia<sup>18</sup>. It migrates down the western Pacific coast, to its main wintering grounds in South and South East Asia, occurring regularly at only a few sites within this wintering range, with important countries including Bangladesh, Thailand, and Myanmar.

During winter it prefers mixed sandy tidal mudflats with uneven surface and very shallow water, mainly in the outermost parts of river deltas and outer islands, often with a higher sand content and thin mud layer on top. In the areas with total coastal conversion, it favours certain stages in the management of salt pans<sup>19</sup>. Within Thailand, SBS arrive in the Gulf of Thailand in early to mid-October moving between the proximate salt-pan and low-tide mudflat areas of Kokkham, and Pak Thale as well as having been observed at Khao Sam Roi Yot and other salt pans in Samut Songkram province.

Due to its specialized breeding habitat requirements it was probably always a scarce species, but numbers have dropped in recent years and surveys on the breeding grounds have revealed a dramatic decline from 2,000 - 2,800 pairs in the 1970s to not more than 150-320 pairs in 2008. The breeding population in 2009-2010 was

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<sup>16</sup> Ibid

<sup>17</sup> Information on global species status is adapted from IUCN Red list status report ver 3.1 (2013) <http://www.iucnredlist.org/details/22693452/0> accessed June 2014.

<sup>18</sup> BirdLife International. 2001. *Threatened birds of Asia: the BirdLife International Red Data Book*. BirdLife International, Cambridge, U.K.

<sup>19</sup> Zöckler, C.; Syroechkovski, E. E.; Bunting, G. C. 2008. *International Action Plan for the Spoon-billed Sandpiper*. BirdLife International Asia, Tokyo

optimistically estimated at 120 - 200 pairs<sup>20</sup> in an estimated total population of 500-800 individuals, perhaps indicating an 88% decline since 2002, equating to an annual rate of decline of 26%<sup>21</sup>.

Major threats to the species survival throughout its range relate to habitat loss and hunting. While mudflats in the gulf were estimated in 1999<sup>22</sup> to cover 235 km<sup>2</sup>, salt-pans 106 km<sup>2</sup>, and prawn ponds/coastal flats 400 km<sup>2</sup>, these numbers are likely to have changed significantly as conversion to aquaculture and development has continued apace over the past 15 years. Equally, while these numbers indicate a significant potential habitat area, the localization of SBS within Thailand at just three sites indicates that more specific habitat requirements are in place. Indeed it is recognized that use of salt-pans by SBS is subject to specific management regimes and low disturbance levels with similar salt pans in other countries not harbouring any SBS<sup>23</sup>.

Reclamation of mud flat areas in its passage south and wintering grounds present one of the most significant challenges to the species. While this has not occurred in Thailand, the development of coastal defences in the Gulf have changed the ecology of some mud flat areas while in other areas extensive mangrove replanting programmes have either changed the ecology of, or reduced mudflat areas. While this has not occurred at scale within Khok Kham sub-district or Pak Thale, current efforts at mangrove plantation to reduce coastal erosion will need to be carefully monitored to assess its impact on mudflat areas.

More significant within Thailand is the ongoing conversion of traditional salt-pans to deeper sided aquaculture ponds, changes in the management regimes of salt pans and complete conversions of land-use related to industrialization.

In Khok Kham conversion of the salt-pan habitat to non-agricultural land uses is restricted by a Royal Decree from 1938 (the Royal Decree on Restriction of the land in Muang district of Sumut Sakorn and Samut Songkram to be reserved for salt farming only), which commits the area of salt-pans to agricultural use. This however has not prevented significant conversion of salt-pans to, the currently more lucrative, aquaculture ponds<sup>24</sup>. The existing decree is also regularly challenged and subject to some abuse with some illegal construction occurring including an 'illegal' textiles factory<sup>25</sup>.

Land outside this specific area also remains vulnerable to habitat degradation and change as well as the impacts and pollution from poorly regulated industrial and agricultural production. A new petrol chemical refinery has been constructed just 1 km from the Pak Thale site and increases in industry and commercial agriculture within the catchment area of local rivers is liable to be causing changes within the ecology of both fresh water and mud flat ecosystems, the impacts of which are currently not fully understood.

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<sup>20</sup> Bird, J. P.; Lees, A. C.; Chowdhury, A. U.; Martin, R.; Ul Haque, E. 2010. A survey of the Critically Endangered Spoon-billed Sandpiper *Eurynorhynchus pygmeus* in Bangladesh and key future research and conservation recommendations. *Forktail* 26: 1-8 and Zöckler, C.; Syroechkovskiy, E. E.; Atkinson, P. W. 2010. Rapid and continued population decline in the Spoon-billed Sandpiper *Eurynorhynchus pygmeus* indicates imminent extinction unless conservation action is taken. *Bird Conservation International* 20(2): 95-111.

<sup>21</sup> Zöckler, C.; Syroechkovskiy, E. E.; Atkinson, P. W. 2010. Rapid and continued population decline in the Spoon-billed Sandpiper *Eurynorhynchus pygmeus* indicates imminent extinction unless conservation action is taken. *Bird Conservation International* 20(2): 95-111.

<sup>22</sup> Erftemeijer, P. L. A., and R. Jukmongkol (1999) Migratory shorebirds and their habitats in the Inner Gulf of Thailand. Wetlands International Thailand Programme Publication 13. Wetlands International and Bird Conservation Society of Thailand, Bangkok and Hat Yai.

<sup>23</sup> C. Zöckler, E.E. Syroechkovskiy, Jr. and G. Bunting. International Single Species Action Plan for the Conservation of the Spoon-billed Sandpiper (*Eurynorhynchus pygmeus*) 2010 BirdLife International Asia Division, Tokyo, Japan; CMS Secretariat, Bonn, Germany

<sup>24</sup> Conversion currently provides a dual benefit to many landowners as they are able to sell excavated soil to the construction industry to facilitate local building projects. As such farmers are able to gain both an initial payment and then benefit from a currently more economically beneficial activity.

<sup>25</sup> C. Zöckler, E.E. Syroechkovskiy, Jr. and G. Bunting. International Single Species Action Plan for the Conservation of the Spoon-billed Sandpiper (*Eurynorhynchus pygmeus*) 2010 BirdLife International Asia Division, Tokyo, Japan; CMS Secretariat, Bonn, Germany

The area is also vulnerable to some mega projects including existing plans for the development of a significant highway to link Bangkok with the south of the country. The planned route would cut through the mangrove areas within Khok Kham, dividing the area between the salt-pans and the mudflats as well as potentially causing significant disturbance during the construction phase at least. While this project has been on hold for several years due to concerns about its vulnerability to extreme events (such as tsunamis), plans remain in place and as such the area remains vulnerable.

While not targeted for hunting the SBS is also vulnerable to accidental capture within the Gulf area. Fishing nets set next to salt-pans, as well as some deliberate mist-netting for other wader species for consumption and sale have been recorded close to key SBS locations<sup>26</sup>. During a field visit as part of the project document development process captive birds of prey were also observed being used to deter other bird species from landing on the mudflats. While the extent of these activities is limited the extremely small number of the SBS makes any potential capture or death a significant impact to the population.

**Table 2: Summary of Threats to SBS within Thailand<sup>27</sup>**

Threats	Threat Level
Conversion for Intensive Aquaculture	3
Mangrove Plantation	2
Urban/Industrial Development	3
Tourism	1
Coastal Defences	1
Hunting and Trapping	2
Industrial Pollution	(2)
Agricultural Pollution	(2)

3 = Critical threat with large impact,  
 2 = Important threat with significant impact,  
 1 = Impact relatively small,  
 0 = Little or no known impact,  
 ( ) = Suspected to be a threat

### Sarus Crane

The Sarus Crane (*Grus Antigone*) is listed as Vulnerable on the IUCN Red List because it is suspected to have suffered a rapid population decline, which is projected to continue, due to widespread reductions in the extent and quality of its wetland habitats, exploitation and the effects of pollutants<sup>28</sup>.

The Sarus Crane has three main population areas in the Indian subcontinent, South-East Asia and northern Australia, with a total world population estimated at 15,000-20,000 individuals<sup>29</sup>. The subspecies *sharpii* occurs in South-East Asia where its range has declined dramatically, now being confined to Cambodia, extreme southern Laos, south Vietnam with approximately c.800-1,000 birds between these three countries<sup>30</sup>, and Myanmar with approximately c.500-800 birds<sup>31</sup>. Despite some recent increases in populations across this range Population Viability Analysis of cranes in Tram Chin shows the population is highly unstable and prone to extinction if current rates of habitat degradation continue<sup>32</sup>.

<sup>26</sup> Ibid

<sup>28</sup> Information on the global status of the Sarus crane draws on information from the IUCN Red list classification which can be accessed at <http://www.iucnredlist.org/details/22692064/0>

<sup>29</sup> Archibald, G. W.; Sundar, K. S. G.; Barzen, J. 2003. A review of the three subspecies of Sarus Cranes *Grus antigone*. *Journal of Ecological Society* 16: 5-15.

<sup>30</sup> Wetland International - China Office. 2006. Relict Gull surveys in Hongjiano, Shaanxi Province. *Newsletter of China Ornithological Society* 15(2): 29.

<sup>31</sup> Ibid

<sup>32</sup> Archibald, G. W.; Sundar, K. S. G.; Barzen, J. 2003. A review of the three subspecies of Sarus Cranes *Grus antigone*. *Journal of Ecological Society* 16: 5-15.

In South-East Asia and Australia the species shows a preference for dry savannah woodlands with ephemeral pools during the breeding season, frequenting open and man-made wetlands during the non-breeding season<sup>33</sup>. It prefers a mixture of flooded, partially flooded and dry ground for foraging, roosting and nesting and is omnivorous, feeding on a variety of roots and tubers as well as invertebrates and amphibians.

The main threats to the species globally are a combination of:

- loss and degradation of wetlands, as a result of drainage and conversion to agriculture (for example wet rice paddy into dry sugarcane or soya bean<sup>34</sup>),
- ingestion of pesticides, and
- hunting of adults and collection of eggs and chicks (particularly in Indo-China but increasingly in India and Pakistan) for trade, food, medicinal purposes and, in some areas, to help prevent damage to crops<sup>35</sup>.

A combination of these threats resulted in the species becoming extinct within Thailand except for a few individuals in zoos. The Korat Zoo has, however, developed a successful Eastern Sarus Crane breeding programme and in 2011 started a reintroduction programme. The Zoological Parks Organisation (ZPO) have now reintroduced 36 individuals back into their natural environment at three wetland complexes in Buriram Province, namely Huay Chorakaemak Non-Hunting Area (681 ha), Huay Talat Non-Hunting Area (1,410 ha) and Sanambin Non-Hunting Area (570 ha).

As yet the reintroduced birds have not started to breed and they remain vulnerable to the threats existent at the international level. In particular key concerns within the identified areas in Buriram Province include:

- *Habitat destruction, degradation and disturbance* – this is due to a number of threats including: dredging of reservoirs to increase capacity resulting in reduction of marshland areas; disturbance of habitats due to annual drying out due to high demand on reservoirs; disturbance of habitat due to annual use for paddy cultivation during dry season and degradation of habitat due to increase levels of weed species such as Typha (*Typha angustifolia* L) and Water hyacinth (*Eichhornia crassipes*) (which is also harvested by local communities for the traditional medicine industry) and invasive species such as Giant mimosa (*Mimosa pigra*) which can outcompete native species reducing species diversity and food sources for the crane.
- *Excessive Pesticide Use* – high levels of pesticide and herbicide use within the area can both damage the natural habitat (through eutrophication of water ways, as well as causing a reduction in biodiversity and thus food sources for the crane) and can build up within the food chain presenting a health risk to the cranes.
- *Hunting or accidental injury* – while hunting within the non-hunting areas has been controlled and is at low level the very small population of cranes, their increasing habitat range and the potentially high value of the birds and their eggs make them vulnerable to hunters both external to the area and internal to it. The birds are also vulnerable to accidental injury from farmers attempting to protect their crops or surprised by the presence of such a large animal when moving at night (the ESC stands over 1m tall and has been noted to have ‘startled’ community members not used to the bird when moving at night).

These threats have already had an impact on the reintroduction programme. Of those reintroduced, four have already died – two due to injuries caused, most probably, by a local community members (one bird had broken ribs probably from having been hit by a projectile such as a stick), and two that are thought to have died from ingestion of excess chemicals. Seven birds are also missing. These individuals may have flown outside of the existing monitoring range but are most likely either deceased or the victims of trafficking, which has been recorded within Cambodia but not yet in Thailand. The development of illegal trafficking of Eastern Sarus Crane could very quickly affect the reintroduced Eastern Sarus Crane population in Thailand.

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<sup>33</sup> Ibid

<sup>34</sup> Ibid

<sup>35</sup> Khacher, L. 2006. The Sarus Crane *Grus antigone* is on its way out. *Indian Birds* 2(6): 168-169.

A changing climate also presents a threat to the national population of Eastern Sarus Crane with increased periods of drought resulting in higher pressure on the key reservoir areas causing water levels to drop and wetland habitats to degrade.

### **Water Lily**

The Water Lily (*Crinum thaianum*) is endemic to Thailand and has a very restricted range in southern Thailand. The species has been identified as a keystone species in its aquatic habitats, providing important habitat for native freshwater fish species such as the Soro Brook Carp (*Tor soro*), which use it as a habitat to lay eggs. Other aquatic species such as water snails and frogs also use it as breeding habitat while other native fish eat the young leaves of Water Lily<sup>36</sup>.

Originally found on the coastal plain of southern Thailand, the species is now confined to isolated patches on a few rivers and streams in Phang Nga and Ranong Provinces. The population is severely fragmented by habitat loss (only 3.5% of the original habitat remains) and there have been rapid population declines in some areas as a result (70% decline in the Nakha river during the period 2003 – 2008), with local extinction reported in some streams within its range. The species is therefore listed as Endangered and it could well become Critically Endangered in the near future if these trends continue.

Key threats to the remaining population include:

- *Habitat loss* – due to dredging and removal of sediment to reduce the likelihood of flooding, extraction of sand from river beds for construction, and deforestation and clearing of land within the watershed resulting in changes in hydrological flow, sediment loads and nutrient levels. Changes that will also be exacerbated by changes in climate within the area with increases in temperature and the intensity of rainfall.
- *Unsustainable use of the Water Lily* - the collection of Water Lily bulbs from the wild for international trade for home aquaria and fishponds is a threat to the survival of the species. A report from plant quarantine officials at the Department of Agriculture in Suwannabumi Airport estimated that 669,563 Water Lilies were exported during the period 2006 – 2009.

### **Legislative Context:**

Thailand has a long history of forest and species conservation dating back to the creation of the Royal Forest Department (RFD) in 1896 and the enactment of the Wild Elephant Protection Law of 1900. The country established its first 7 PAs in the 1960s with the enactment of the Wildlife Protection and Reservation Act (1960, revised in 1992) and the National Parks Act (1961). Over 400 PAs are now gazetted, consisting of national parks, wildlife sanctuaries, forest parks, non-hunting areas, botanical gardens, and arboreta. PAs are largely managed by the Department of National Parks, Wildlife and Plant Conservation (DNP) under the Ministry of Natural Resources and Environment (MONRE). While these PAs cover 18% of the total land area, much of the globally significant biodiversity in Thailand is found in “production landscapes” - in agricultural areas and production forests and wetlands, where they face increasing threats. Existing legislation provides mechanisms to conserve some of the critical habitats for these species but lacks a central legal mandate for focusing on ES, limiting current progress in this area. Similarly ES themselves have limited legal protection outside of PAs with existing efforts under the Wildlife Protection and Reservation Act focusing more on the killing and trade in ES than on their extinction through ongoing habitat degradation and destruction. The below section provides an overview of existing legislative tools for species and habitat conservation.

The *National Parks Act of 1961* provides for the establishment of both terrestrial and marine national parks. The Act permits visitors inside national parks, but forbids residence, hunting, clearing and gathering of vegetation, mining and the introduction of livestock within park boundaries.

The *Wildlife Protection and Reservation Act of 1960* (revised in 1992) provides for the establishment of wildlife sanctuaries and non-hunting areas as wildlife conservation areas under DNP authority. Wildlife sanctuaries are not generally open to the public but researchers are allowed. The Act also stipulates rules governing hunting and trade of wild animals and lists protected species. This list of species, referred to as the

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<sup>36</sup> IUCN (2011) IUCN Red List entry for *Crinum thaianum* available at: <http://www.iucnredlist.org/details/201627/0>

reserved species list, provides protection for species against direct capture, killing or trade and has been closely linked with the Convention on International Trade in Endangered Species (CITES) and currently covers the majority of wild animals identified within Thailand. The act, however, provides no protection for species against indirect ‘take’ through habitat destruction or changes in land use. As such the act provides no protection for one of the most significant threats currently facing ES within Thailand. The principle implementing agency for the act is also the DNP which while well prepared to protect species within protected areas has limited capacity to address infringements outside of these areas<sup>37</sup>.

The *National Forest Reserve Act of 1964* provides the underlying legislative framework for all Government regulation of forest areas in Thailand, including forest parks and non-hunting areas. This includes the authority of the Government to declare a given area under protection from resource use. Forest parks are forested areas that have at least one significant feature such as a waterfall, large trees or geomorphologic formations. Their chief purpose is to provide sites for local tourism and recreation. Non-hunting Areas are open to consumptive uses such as fishing and gathering of non-timber forest products but hunting.

The *Enhancement and Conservation of National Environmental Quality Act 1992* (NEQA) is a wide ranging act that provides a range of mechanisms to support conservation efforts with a focus on management of production activities. The NEQA lays out requirements for Environmental Impact Assessments (EIAs) to be undertaken on a range of development projects<sup>38</sup>. This list however has a number of notable gaps of projects that do not require EIAs but may have significant environmental impacts (chemical facilities are only required an EIA in three cases - pesticides, fertilizers, and chlor-alkali. These are actually a small percentage of Thai chemical plants<sup>39</sup>). The list is also conditional on the areas in which an activity may be being undertaken with EIAs being required for many more activities within Protected Areas than within broader production landscapes (for example EIAs are only required for highways if they pass through or within close proximity to any form of protected area<sup>40</sup>). The Act provides for three types of EIA, an Initial Environmental Enquiry (IEE) (for smaller projects), a full Environmental Impact Assessment (EIA) and an Environmental Health Impact Assessment (EHIA) for projects that could have a significant impact on community health (within the context of this document the term EIA is used to cover all three types of assessment). Within the standard EIA procedures all assessments are submitted to ONEP for review prior to being passed to an Expert Review Committee for assessment. Permitting authorities should not issue permits until EIAs have been approved. While the existing process requires the impact on species to be considered there is no further guidance on what should be done should an endangered species be found or additional EIA requirements for the undertaking of projects within ES habitats but outside of existing protected areas.

Consideration is currently being given, by the NESDB, to the development of requirements for Strategic Environmental Impacts Assessments (SEIAs) to also be undertaken within certain sectors or planning processes. While this process is still at an early stage it would provide a valuable mechanism to address environmental concerns during sector and provincial planning processes.

The NEQA also provides for the establishment of Environmental Protection Areas (EPA), through Ministerial Regulation, for areas that are identified as being a “*watershed area, or characterized by unique natural ecosystems which are different from other areas in general, or naturally composed of fragile ecosystems which*

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<sup>37</sup> Such infringements could be addressed by other law enforcement officers and while customs agents have become significantly more proactive regular police officers have limited awareness of or capacity to enforce such protection measures.

<sup>38</sup> EIAs are only required in Thailand for the following type of projects and activities (depending on size): dam and reservoir construction, irrigation, commercial airport, hotel and resort development, mass transit system and expressways, mining, industrial estates, commercial ports and harbors, thermal power plants, coastal reclamation, highway or road development, building in areas adjacent to rivers, lakes or beaches or in the vicinity of National Parks and specific industrial projects, namely petrochemical, oil, refinery, natural gas separation or processing, chloralkaline, iron and steel, pulp industry, pesticide industry or industry producing active ingredient by chemical process, chemical fertilizer industry using chemical process in production. Projects within Environmentally Protected Areas (EPA) require an EIA depending on the conditions and notifications defined for each EPA. Certain defined projects in Forest Conservation Areas require EIA report. ONEP, 2012. Environmental Impact Assessment in Thailand.

<sup>39</sup> Ibid

<sup>40</sup> Ibid

*are sensitive and vulnerable to destruction or impacts of human activities, or worthy of being conserved due to its natural or aesthetic value and ..... is yet to be designated as a conservation area*<sup>41</sup>. Through the designation, stronger targets for environmental management and protection based requirements can be put in place including:

- Land use prescriptions for preserving the natural conditions
- Prohibition of any acts or activities that may be harmful or adversely affect or change the pristine state of the ecosystems of such area.
- Specifying types and sizes of projects or activities undertaken by government agencies, state enterprises or private entities, to be constructed or operated in such area, which shall have the legal duty to submit reports of environmental impact assessment.
- Determination of management approach and method specific to the management of such area including the scope of functions and responsibilities of relevant government agencies for the purpose of co-operation and co-ordination that are conducive to efficient performance of work towards the preservation of natural conditions or ecosystems or aesthetic values and amenities in such area.
- Prescriptions of any other protective measures, which are deemed proper and suitable to the conditions of such area<sup>42</sup>.

Despite the potential of the zones for pro-active conservation only four have currently been designated predominantly based on protection of high profile landscapes with high tourism values. Efforts to designate other further areas have struggled due to the limited finances and capacity of ONEP to drive new conservation areas and also a reluctance of provincial authorities to support tightening of development regulations until a threat has fully emerged. The Act also established the National Environment Fund (NEF) as a mechanism to support such designations. The fund is maintained through collection of fees and fines related to the act's implementation and can be used to support operations of EPAs as well as other mechanisms.

The government restructuring in early 2000 rejuvenated some the push for environmental management and through a process of institutional reorganisation sought to simplify the institutional structures responsible with the NEQA providing a key basis. The ONEP, within MONRE, obtained a central role for environmental policy and planning and leadership on national level conservation planning. The ONEP have no on the ground enforcement authority, but acts as the coordination mechanism as secretariat of the National Environment Board (NEB), which, has responsibility for identifying environmental priorities and developing Ministerial regulations. Chaired by the prime minister, the NEB can propose to the cabinet a Ministerial Regulation that will be enforced across the line agencies. It is through these Ministerial Regulations that initial progress on ES conservation outside of protected areas is being made, mainly through the use of EPAs to conserve critical habitats. The absence of any legislation directly relating to the importance of conserving endangered species, however limits the capacity of ONEP to ensure that ES are fully represented within existing conservation areas. Equally while the EPAs provide a mechanism to mainstream stronger environmental regulations into existing planning mechanisms at the local level there are no mechanisms to ensure the protection of ES outside of these designated areas – such as actions to be taken once an ES has been identified within an EPA.

Land use planning within Thailand is undertaken through a combined top down and bottom up approach and has become increasingly integrated over the past decade. National level planning is undertaken in line with the NESDP, with different regions highlighted for key development activities. These plans are then further utilised at the Regional level to develop zoning proposals based on industrial development, agriculture, urban expansion, and environmental or watershed protection. This work is undertaken by the Department of Town and Country Planning (DTCP) within the Ministry of Interior (MoI) and is intended to bring together different line agencies and stakeholders. At the Provincial level each province is required to come up with its own spatial plan based on guidance from the national and regional levels. This process should be participatory and linked to the development of the provincial development plan with input from a broad range of stakeholders and developed based on a range of environment, economic and social criteria. The process should also build on proposals for local development plans submitted by Local Administrations (Tambons). The process has

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<sup>41</sup> Government of Thailand (1992) "The Enhancement and Conservation of National Environmental Quality Act, B.E. 2535"

<sup>42</sup> Ibid



historically provided a high weighting to economic development activities over social or environmental considerations leading in many areas to degradation of environmentally important areas and watersheds. This is partially due to the importance of ‘economic’ development and infrastructure projects within Provincial and local election cycles and the existing prominence of economic key performance indicators (KPIs) for Provinces set by the Ministry of Interior.

## 1.4 Long-term Solution, Baseline Project and Barriers

The **long term solution** lies in reforming the manner in which agricultural, forestry, aquaculture and other production activities are planned and regulated across different land units and tenure categories at the landscape scale in order to avoid, reduce and mitigate the pressures leading to ES biodiversity loss. This will be brought about through the ‘mainstreaming’ of biodiversity into existing land use planning and management approaches as well as commercial decision making and enterprise.

At the national level the project will emplace the necessary planning and enforcement framework to mainstream ES conservation in the wider landscape.. At the site level, the project will demonstrate through the development of land use plans and through compliance monitoring and enforcement of the land use plans based on the needs of the ES and especially its habitat requirements the long term conservation of the three target species. Further, innovative approaches to the development of biodiversity goods and services and the integration of their production within site level management plans will provide case study examples of how biodiversity and production can be effectively linked. These lessons will not only provide valuable examples for similar locations within Thailand but will also provide insight for regional and global efforts to conserve endangered species.

The current baseline investments are described below at the national and site level as part of a business as usual scenario. Accompanying these is a description of the barriers impeding effective biodiversity management. The project is designed to remove these barriers.

### National

The Ministry of Natural Resources and Environment (MONRE) annually spends about US\$ 44 million (US\$ 176 million over the project period) on nature conservation activities. These investments are targeted mostly towards protected area management supporting the operation of Thailand’s extensive network of PAs, under the Protected Areas Act. Funds are also used to support the establishment of lists of reserved and protected animals, managing hunting and controlling the trade in wild animal products as set out in the Wildlife Reservation and Protection Act (1992).

This work is supported by a number of national and international NGOs working on conservation within the country as well as development partners supporting these initiatives. The majority of this work is focused on key biodiversity hotspots within the country.

### Barriers at National Level

There are two main barriers to achieving the long-term solution: (i) inadequate planning and enforcement framework to mainstream ES conservation in the wider landscape and (ii) inadequate demonstrated experiences in land use planning and ES-compatible land management practices.

#### *Inadequate Planning and Enforcement to mainstream ES Conservation in the Wider Landscape:.*

The existing focus of conservation policy and financing has been on the establishment and management of PAs. This is especially true for endangered species where the focus has been on hotspot identification and inclusion into the PA system. For those areas outside PAs in the production landscapes, conservation of ES

through mainstreaming into the policies and programmes of other line ministries and subnational authorities has been *ad hoc* and unsystematic.

Some avenues do exist to strengthen the conservation of biodiversity in production landscapes through use of legal designations to prevent the direct killing of species (through the Wildlife Act (1992)) or to integrate improved environmental management into conservation activities in the form of an Environmental Protection Area (under the NEQA (1992)). The first of these mechanisms, however, is limited in its capacity to conserve the critical habitats for ES with restrictions only focused on direct impacts on species as opposed to broader conservation of species and their habitat. Under this act area based conservation is also focused on ‘traditional’ protected areas that restrict and prevent production activities as opposed to integrating conservation within them.

The NEQA provides for a more flexible approach but has no focus on ES and has been limited in its implementation. With no current legal mandate requiring conservation of ES or Critical habitats making EPA designation for these reasons is often politically difficult with ONEP lacking the political capital to drive forward conservation measures against perceived economic development priorities. As such only one such area has been designated with success being supported by a link between the species and the Royal Family. While the NEQA also provides for the implementation of environmental safeguards in the form of EIAs the activities for which these are required and the areas in which they are required are limited and guidelines are silent on additional requirements that should be implemented should ES be identified.

As such there is currently no legal requirement to ensure the conservation of species within Thailand or the maintenance of critical habitats. While efforts do exist under the MONRE and the country’s commitments to international conventions these are not effectively mainstreamed into existing legislation and there is no clear framework through which ES and critical habitat conservation is required, organised or operationalized. This has resulted in a range of ad hoc approaches, which while valuable within their own areas do not provide a sustainable or consistent approach. There is thus a need for a legal framework that:

- sets requirements for ES and critical habitat conservation;
- defines the roles and responsibilities of key government institutions in land use planning and management in ES critical habitats; and
- lays out prescriptions/ circumscriptions for land use within the ES critical habitat – such as no-go areas for development in highly sensitive areas, and biodiversity conservation-friendly development in the adjacent areas to protect corridors and sensitive habitats where development cannot be avoided.

Additionally, the various roles and responsibilities of the different government agencies for the management of critical habitats of ES (such as planning, monitoring and enforcement) remain to be clarified. Currently the various responsible government departments have overlapping mandates and often mutually exclusive objectives that amplify conflicts between development goals versus biodiversity concerns. One example of this is with regard to enforcement of existing environmental regulations, which currently falls heavily with sector ministries making the Ministry of Industry and Pollution Control Department (PCD) – under the Ministry of Natural Resources and Environment responsible for controlling pollution from factories or the Ministry of Agriculture and Cooperatives (MoAC) responsible for enforcing controls on pollution in agriculture. While this does provide from some sector experience it also presents an internal conflict of interest within many ministries that are focusing on developing output or production, with the regulatory capacity of ONEP limited only to setting of guidance and limits with no enforcement powers. This speaks to the need for an effective inter-sectoral coordination mechanism and means to integrate biodiversity conservation principles into development plans and production sector practices to reduce pressures on biodiversity, while also strengthening the enforcement capacity and mandate of key agencies.

Planning, monitoring and enforcement efforts are in any case also undermined by the absence of an effective decision-making support system fed by biodiversity status assessments and environmental impact assessments (to assess and direct development away from critical habitat and also to identify effective protection measures for ES). Within ONEP there is currently a lack of technical expertise in conducting landuse planning utilising multiple variables (economic social and environmental) and limited skills in utilising GIS support tools. The

organisation also lacks expertise to develop recovery plans for ES, which are able to be mainstreamed into the work of line agencies. There is therefore a need to: establish a central database on ES, capacitate ONEP in the development of recovery plans for ES, emplace a monitoring system within ONEP to evaluate acceptable levels of change in defined critical habitats, and to take adaptive measures to reduce impacts. Environmental Impact Assessments (EIAs) are only mandatory for newly designed, large-scale production-type projects<sup>43</sup>, but not mandatory for land-based activities already underway. Providing a mechanism to increase the use of EIAs and Initial Environmental Evaluations<sup>44</sup> (IEEs) at the site level as well as Strategic Environmental and Social Impact Assessments at the planning (provincial and local) and policy development level that includes consideration of ES would significantly strengthen the protection of ES and critical habitats.

*Inadequate existing experience in integrating land-use planning and ES compatible land management.*

With the background of high relative poverty levels, provincial, district and sub-district public authorities are guided by the quick-gain philosophy with respect to agriculture and aquaculture practices. The same applies to infrastructural development. While theoretical options for long-term sustainable use of the land and water are available, ensuring the conservation of biodiversity and important ecosystem services, their conservation, efficacy and benefits have not been tested.

Sites that are considered to be globally and nationally important for biodiversity may be considered important by local communities and local government for different (economic) reasons. The trade-off between conservation and local use may not be considered fair by local communities if conservation leads to sub-optimal livelihood options for them. However, currently there are limited capacities locally to assess such trade-offs and develop a negotiated solution to maximize local to global benefits.

There is also a clear lack of knowledge among the tourism sector, the private sector and land owners regarding the benefits of biodiversity-friendly tourism and other conservation-friendly development strategies, as well as the application of legal tools and incentives to adopt sustainable sector practices while maintaining or increasing household income amongst local communities.

The most important barrier to operationalizing the management of critical habitats of ES at the site level is the lack of know-how and limited examples within the country of applying land use planning and regulatory frameworks to manage development across different sectors to secure positive biodiversity outcomes. Numerous land use maps have been produced by the mapping centers of the Land Development Department (LDD), but the actual implementation of these plans has been disappointing. Although some maps of biodiversity priority areas exist, they are not reflected in the District and Provincial Development Plans.

Further, Thailand does not have operational “on-the-ground” examples of technical interventions that sustainably promote long-term biodiversity conservation of specific ES in the production landscapes outside the protected areas. Without access to replicable demonstrations, government decision-makers and resource users do not have the tools and knowledge necessary to decrease biodiversity loss. Where maximizing global benefits requires a loss of or reduction in local benefits, then means of compensation or substitution schemes need to be developed.

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<sup>43</sup> EIAs are only required in Thailand for the following type of projects and activities (depending on size): dam and reservoir construction, irrigation, commercial airport, hotel and resort development, mass transit system and expressways, mining, industrial estates, commercial ports and harbors, thermal power plants, coastal reclamation, highway or road development, building in areas adjacent to rivers, lakes or beaches or in the vicinity of National Parks and specific industrial projects, namely petrochemical, oil, refinery, natural gas separation or processing, chloralkaline, iron and steel, pulp industry, pesticide industry or industry producing active ingredient by chemical process, chemical fertilizer industry using chemical process in production. Projects within Environmentally Protected Areas (EPA) require an EIA depending on the conditions and notifications defined for each EPA. Certain defined projects in Forest Conservation Areas require EIA report. ONEP, 2012. Environmental Impact Assessment in Thailand.

<sup>44</sup> A ‘light touch’ form of EIA suitable for smaller developments or changes in landuse.

## **Species Specific:**

### ***Water Lily:***

Efforts to conserve the Water Lily have been developing over recent years and it is expected that US\$ 3.5 million will be invested in Water Lily Conservation and related activities over the next four years.

The Ranong Natural Resources and Environment Provincial Office has established a Water Lily nursery and will invest an estimated US\$ 200,000 in its operation. Also, the Thailand Research Fund supports Klong Nakha conservation activities and also started a Water Lily propagation programme with US\$ 200,000 anticipated to be invested during the project period. The Ranong Provincial Agriculture Office will support the operations of the Sufficient Agricultural Learning Center and the Klong Nakha Traditional Herbs Group with an estimated budget of US\$ 1.5 million. These initiatives are relevant to the project as they provide vehicles for advocating more biodiversity-friendly practices in the agricultural field in order to reduce erosion. The Tourism Authority of Thailand also promotes nature-based tourism and runs tourism campaigns. Most nature-based tourism enterprises are community-based with a focus on environmentally-friendly activities. The Community-based tourism enterprises in the Klong Nakha area have collaborated to form a tourism network called “North Andaman Community Tourism Network” (N-ACT), which includes 11 groups. Various organisations e.g. Mangroves for the Future (MFF) and the International Union for the Conservation of Nature (IUCN) assist this network with enterprise development.

### ***Water Lily Barriers:***

Despite these initiatives a number of barriers remain to effective conservation of the species including:

- *A lack of legal protection for the Water lily or the area in which it exists.* The critical habitat for the Water Lily currently has not formal designation and as such there are no formal, or legal powers to stop development or any other form of “take”.
- *A lack of awareness of and knowledge within key institutions, which are responsible for resource management in the area.* Local government officials, decisions makers and those responsible for land management have limited awareness of the impact of different policies, programmes or activities on the status of the water lily. Excess use of fertilisers by farmers or land conversion from natural forest to plantation is not readily identified as destroying the habitat of the lily while efforts to prevent flooding are not undertaken with consideration of potential environmental impacts or alternative approaches.
- *Lack of government leadership within key ministries.* Due to limited awareness there is a lack of leadership at the Provincial level to help strengthen the protection status of the water lily. This reduces the long term sustainability of local conservation actions and leaves the area vulnerable to changes in policy or development plans at provincial level.
- *Value of economic crops over natural forest.* The potential value of existing land areas within the river catchments that contain the water lily compared to existing income from tourism or other activities presents a barrier to fully halting conversion on a voluntary basis.
- *High value of water lily bulbs.* Water lily bulbs fetch a high price on the international market. The potential economic gains available to community members from harvesting these bulbs thus presents a barrier to effectively preventing harvesting of the water lily.

### ***Spoon-billed Sandpiper:***

There are a number of activities underway to support the conservation of the SBS within Khok Kham sub-district, which cut across national government, local government and civil society groups.

Efforts have been made by these groups to increase awareness of the value of the species as well as the broader water bird habitat through the organization of awareness raising events including events for international bird day for which the Khok Kham Tambon Administration Organization has held, and plans to continue to hold, the “Khok Kham Bird Festival” on an annual basis. An event that has a budget of US\$100,000. The Khok Kham Conservation Club (KKCC) also works on increasing awareness of local habitats and endangered

species through events and community engagement as well as patrolling and monitoring of illegal activities and will invest a further US\$ 50,000 in the area during the project period.

The Kasetsart University has an educational programme targeting the Spoon-billed Sandpiper with students engaging with the local community and undertaking baseline research. It is estimated that their investment in Spoon-billed Sandpiper conservation actions over the next four years will be US\$ 40,000. The Department of National Parks (DNP) as well as the Bird Conservation Society of Thailand (BCST) maintain shorebird databases and conduct regular surveys at key bird areas. An estimated amount of US\$ 40,000 will be allocated for these surveys over the project period targeting the Khok Kham sub-district specifically.

In October 2013, BCST and the Department of Marine and Coastal Resources (DMCR) co-organized a workshop for the Spoonbill Conservation Plan 2013-2016. The plan is a continuation of the previous phase of 2010-2013. Attendees include ONEP, DNP and Provincial Office of Natural Resources and the Environment (PONRE) of Samutsakorn. As part of the process a grant of 5.6 million baht (USD 175,000) was assigned to the BCST for the three year implementation of the plan. The Thai Wetlands Foundation have also worked closely with the BCST in undertaking conservation activities within the area and plan to continue to do so.

### ***Spoon-billed Sandpiper Barriers:***

Despite these efforts there are a number of critical barriers to developing effective conservation efforts within the area. These include:

- *Lack of coherent coastal zone management programme* – coastal erosion within the Gulf of Thailand has become a significant problem and a number of approaches to addressing this have been adopted. Within Khok Kham efforts have been made to protect the coastal area through the use of bamboo pole sediment traps combined with mangrove replanting. While this approach is demonstrating some success a lack of an integrated planning between sites within the Gulf leave individual schemes vulnerable to changes in sediment flows from activities along the coastline. Improved coordination between provinces and districts in planning coastal management would help to address this something that could be facilitated by both improved coordination between government agencies and the undertaking of effective Strategic Environmental and Social Impact Assessments (SEIAs) for policies and programmes that are likely to impact coastal areas.
- *Lack of integrated conservation planning* – the Samut Songkram province has a broad range of economic activities and competing land-uses. Existing Provincial plans are developed based on line ministry objectives and integrated planning for conservation objectives is limited even in areas of recognized conservation value.
- *Lack of knowledge on the optimum management regimes for Spoon-billed Sandpiper in salt and mud flat areas* – limited knowledge exists on how to optimize the integration of existing land management and economic activities such as salt production with species conservation. Some information exists on the requirements of the SBS in particular for low disturbance approaches to salt production but further assessment of water levels and in-salt plan ecology would provide a clearer basis of how to maximize the opportunities for combined production and conservation. This information would then need to be shared with local communities and farmers.
- *Lack of local revenue capture related to tourism* – the most significant economic benefit currently derived from the presence of the SBS as well as other water birds comes from tourism. Limited local infrastructure or capacity combined with a Bangkok centered market for bird watching however currently limits revenue capture from this activity at local level. Indeed increasing tourist numbers if not effectively managed threaten to disrupt local livelihoods rather than strengthen them. As such farmers and communities see limited economic value in the presence of the species and thus have limited economic incentives for its conservation.
- *Fluctuating and low salt prices* – the salt price within Thailand has fluctuated significantly within the past decade and is now at a low of approximately 3-5Bhat (8-9 US cents) per kilo a price that makes seasonal (salt pans can only be used in the dry season) salt farming a very marginal livelihood.

### ***Eastern Sarus Crane:***

The Eastern Sarus Crane (ESC) reintroduction programme has seen significant progress and key local and national institutions remain committed to its success. The authorities responsible for the management of the three non-hunting areas (Huay Chorakaemak Reservoir, Huay Talat Reservoir and Sanambin Reservoir) in Buriram Province will invest US\$ 400,000 over the project period.

The Buriram Provincial Natural Resource and Environment Office (PONRE) will invest an estimated US\$ 5 million during the project for training of local natural resources and environment management volunteers. The Tambon Administrative Office (TAO) will be carrying out awareness raising in the communities, with an estimated investment of US\$ 50,000 over the project period. The Ministry of Tourism and Sport (MoTS) will invest US\$10 million in the Buriram Province to develop wildlife-based tourism infrastructure. The Korat Zoo will continue its research on the reintroduction of the ESC, with an estimated investment of US\$ 50,000 over the next four years. The Buriram Provincial Irrigation Office (PIO) will invest approximately US\$ 6 million in management of reservoir areas, largely targeting the improvement of the landscape around the reservoir to increase water capture, including through reforestation.

### ***Eastern Sarus Crane Barriers:***

Despite these efforts there are a number of significant barriers to effective conservation of the species within the area including:

- *Lack of legal protection* – while the non-hunting areas are under protection the surrounding habitat has limited management requirements although large-scale industrial developments are restricted within a buffer area around the non-hunting area. As such there are no legal requirements to ensure that surrounding farmland is managed in a manner conducive to maintaining the habitat of the non-hunting area. This situation also results in a challenging context for effective coordination and planning related to the sites as a significant number of agencies have jurisdiction over the land area with PONRE and the DNP having limited capacity to enforce any conservation or protection activities (see also below).
- *Demand for water* – agriculture within the area remains a significant livelihood for many with farmers within the irrigation areas seeking to increase or maintain their harvest levels. This puts an ongoing stress on management decisions related to the reservoirs and restricts the potential management of water levels to maximize benefits for the ESC and other bird species.
- *Limited awareness* – there remains limited awareness at the local and provincial level of the reintroduction of the ESC, its habitat requirements and its potential value as a tourist symbol / provincial icon. At the local level this has resulted in inappropriate local land use management practices as well as some farmers being concerned about the impact of the cranes on their crops. At the provincial level this has prevented pro-active efforts to conserve and effectively manage critical habitats.
- *Lack of economic benefits and revenue capture* – local communities and the non-hunting areas do not currently derive any significant economic benefit from the presence of the species or indeed the relatively high visitor numbers to the non-hunting areas. This provides limited incentive for the conservation of the habitat by community decision makers' objectives and also acts as a missed opportunity for the non-hunting areas to be able to strengthen their implementation programmes.

## **1.5 Project Localities**

### **Spoon-billed Sandpiper**

The western inner Gulf of Thailand is a national level Ramsar site but is not located in any kind of protected area. The area contains various kinds of coastal ecosystem including mud-banks, sand beaches, mangroves, salt-farms, and estuary ecosystems. The inner gulf covers the coastal area of 7 Provinces including Chonburi, Chachengsao, Samutprakan, Bangkok, Samutsakon, Smutsongkram, and Petchburi with a coastal front of some 195 km. The coastal area is dominated by large inter-tidal mudflats, which are very important for shore birds migrating to Thailand during the winter season. The area has been identified as one of three site of most important for shore bird in South East Asia region.

The SBS have been identified at two sites within this area the first at Khok Kham sub-district in Samut Sakorn and the second in Laem Phakbia sub-district Petchbuti Province.

### ***Khok Kham Sub-district***

Khok Kham sub-district located in Muang district of Samut Sakorn province, is a rural area approximately 8km from the nearest city of Samut Sakorn. The sub-district covering 44,906,25 *rai* or 7,188ha is dominated by salt farms and aquaculture ponds. There are two main canals that cut through the district as well as the Tha Chin River. The sub-district has over 3,200 households located within 10 main villages. The area has seen a rapid decline in salt farming from an estimated 180 households, to just 34 households currently<sup>45</sup>.

The area is protected under Royal Decree to remain as an agricultural area. Its traditional salt farms are however being increasingly converted to more industrialised production or fully converted to aquaculture ponds. Aquaculture in particular provides local stakeholders with a less labour intensive form of agriculture that is also currently more profitable with set up costs also able to be subsidized by the sale of soil from the excavation process to local building contractors.

#### **- Tourism Situation**

The area is popular for tourists and was approved by Cabinet in 1996 as a tourism area due to the variety of high value tourist sites including natural areas, historical and traditional sites. Due to the high quality birding in the area it has also become popular for birders particularly during winter when large numbers of migratory birds pass through the area. Numbers of birders have been reported to be increasing which is putting a higher level of stress on the limited infrastructure for tourism and presenting potential risks particularly from groups that are not well organized or have limited awareness of the potential vulnerability of the species and the broader habitats to disturbance. Despite higher numbers visiting the area, there is also limited revenue capture at the site level with most guides being engaged from Bangkok and requiring a certificate that is beyond the capacity of many community members. While some income has been generated through the provision of accommodation this is currently not directly linked to land use in the areas which the birds use resulting in limited benefits reaching those farmers.

### **Water Lily**

The Water Lily (*Crinum thaianum*) is endemic to Thailand. Originally found on the coastal plain it is now confined to isolated patches on a few rivers and streams in Kaper and Suk-Samran districts in Ranong Province and the Kuraburi district in Phang Nga Province.

The area is characterized by steep hillsides with limited flat land and regular rainfall, with the area being one of the wettest in Thailand. This topography and climate provides for a significant number of waterways that transfer rainfall quickly from the highlands to the coastal areas. The topography also makes flooding rare despite the high rainfall.

Population levels are low with the main activities being agriculture with an increasing number of rubber and in places palm oil plantations. Incomes from these activities are relatively low with information from the Department of Community Development in 2010 estimating annual income to be in the region of 47,000 Baht (US\$1,452) per annum.

The project's activities will be focused within the Suk-Samran district with a focus on the Klong Nakha area which has the largest remaining population of water lily and has also initiated activities to rehabilitate the water lily population through establishment of a water lily nursery.

#### **- Tourism Situation**

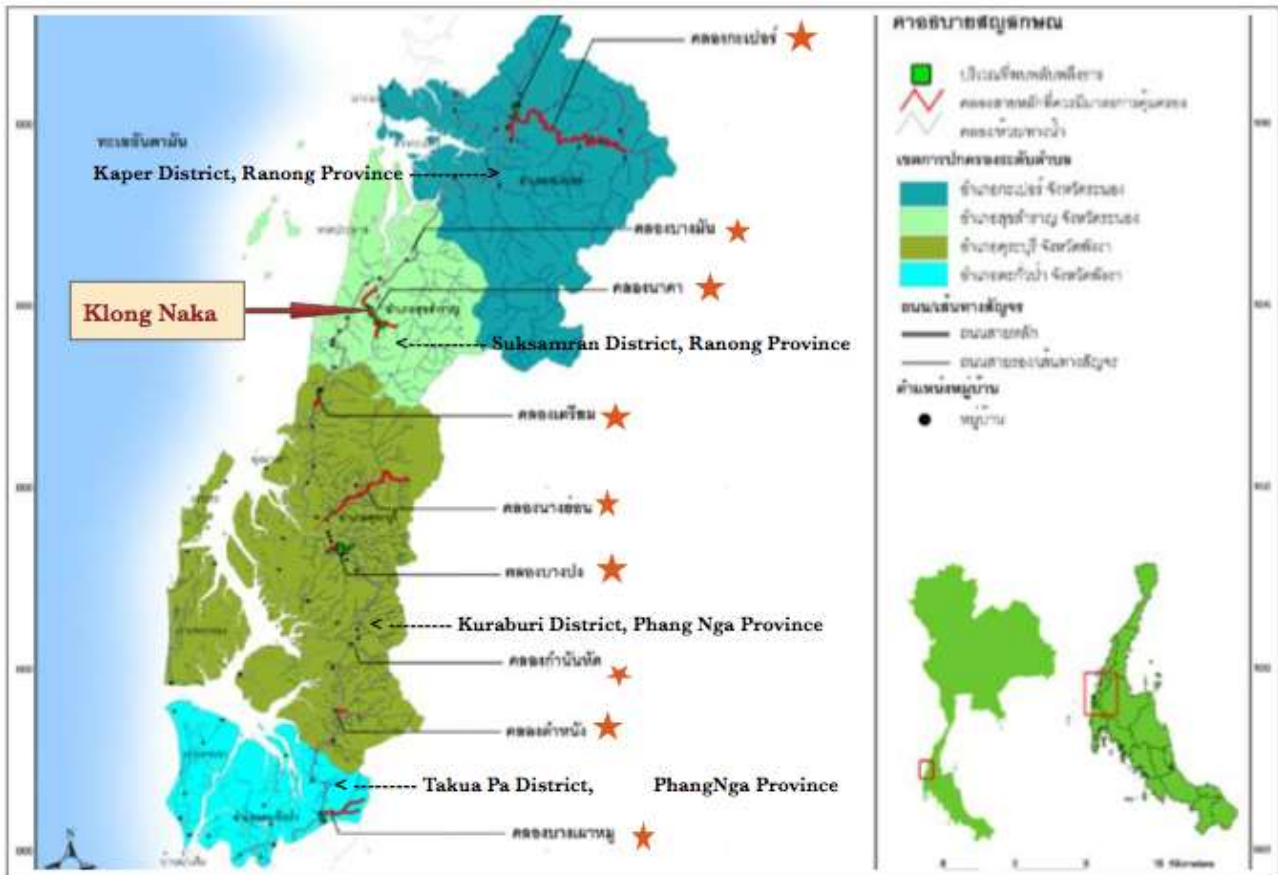
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<sup>45</sup> *Thailand's salt farming in decline* Pattaya Mail December 2013 – available at <http://www.pattayamail.com/business/thailand-s-salt-farming-in-decline-33493>

The area has started to develop eco-tourism activities centered around visits to the water lily sites to see the unique flowers. The Klong Nakha Eco-tourism club was established within the Klong Nakha village and is primarily focused on supporting conservation activities related to the water lily. While the club derives income for community members profit is used to support conservation activities including rafting trips for local school children and a nursery for the water lilies that is used by youth groups for restoration activities. Groups of government officials are among the most common visitors, offering ample opportunities for policy influence, but the Ecotourism group lacks printed education materials<sup>46</sup>.

The club is also a member of the North Andaman Community Tourism Network (N-ACT), which includes 11 groups and has support from Mangroves for the Future (MFF), responsible tour operator Andaman Discoveries and the IUCN, which acts as a mentor organization. An assessment of the N-ACT carried out by the IUCN identified that ecotourism had provided a valuable revenue source in the area generating 2,4 million Baht (US\$74,000) worth of direct income and funding resources over a two year period<sup>47</sup>. It also notes the value that eco-tourism has provided with regard to supporting income development for rural women with women’s groups within the N-ACT benefiting more from eco-tourism development at village level than men<sup>48</sup>. Groups within the network have also established community and tambon level ‘codes of conduct’ for community members including regulations on tree cutting and land clearance that have helped to maintain local forest areas and river catchments<sup>49</sup>.

**Figure 1: Distribution of Water Lily**



Note: Distribution of Water Lily shown in Red.

<sup>46</sup> Garrett B and de Silva J (2010) *Lessons learned - the North Andaman community tourism network* available at [http://cmsdata.iucn.org/downloads/lessons\\_learned\\_the\\_north\\_andaman\\_community\\_tourism\\_network.pdf](http://cmsdata.iucn.org/downloads/lessons_learned_the_north_andaman_community_tourism_network.pdf)

<sup>47</sup> Ibid

<sup>48</sup> Ibid

<sup>49</sup> Ibid



## **Eastern Sarus Crane**

The ESC has been reintroduced in two locations in habitat surrounding three reservoirs in Buriram Province. The three reservoirs, Huay Chorakaemak Reservoir, Huay Talat Reservoir and Sanambin Reservoir are surrounded by six sub-districts (Tambons) Samet, Ban Bua, Sakae Phrong, Sakae Sum, Bansai, Prakon Chai, which cover an area totalling at 32,104 ha.

Each reservoir is managed by a Water management committee that comprises of the different interests acting over the reservoirs including, the Department of Irrigation, DNP, and farmers' representatives. The committee is responsible for managing water levels within the reservoir and identifying levels of flow for irrigation and domestic use.

### ***Huay Chorakaemak Reservoir***

Huay Chorakaemak reservoir is located at Ban Phung Ton, and falls within Ban Bua, Samet, and Na Sakae Phrong sub-districts within Muang district, in the province of Buriram. The three sub-districts are quite heavily populated containing over 7,000 households with the main incomes still focused on agriculture. The reservoir covers an area of 4,257 *rai* (681 hectares) with an average water depth of 2-7 meters and is located approximately 12km from the city of Buriram for which it supplies water through a water treatment plant. The reservoir also provides a water source for the closer Ban Phung Ton, and is used for irrigation.

The area was identified as a non-hunting area in 1980 and due to its hosting of a large number of migratory birds, several of which are endangered the area is classified as a wetland of international importance. The reservoir encompasses two main habitats the first is open water the second areas of marsh with lower water levels, small islands and high concentrations of aquatic plants. The marsh area is most significant in the south east of the reservoir and provides the best habitat for water birds. The area is however also vulnerable to drying out during the dry season as water levels within the reservoir drop and there is some encroachment by communities at this time who use the areas for rice cultivation.

### ***Huay Talat Reservoir***

Huai Talat is located on the Ban Talat Kwai Road, in Sakae Sum sub district, Muang district in Buriram Province. The sub-district has a population of over 2,000 households. The reservoir covers an area of 8,813 *rai* (1,410 hectares) with a maximum water depth at 3 meters. The reservoir was built in 1953 to provide a source of water for agriculture, fisheries and animal husbandry. The reservoir is linked to Huay Chorakaemak reservoir by a canal and a link to the water treatment plant is also being installed to facilitate access to water for domestic use. The reservoir continues to provide a source of irrigation water for surrounding farmland.

The area was designated as a non-hunting area in 1980 and has been identified as a wetland of international importance playing host to over 100 bird species annually including some rare and endanger species such as the White-winged duck (*Cairina scutulata*), Comb duck (*Sarkidiornis melanotus*) and Painted Stork (*Ibis leucocephalus*).

The reservoir underwent significant disturbance in recent years as increased dredging was undertaken to enhance the capacity of the reservoir. During this time half of the area has been drained. While now back to full capacity, local officials note that there continues to be a higher sediment load than previously within the water and that a number of aquatic plant and bird species have not made a full come back.

### ***Sanambin Reservoir (Airport Reservoir)***

Sanambin Reservoir is located in the Prakonchai sub-district, Prakonchai district, Buriram Province and covers an area of 3,568 *rai* (570.88 hectares) of wetlands. The man-made reservoir was developed to provide irrigation for local farmland.

The area was designated as a non-hunting area in 1980 and plays host to a large number of migrating birds, with over 216 different species identified including a number of rare species. This biodiversity is also supported by the presence of 24 species of tree and 30 different species of floating plants<sup>50</sup>.

***Tourism situation:***

The area attracts significant tourist numbers estimated at between 7,000 - 9,000 people per year. These visitors can be divided into two main groups:

- *Nature based tourism or guided tours of non-local tourist.* These groups are organized and tend to include visits to a number of local attractions with a significant number focused on identifying specific rare bird species at the non-hunting areas. These groups tend to be residential and guided.
- *Picnic or day-trippers.* This group may be less directly interested in identification of key species but have a casual interest in the environment and are primarily enjoying a day out from an urban area. Many of these are local people (to Buriram) although a significant number of traveling groups also visit the area in association with football matches at Buriram United and may take an additional day or time within the day to visit a picnic area. These visitors are more likely to reside in Buriram either on a full time basis or over night before returning to another location. There is also an active cycle club (over 100 members) within the area that often rides close to the reservoirs and day trips cycling have become increasingly popular within the country.

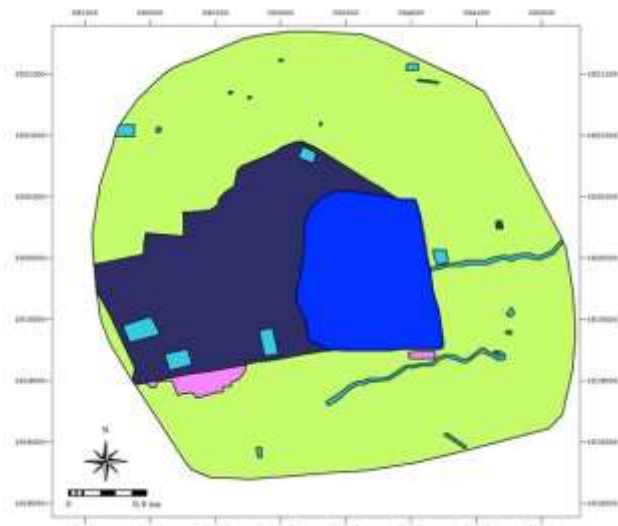
The most popular time for visiting the area is during the winter months from October to April, which also coincides with the arrival of many migratory birds. While many of the tourists visit the reservoirs and the non-hunting areas revenue capture from these groups is limited. The non-hunting areas have no admission or other revenue generating options (such as day or hourly guides). The three areas have however developed visitor offices and have some limited capacity for accommodation. Equally there are limited private initiatives seeking to build on the tourism trade with minimal accommodation close to the reservoirs and only a limited number of activities available close to the reservoirs (within Chorakaemak some boating and fishing options are provided).

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<sup>50</sup> Information from DNP pers comms

Existing Land use Mapping Surrounding Target Reservoirs

Figure 3: Sanambin Reservoir Land use



Category	Huay Chorakaemak		Huay Talat		Sanambin Reservoir	
	Area (rai)	%	Area (rai)	%	Area (rai)	%
Lowland rice paddy	5,761	36.76	10,892	49.77	4,507	66.61
Upland paddy	2,137	13.64	634	2.90	-	-
Fruit/ Tree	19	0.12	88	0.40	-	-
Natural forest	112	0.71	-	-	2	0.03
Tidal Marsh	532	3.40	-	-	1,295	19.14
Wilderness area/pasture land	893	5.70	-	-	-	-
Village	1,378	8.79	1,210	5.53	64	0.95
Reservoir area	4,257	27.17	8,813	40.27	763	11.28
Other water sources	581	3.71	248	1.13	135	2.00
<b>Total</b>	<b>15,670</b>	<b>100.00</b>	<b>21,885</b>	<b>100.00</b>	<b>6,766</b>	<b>100.00</b>

Figure 3: Huay Chorakaemak Reservoir Land use

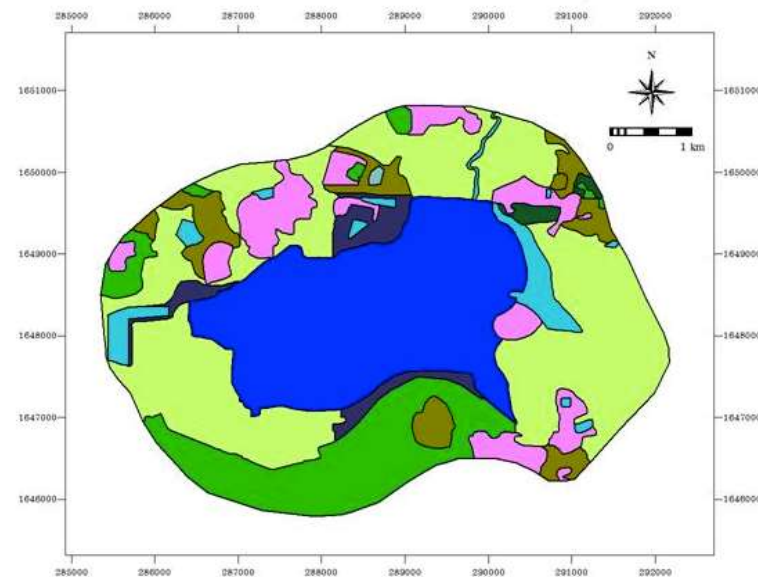
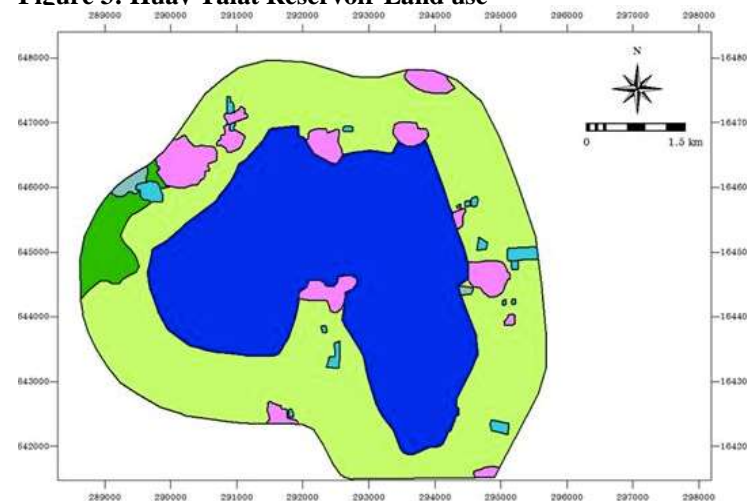


Figure 3: Huay Talat Reservoir Land use



## 1.6 Stakeholder Analysis

Some stakeholders have been associated with the project from very early on and have contributed to the project concept as illustrated by the PIF. These form the core of implementation partners and their interest has been confirmed through various consultation meetings during project formulation. The original list has been augmented with the addition of other partners and now stands as in the following table, which identifies the role that each partner will play in project implementation.

**Table 3: Stakeholder Analysis**

	Stakeholders
<b>MONRE</b>	
<b>Office of Natural Resources and Environmental Policy and Planning (ONEP)</b>	The ONEP will be the key Implementing Partner of this project through its Biodiversity Coordination Office. As the secretariat of National Environment Board (NEB), ONEP can institutionalize policy and legal frameworks for ES and habitats via NEB resolution (the NEB is chaired by the Prime Minister). As the national focal points of RAMSAR, UNFCCC, and CBD in particular, ONEP also has obligations to submit national reports on the status of ES and critical habitats and other environmental changes. With a mandate for cross-sectoral coordination, ONEP will take a lead in establishing and strengthening mechanisms for better planning, coordination, monitoring and enforcement with regard to biodiversity mainstreaming into the productive sectors. It will also be responsible for developing and ensuring enactment of the Endangered Species and Habitat Act and the hosting of the GIS-based decision support system. In developing Recovery Plans for the targeted ES, ONEP will be responsible for participatory planning with national and local administration.
<b>Provincial Office of Natural Resources and Environment (PONRE)</b>	PONRE is a Clearing House of all agencies under MONRE in a provincial landscape. Its role as a liaison and lobbyist to the governor will succeed the mainstreaming of Environmental agenda in all sectoral plans. In each of the three provinces, PONRE will oversee the pilot-based activities and will be closely involved in the development and enforcement of management and zoning plans (of which the governor and chief of local administrations are authorized to enforce the regulations) for the critical habitats of Spoon-billed Sandpipers, Water Lily and Eastern Sarus Crane in these three provinces. It will play an important role in reaching out to local communities in coordination with the Irrigation Department and forest administrations. To mainstream BD policy and proven results of the demo sites into the Provincial development Plan, PONRE will be the key agency to liaise with Provincial Development Committee in the planning and budgeting process.
<b>Zoological Park Organisation (ZPO)</b>	The ZPO has led work on the reintroduction of several globally threatened species back into the wild – including the Sarus Crane. Being a member of International Flyways Initiative, and with technical experience of ES conservation and recovery planning, ZPO brings considerable technical capacity with regard to ES conservation, as well as linkages with international experts and networks. As a government enterprise, ZPO can make profits and can accommodate a range of creative collaborations through public-private partnerships. The zoo also has experience of developing and implementing environmental education for children and adults. The ZPO role is crucial in the reproduction of critical species and knowledge dissemination for decision makers and the public awareness. For this project, the ZPO will also be able to bring its research experience from the center of reintroduction of Endangered Species (ESC in this case) providing scientific evidence of Business as Usual (BAU) and MRV (Measurable, Reportable, Verifiable) results of post project intervention. ZPO will pioneer the model of establishing monitoring system and decision-supported data and analysis for pilot ES, aiming at policy advocacy for ES legislation and public awareness on ES valuation.

<b>Department of National Parks, Plants, and Wildlife Conservation (DNP)</b>	The DNP is the responsible authority for Protected Areas management and is the enforcement body under the Wildlife Conservation Act, which includes a list of threatened species. However, DNP enforcement authority is focused within protected areas and the organisation has limited capacity or mandate to undertake activities within the wider production landscapes. The DNP manages the non-hunting areas in Buriram Wetlands and will be involved in the implementation of the conservation plans for the ES. It is noted that DNP has established a bureau named Protected Areas Innovation adopting PES as creative measures for ecosystem services, species and habitats conservation and are also interested in sustainable financing mechanisms for conservation.
<b>Department of Marine and Coastal Resources (DMCR)</b>	The DMCR's mandate is marine and coastal resources protection in areas, which are not in-land protected areas. They have experience of working on the protection and conservation of marine endangered species as well as working on integrated coastal zone management to conserve key marine and coastal habitats. The DMCR will collaborate in the project implementation at the site level, specifically at Khok Kham Sub-district, with the coastal areas (non Protected Areas) of Samut sakorn estuaries fall under DMCR supervision. The department will also be able to provide technical input on approaches to ES conservation and planning.
<b>Ministry of Agriculture and Commerce (MoAC)</b>	
<b>Royal Irrigation Department (RID)</b>	The RID is usually part of threats to wetland biodiversity due to focus on water extraction for agriculture. The department, however, also has the potential to be a key gatekeeper of wetland areas. For the conservation of the Eastern Sarus Crane, the Irrigation Office in Buriram is a key stakeholder actively involved in balancing water use within the three reservoirs for agriculture, domestic use and habitat conservation.
<b>Department of Agriculture</b>	The DOA is the research and development element of the MoAC. The Department has developed a number of certification system for agricultural products with varieties of criteria such as Good Agricultural Product, organic produce etc.
<b>Cross Sectoral Committees</b>	
<b>National Environment Board (NEB)</b>	The NEB is the highest body for environmental legislation and policy supervision within the country. Chaired by the Prime Minister, the approval of the board is a significant element in ensuring the enactment of environmental legislation, implementation of policies plans and programmes. The NEB can also issue Ministerial Regulations which provide a strong mandate for activities and programmes to be undertaken and requires for all line agencies and provincial authorities to conform.
<b>National Economics and Social Development Board (NESDB)</b>	The NESDB is designated to formulate the five-year National Economic and Social Development Plan. The current 11th Development Plan emphasizes Creative Economy, Green Growth, Biodiversity, and low carbon society. As the government think tank, NESDB provides overarching direction to line ministries on integrated development schemes. The NESDB sets priorities and screens government investment projects for the Budget Bureau to allocate budget to line ministries. The NESDB guidance will legitimate provincial zoning in favour of ES conservation and recovery.
<b>Ministry of Interior</b>	
The MoI has the mandate of activating decentralization policy through designated provincial Governors who work as the head of provincial branch offices of all ministries, and also local government administration. In addition, it sets the guiding framework on integrated planning through the use of Key performance Indicators (KPIs) for all provincial administrations. The MoI will be engaged in the project through integration of ES and critical habitat related KPIs into Provincial performance monitoring systems as well as being engaged in the mainstreaming process for the land use planning framework.	

<p><b>Provincial Governors</b></p>	<p>The provincial Governor is the commander of all central line agencies at the provincial level. Provinces have two main channels of budgeting (through line agencies, and through a direct Provincial fund) with the provincial development plan providing an integrated structure through which these different channels are linked. The Provincial governor is the chair of the provincial development committee responsible for developing and providing oversight to the plan. Line ministry budgets should be in line with this plan (and contribute to it) with allocations then being provided based on the ministerial policy and approved provincial development plan. The provincial governor is also the chairman of several sub committees for sectoral policy and implementation namely, sub committee on provincial zoning and land use planning and is also chair of the Environment Protection Area (EPA) Committees where they have been designated. The project will actively engage with Provincial governors (their offices and the provincial development committees) to support central coordination of action on ES and Critical habitats as well as ensuring a clear mandate and political support for enforcement of ES and critical habitat conservation measures.</p>
<p><b>Tambon Administrative Offices (TAOs)/ Provincial Administrative Offices (PAOs)</b></p>	<p>Local government is the primary administration through which national policy can be spelt out and act as primary financial support to local initiatives. Decentralization policy made drastic change to local governments allowing them to develop their own agendas and have an authorized budget. Local Government Organization will be key project champions due to their mandate for sustainable resource management generated by the decentralization policy, and their capacity and mandate to enforce national, provincial and local regulations. TAOs in the demonstration areas will be target partner for conservation planning, capacity building, local collaboration and partnership. The local government units (TAOs) are responsible for local sustainable development, so they will be involved in the process of land use planning; and oversee and allocate budgets that communities may access for livelihood projects and other development work, as well as enforcing local level regulations and Provincial level land use plans. Provincial Administration Organization (PAO) are the parallel elected body to the governor's office. Substantial budget goes to construction projects without environment mainstreaming. Either as target of change or champion for ground support, PAO will be an important project partner at provincial level.</p>
<p><b>Department of Town &amp; Country Planning (DTCP)</b></p>	<p>The DTCP is responsible for ongoing process of regional and urban planning and development. The DTCP will work closely with the project to help mainstreaming ES habitat zoning as guiding principle of National Land Use Planning Framework. The guiding framework will be stipulated to the development of provincial zoning and land use plans headed by the governor. The provincial branch of the DTCP and PONRE will work together in integrating the ES zoning and conservation planning into the provincial development plan that spell out relevant and effective land use and zoning and ensure corresponding budget allocations.</p>
<p><b>Other Government Bodies</b></p>	
<p><b>Tourism Authority Thailand (TAT)</b></p>	<p>The TAT has been supporting efforts to promote the "unseen" nature assets and wildlife-based eco-tourism. The TAT can help to provide technical guidance to the project on eco-tourism development as well as provide valuable market linkages helping local level tourism operators to access national and international markets.</p>
<p><b>Designated Areas for Sustainable Tourism Administration (DASTA)</b></p>	<p>The DASTA govern the designated tourism areas in particular for eco-tourism and sustainable development. It works in a broad range of special areas that can include ES habitats and promoting ES as icon species within the environmental protection zone notified by ONEP and NEB. The organization will provide support to the development of eco-tourism activities within the Non-hunting areas in Buriram province as well as the EPA within Suk-Samran district.</p>
<p><b>Biodiversity-Based Economy Development Office (BEDO)</b></p>	<p>The BEDO is a newly developed public organization under MONRE inspired by the PES principles. BEDO schemes provide Bio Certificate and market access for biodiversity-friendly products. BEDO experts will provide support in the development of methodologies for assessing the environmentally friendly credentials of goods and services developed within the project as well as advice on other certification schemes that may be applicable.</p>

<b>Chamber of Commerce (CoC)</b>	The CoC has a direct channel of communication with private business interested in environmentally friendly economic activities as well as the capacity to raise awareness of environmentally friendly approaches within the broader business community. The Provincial Chamber of commerce is a member of Provincial Development Committee of which the governor is the chairman. Chamber of Commerce will liaise with tourism entrepreneurs who has potential to be the project champions. Through engagement with the CoC the project will be able to help secure sustainable financing for conservation activities through private sector engagement and development of environmentally friendly goods and services.
<b>Leading Corporates/ private Association</b>	
<p>Payment for Ecosystem Services (PES) is at a trial stage in Thailand. PES approach for private business is to start with voluntary matching between corporates with CSR as gratitude to nature, and service providers who guarantee environmental safeguard.</p> <p>Followings are relevant examples of initial stage of PES. Selective cases using Water and its ecosystem services as primary resources for the production sector in Thailand.</p> <ol style="list-style-type: none"> <li>1) Coca Cola in Kaeng Lawa (Internationally important Wetland): application of Water Balance to the Wetland ecosystem</li> <li>2) HSBC in Bung Khong Long (Ramsar site): Fish Bank</li> <li>3) Nokia in Samroi Yod: Mangrove plantation</li> <li>4) Green Hotel in Chumporn (Southern gulf): Business and fishing community as a model of social enterprise</li> <li>5) Hotel Six Sense chains in southern provinces: community products for spa</li> <li>6) Green Net exports of organic products and international labeling</li> </ol> <p>As to elaborate more for the PES feasibility, there exists a village in Buriram whose organic rice production has joined the IFOAM scheme at the verification stage. This can be an entry point for development of a biodiversity friendly product within the Sarus Crane Habitats. The name of this rice is Khao Jib which means "Bird". The likely matching buyer is Nok Air (means Bird Airlines) who might be interested to sponsor/ willing to pay gratitude to the Buriram wetland as Sarus Crane habitat. CBOs will be service providers in wetland conservation and as the guardians of Sarus Crane. Mahidol will support the MRV while PONRE provide enabling policy and legislation support.</p>	
<b>Academic and Research Institutions</b>	
<b>Mahidol University</b>	Mahidol University is a leading educational institution working on action-oriented research. It plays vital role in supporting decision makers with on-sites research and decision support analysis. The University has been engaged in research work associated with the reintroduction of the Eastern Sarus Crane and will be able to work with the project providing technical support to further work on the crane as well as on developing approaches to conservation and recovery plan development and implementation and land use zoning based on ecological criteria.
<b>Thailand Institute of Sciences and Technology Research (TISTR)</b>	The TISTR has experience in developing decision support tools that integrate environmental, economic and social criteria. The institute has undertaken work in this area with key partners involved within water lily conservation and will continue to work with the project to support implementation of activities on the ground within Nakha Sub-district as well as contributing to development of national systems.
<b>The Thailand Research Fund (TRF)</b>	The TRF have been working with communities to established nodes within communities to undertake participatory environmental research and monitoring. Its popular Thai- baan research on wetland biodiversity is the model for integration of local wisdom with scientific back up. The fund will work with the project to identify approaches to integrating community based management and monitoring into ES and critical habitat conservation.
<b>NGOs</b>	

<b>Thai Wetland Foundation / BCST/ IUCN/ local NGOs</b>	The Thai Wetland Foundation is a national NGO committed to supporting Wetland conservation. They work closely with other NGOs and government groups to facilitate conservation actions at local and national levels. BCST is a national NGO active on bird conservation. The organisation is both an advocacy and campaigning group and has scientific expertise and knowledge that is well regarded among the local and international birdwatchers. BCST work closely with the local governments and broad community network, acting as a facilitator for the bird conservation in the Inner Gulf of Thailand. IUCN is an international NGOs working with CBOs in conservation of Water Lily and its habitat protection.
<b>Community Based Organisations (CBOs)</b>	Community-based Organizations (CBOs) provide the experiment ground for the implementation of government policy with proven results. Effectiveness of land use plan and land use change depend largely on the balance between compulsory and incentive measures accepted by community members. CBOs network on natural resources and environmental management is proved to be most active and will act as the nature guardians to guarantee sustainable wise use of resources and ES habitat protection. The project will involve active Civic Group such as the Plern Pri Klong Nakha Eco-tourism Club (part of the North Andaman Tourism Network (N-ATN)); and Khok Kham Conservation Club (part of the Inner Gulf NGO Network) in local conservation planning and implementation.

The above table, which is the result of extensive discussions and presentations, serves as the draft Stakeholders Participation Plan. An updated list of stakeholders will be produced during the Inception Phase and the draft Stakeholders Participation Plan will be reviewed and strengthened by the project team.

## 2 STRATEGY

### 2.1 Project Rationale and Policy Conformity

#### Fit with GEF Focal Area Strategy and Programme

The project supports strategic objective 2 of the GEF biodiversity focal area (BD-2) – *Mainstreaming biodiversity conservation and sustainable use into production landscapes, seascapes, and sectors.*

More specifically, the project will contribute to Outcome 2.1: *Increase in sustainably managed landscapes and seascapes that integrate biodiversity conservation.* It will do this through the development of effective management approaches for critical habitats for three endangered species directly impacting an area of 75,951ha<sup>51</sup>. Broader policy engagement and support will also help integrate biodiversity, ES and critical habitat considerations into the planning processes of at least three provinces and work on ES and critical habitat monitoring will also improve the capacity to sustainably manage critical habitat within Thailand.

The project will also contribute to Outcome 2.2: *Measures to conserve and sustainably use biodiversity incorporated in policy and regulatory frameworks,* through the development and adoption of a new Endangered Species and Critical Habitat Bill and a land use planning framework. Key elements of this bill and framework will also be integrated into key sector policies and programmes led by the Ministry of Agriculture and Commerce and the Ministry of Interior.

The project also advances the strategic targets of the UNCBD Strategic Plan for Biodiversity 2011 – 2020, in particular, 7) By 2020, areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity; and 12) By 2020, the extinction of known threatened species has been prevented and their conservation status, particularly of those in decline, has been improved and sustained. These will be

<sup>51</sup> Sarus Crane: -29,443 ha (area of six sub-districts excluding 2,661ha of non-hunting area)  
 Spoon-billed sandpiper: Khok Kham Sub-district 7,000 ha  
 Water-lily: Nakha Sub-district: 39,508ha  
 Total: 75,951 ha



addressed by increasing the number of hectares of production landscape managed sustainably to ensure the conservation of biodiversity, and through ensuring the stability of the three target species of the project namely the Eastern Sarus Crane (*Grus antigone sharpii*), Spoon-billed Sandpiper (*Eurynorhynchus pygmeus*) and Water Lily (*Crinum thaianum*).

### **Rationale and Summary of the GEF Alternative**

In the **baseline scenario**, at national level the MONRE will continue to work on developing approaches to biodiversity conservation focused on area based conservation activities. ONEP will work to support coordination of activities related to ES and critical habitat conservation but with a limited tool set and national capacity and will only be able to make limited progress in the protection and conservation of a few high profile target species. At the same time Thailand's growing population and economy will continue to put increasing pressure on natural resources resulting in further degradation of critical habitats, and fragmentation of key habitat areas. Land use management and planning processes will also remain contested with PONRE offices having limited tools or capacity to challenge development decisions on the basis of biodiversity conservation. Efforts to develop environmentally friendly goods and services will also continue but will focus on high profile target areas or species located in or surrounding protected areas with the broader potential of this approach within other production landscapes not being fully realised.

Scenarios for site level situations are provided below.

The **GEF alternative** at national level will be to have ES and critical habitat conservation and biodiversity friendly practices mainstreamed into land use planning and management practices in different sectors. It will do this by developing both the institutional tools and the institutional capacity to support mainstreaming. It will work closely with the ONEP and ZPO in developing legislation, regulations and planning frameworks that enable mainstreaming and support these institutions in developing effective monitoring and enforcement systems for ES and critical habitats that can then be used to effectively assess the status of ES and critical habitats and feedback into land use decision making processes. The project will also support ONEP to strengthen existing coordination mechanisms for land use planning and management to increase the efficiency and effectiveness of how ES, critical habitats and biodiversity more broadly are integrated into these processes and conservation requirements are enforced. This support will help deliver more effective land use decision-making and enforcement processes that take into account the importance of biodiversity, ES and critical habitats.

The project will also work across the three pilot sites and at national level to help catalyse a paradigm shift within production sector to focus more on environmental standards within production techniques. Through development of three clear pilot projects that develop environmentally friendly goods and services the project will provide a base for further advocacy and awareness raising of the value of these approaches. Through working with project partners including government offices such as the BEDO, civil society groups and networks such as the N-ACT and the private sector the project will help share these lessons and develop best practice within their development that can be promoted within sector ministries to support improved extension support to farmers, budget allocations and policy reforms.

The implementation of the proposed project will have an immediate global environmental benefit through improved land use planning and management approaches that take into account the importance of ES and critical habitats and the development of conservation and recovery plans to support the future of these species. This will lead to strengthened conservation for ES and critical habitats within Thailand and the recovery of currently endangered species and their associated habitats, something that will have broader environmental and social benefits through habitat conservation and improvements in environmental quality.

As a result of the significant effort that the project will make on institutional capacity building and the mainstreaming of biodiversity considerations into tourism sector development, these benefits will be sustainable.

Further information on the GEF alternative at site level is provided in the table below.

<b>ES and Critical Habitat</b>	<b>Current Situation</b>	<b>GEF Alternative</b>
Spoon-billed Sandpiper (Khok Kham Sub-district)	The critical habitat for Spoon-billed Sandpiper's survival in Khok Kham Sub-district is known but not effectively mapped nor zoned as per critical importance to the ES. No powers to stop any form of development or "take" of ES currently exist. NGOs will continue to work with the local administration to support some conservation efforts. An increasing trend to change from traditional salt-pans towards intensive managed, modern, deep and steep-sided aquaculture ponds, typically unsuitable for shorebirds is likely to continue however resulting in decline in habitat area and further declines in numbers of the species within Thailand.	The critical habitat for Spoon-billed Sandpiper's survival in Khok Kham Sub-district are identified, mapped and zoned. All forms of development will be located outside of core areas. Extension packages are developed to encourage mass adoption of sustainable practices in salt production and aquaculture. Increased community incomes and improved lives as a result of profits from certified, biodiversity friendly enterprises such as salt products and eco-tourism. Protection is supported at provincial and national level by strengthened land use planning frameworks for ES and critical habitats.
Water Lily (Nakha Sub-district)	<p>The critical habitat for Water Lily's survival in Nakha Sub-district have undergone initial mapping but no management or zoning activities have been developed. Efforts to develop and promote eco-tourism will continue through the N-ATN but will be vulnerable to ongoing threats from:</p> <ul style="list-style-type: none"> <li>- Indiscriminate dredging of rivers and streams for removal of sediment and rock for construction and land reclamation purposes.</li> <li>- Agriculture: Clearing of land for agriculture and resultant land-based erosion and river bank erosion, mainly for monocultures (Rubber and Palm Oil).</li> <li>- Unsustainable land use practices by local communities leading to increased pressures on land and aquatic resources resulting in resource degradation. The limited incomes of communities will also hinder further development of viable biodiversity-friendly business ventures.</li> </ul>	<p>The critical habitat for Water Lily's survival in the Nakha Sub-district are identified, mapped and zoned. All forms of development will be located outside of core areas. Collection of Water Lilies will be prohibited in these areas. Zoning will include areas in which dredging will be permitted as it will not have a negative effect on water lily populations and will have local economic gains. Specific methods to minimize impact will be prescribed in certain areas e.g. trapping of sediment.</p> <p>Strengthened management of forest fragments will help to improve the quality of water run off and watershed management. Regulated pesticide use will be implemented in areas identified as having an effect on Water Lily population with farmers and agricultural extension workers fully aware of values of biodiversity with some shifting their marketing strategy to focus on sustainable production. Extension package encourage mass adoption of sustainable practices in agriculture. Increased community incomes and improved lives as a result of profits from certified, biodiversity friendly enterprises such as NTFP products and eco-tourism.</p>
Eastern Sarus Crane (Ban Bua, Samet, Sakae Prong, Sakae Sum and Prakhon Chai Sub-districts)	<p>The critical habitat for Eastern Sarus Crane in Ban Bua, Samet, Sakae Prong, Sakae Sum and Prakhon Chai Sub-districts is known with initial mapping undertaken based on movements of released birds. Limited powers exist to address "take" of ES outside of non-hunting areas.</p> <p>ES reintroduction to continue but remain vulnerable to poisoning from agricultural chemicals and habitat degradation. Expanding agriculture and ongoing infrastructure development (resulting from increased population and housing) will have an increased demand for water, resulting in further degradation</p>	<p>The critical habitat for Eastern Sarus Crane in Ban Bua, Samet, Sakae Prong, Sakae Sum and Prakhon Chai Sub-districts are fully identified, mapped and zoned. All forms of development will be located outside of core areas.</p> <p>Extension package encourage mass adoption of sustainable practices in agriculture. Increased community incomes and improved lives as a result of profits from certified, biodiversity friendly enterprises such as rice products and eco-tourism. Reservoir water planning, abstraction and management incorporates ES aspects. Reservoir management benefit from increased ecotourism revenues as a result of</p>

	of habitats and increased pressure on rehabilitation process.	increased tourism to view Sarus Crane and other birds.
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## 2.2 Project Objective, Outcomes and Outputs/Activities

In order to achieve the project objective, and address the barriers, the project's interventions have been organised into two outcomes (this is in line with the components presented at the PIF stage):

### Project Objective

The objective of the project is **to mainstream globally important biodiversity species conservation into production sectors through improved management of critical habitats**. To this end the project will work to integrate endangered species and critical habitat conservation into new and existing legislation as well as working to provide clear examples of how ES and critical habitat conservation can be operationalized for target species.

### Project Outcomes

Two components were identified during the initial PIF stages each component has given rise to an Outcome that will be targeted as a means through which the Objective will be reached. The two Outcomes are:

**Outcome 1:** *Enabling framework and capacity to manage ES in productive landscapes strengthened.*

Outcome 1 focuses on strengthening the policy and institutional frameworks in place at the national level to manage and support the conservation of endangered species and critical habitats. The component is aimed at directly addressing existing limitations in regulations and legislation, which do not provide clear guidance on the conservation and protection of ES and critical habitats. The approach will address gaps in existing legislation, develop frameworks to guide implementation of legislation, build the capacity of relevant institutions and support cross sector learning of best practice to facilitate the upscaling of ES and critical habitat conservation and protection within production landscapes.

Estimated cost for the Outcome is \$5,808,195 of which the GEF contribution is \$499,004.

**Outcome 2:** *Critical habitat management demonstrated for three endangered species.*

Work under this objective will focus on the conservation of the Eastern Sarus Crane (*Grus antigone sharpii*), the Spoon-billed Sandpiper (*Eurynorhynchus pygmeus*) and the Water Lily (*Crinum thaianum*). This will be achieved through both increasing national, provincial and local capacities to protect these species as well as identifying and supporting sustainable financing pathways for their conservation within production landscapes. Achievements in conserving these species will also be utilized as part of a process of sharing best practice in ES and critical habitat conservation throughout Thailand.

Estimated cost for the Outcome is \$6,097,233 of which the GEF contribution is \$1,100,000.

### Project Outputs and Activities

Each Outcome will be achieved through a portfolio of Outputs, which will be carried out at one of the four main localities. Outputs, together with a description of the activities, responsibilities and inputs, are listed below following each of the three Outcomes.

**Outcome 1:** *Enabling framework and capacity to manage ES in productive landscapes strengthened*

**Output 1.1:** *Legislative framework for ES conservation strengthened through development of an ES and Critical Habitat Bill*

ES and critical habitat conservation is currently not actively addressed within Thai legislation, presenting challenges for the protection of species outside of designated PAs. The output will support the ONEP in developing an ES and Critical Habitat Bill through the review of existing legislation, assessment of international best practice and the identification of key objectives for ES and critical habitat conservation in Thailand. The bill will, amongst other requirements:

- Stipulate the procedures for listing a species as endangered, building on experience from the recently developed list of endangered species by the ONEP.
- Stipulate the procedures for designating a “critical habitat” of an ES, which, if sustainably managed, will ensure the conservation of the targeted species.
- Stipulate the procedures for assigning a lead agency to coordinate management of a “critical habitat” and will clarify the agency’s role and responsibilities vis-à-vis other agencies.
- Endorse a land use planning framework for “critical habitats” (see Output 1.2)
- Stipulate the procedures for establishing “take”<sup>52</sup> prohibitions for ES.
- Stipulate requirements for undertaking different levels of Environmental Impact Assessment in advance of changes in land management techniques within critical habitats.

The bill will deliver environmental benefits by providing a clear legal mandate to prioritise ES and critical habitat conservation within integrated planning processes at provincial and local levels. This process will help to maintain critical habitats for a large number of species – there are currently 1,342 reserved species within Thailand that does not include the 133 threatened plant species identified on the IUCN Red list, or the 489 threatened plant species identified on the National Red list. Conservation of the critical habitats for these species will help to preserve significant areas of Thailand’s natural habitats as well as preserving existing species diversity within production landscapes. The process will also build on the work of international initiatives such as the East Asian Australasian Flyway Initiative, and the country’s commitments under the CBD in defining and identify ES and critical habitats.

During bill development, careful consideration will also be given to the potential for a focus on ES conservation to divert resources away from other conservation activities. As such the bill will be designed to integrate ES conservation into existing provincial management structures and the development planning process to reduce excess administration and to ensure that effective environmental safeguards are in place and enforced to ensure that ES and their habitats are effectively protected. This process will also be linked to activities in Outcome 2, which, will focus on identifying and developing approaches to environmentally friendly production methods and provision of extension support to their development, thus providing a ES and critical habitat conservation ‘package’ at the site level which links conservation with production activities and ongoing economic development.

Work will be led by the ONEP who will, establish a technical working group for bill development under the National Biodiversity Sub-committee, provide technical staff to support the drafting process and act as the focal point for coordination of the draft bill. It is anticipated that this sub-committee should include representatives from the Ministry of Interior (MoI), Ministry of Agriculture and Commerce (MoAC), Ministry of Tourism and Sport (MoTS), and the Ministry of Industry (MoInd).

The bill will be presented to the NEB as the highest-level environmental decision-making body for approval prior to being submitted to cabinet for approval. The technical working group will also be engaged in the development of the land use-planning framework due to over laps in technical expertise and the need to maintain strong coherence between the two documents.

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<sup>52</sup> The term “take” is defined within this context as; to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect an individual of a species, or to attempt to engage in any such conduct.

**Output 1.2. Land Use Planning Framework in place that integrates conservation into land-use planning and allocation decisions**

No single agency is responsible for land use planning with responsibility falling across 14 different agencies dependent on location and identified land uses. While environmental safeguards are in place to guide significant infrastructure or other development projects, no framework currently exists to guide how land use planning and management occurs within critical habitats.

This output will support the ONEP in strengthening the existing land use planning frameworks to account for ES and critical habitats and ensure that conservation and recovery plans are respected by provincial and local governments, line agencies, the private sector and communities when operating within critical habitat areas and that appropriate environmental safeguards are operationalized. The project will develop a framework, which clarifies key elements of the planning process within areas that ES and critical habitats are present, this will:

- provide for the designation of no-go areas for development in highly sensitive areas;
- prescribe appropriate measures and practices that reduce threats to biodiversity in production areas through increases in requirements for environmental safeguards such as EIAs, and SEAs and restrictions on the types of activity that can be undertaken within a specific location;
- specify the roles and responsibilities of key institutional structures (including, PONRE, the Provincial Environment Committee and the Provincial Development Committee, and local government agencies) in terms of identifying, planning, monitoring and enforcing,
- provide operational procedures for integrating conservation and recovery plans into provincial and local decrees
- identify means of redress for stakeholder groups including indigenous peoples and vulnerable groups

In this way the framework will provide clear information to all stakeholders on how land use planning within critical habitats should be undertaken. The framework will be supported by clear guidelines as well as the institutional arrangements to support operationalization.

The operationalization of the framework will be empowered through provision of a legal mandate by the ES and Critical Habitat Bill (Output 1.1), and the building of capacity to support the processes of land use planning through strengthening of coordination bodies (Output 1.3) and the adoption of key planning and monitoring tools (Output 1.4). The project will also work with the Department of Town and Country Planning to make amendments to the Town and Country Planning Act, to recognize the legitimacy of the framework and its interaction with existing legislation. These amendments will recognize the mandate of Provincial Governors to make decrees supporting ES and critical habitat conservation on the basis of agreed conservation and recovery plans, and the primacy of these plans over pre-existing sectoral standards. The project will ensure that this is demonstrated in at least five provinces (including the three target locations Outcome 2) by working with Provincial Authorities and local government to adopt strengthened approaches to planning and land management within critical habitats under their jurisdiction.

The framework will deliver benefits to both ES and critical habitats and land use planners by providing a systematized approach to integrating ES and critical habitat conservation into planning processes. By clarifying different roles and responsibilities it will reduce administrative overlap cutting costs and facilitating coordination. Strengthened regulations will also enable ONEP and PONRE to play a stronger role in land use decision-making and for local communities and NGOs to engage more effectively within the process. Care will also be taken within its development to ensure that the framework does not become a tick list of actions that have little impact on ES or critical habitat conservation and that it does not create perverse incentives for habitat degradation in areas outside of critical habitats. Testing of the framework within the three pilot sites, under Outcome 2, will help to ensure that the framework is fit for purpose and provide opportunities for feedback to be provided on its design and implementation modalities.

Work will be led by the ONEP in close collaboration with the Department of Land Development, Department of Lands, Department of Public Works and Town & Country Planning, Department of National Parks, Wildlife

and Plant Conservation, Royal Forestry Department, the Department of Local Administration, and the Department of Provincial Administration.

**Output 1.3:** *ONEP-led cross-sectoral coordination mechanism in place leading to better planning, coordination, monitoring and enforcement capabilities for ES conservation.*

ES and critical habitat conservation require close coordination between a significant number of agencies, departments and non-government stakeholders. The ES and Critical Habitat Bill and land use planning framework will identify the need for this coordination to be strengthened and the importance of ES and critical habitats to be increased, with these requirements operationalized through both existing land use planning committees as well as new ES and Critical habitat coordination committees at national (as a sub-committee of the NEB) and provincial levels.

This output will focus on establishing these institutional structures at national, and provincial level and supporting their capacity to fulfil a coordination role. The output will be implemented in synergy with Outputs 1.1. and 1.2. as well as capacity building activities under output 1.4. to allow for an ongoing process of testing of structures and strengthening of approaches to coordination during the project's lifetime. The Output will also be closely linked with Output 1.4 with regard to linking institutional structures to the mainstreaming of activities into existing development planning frameworks.

The output will be led by the ONEP, which has the capacity and the mandate to convene and coordinate a range of stakeholders at national and provincial level. At national level coordination will be closely linked with the work of the NEB and the sub-committee on Biodiversity to ensure a clear institutional structure is maintained and decision-making is strengthened. In this way the output will support the ONEP in engaging with other ministries and agencies to integrate and mainstream ES and critical habitat conservation into existing policies and planning frameworks. At Provincial level the PONRE offices will work within their mandate inside existing land use planning mechanisms to improve the awareness of, and response to ES and critical habitat conservation. The position of these offices will be strengthened by the development of the ES and Critical Habitats Bill as well as the Land use planning framework and will also build on case study examples of how to best integrate development and production activities with conservation of habitats.

At the national level activities will focus on engagement with the MOI to support the integration of ES and critical habitat conservation into key performance indicators at provincial level, as well as with the Ministry of Agriculture and Cooperatives to further strengthen national level approaches to development of environmentally friendly agricultural products. The process will also work with the MONRE and other key ministries and agencies, including Provincial and local administrations on how to operationalize environmental impact assessments and initial environmental enquiries within critical habitats as part of the proposed ES and Critical Habitat Bill (see Output 1.1.).

**Output 1.4:** *Institutional capacity of ONEP to identify ES and monitor its recovery strengthened*

Existing ES and critical habitat monitoring is ad hoc and undertaken by a broad range of stakeholders and institutions. This output will be led by ZPO in close coordination with ONEP to build capacity to develop and implement a comprehensive ES and critical habitat monitoring and management system. The system will be designed to link monitoring activities with management decisions to support the integration of ES and critical habitat management into national, provincial and local development planning processes as well as deliver on Thailand's international reporting commitments. It is anticipated that the project's support will focus in three areas:

- Development of an overall monitoring and management system structure
- Development of a systematized approach to conservation and recovery plan development
- Establishment of an effective GIS decision support system

*Development of an overall monitoring, management and enforcement system structure*

The system will provide a mechanism to monitor the implementation of ES legislation, including on-going information on the status of ES and critical habitats and the implementation of conservation and recovery plans. The system will link, site-specific monitoring and enforcement activities with existing national level species monitoring activities (currently managed by different departments) and national level data management systems (the biodiversity information clearing house) and international reporting requirements. In this way the system will help site specific management of critical habitats, provincial planning processes and Thailand meet and report on its obligations under the CBD and other international and regional agreements. The system will also allow for a clear process for operationalizing and recording enforcement activities helping to maintain transparency and consistency within this process and providing ONEP with the capacity to raise weaknesses and enforcement across line agencies at the central level within the NEB.

The ONEP will establish a technical working group to develop the overall information system framework as well as the conservation and recovery plan format (see below). The group will consist of agencies currently undertaking species monitoring activities as well as those who will be responsible for implementing conservation and recovery plans. Key members will include: Government bodies such as ONEP (which is responsible for the central information clearing house under the CBD), ZPO (which has information on a number of key species), and the DNP (which keeps a record of migratory bird species), and non-government organisations such as the BCST (which keeps a list of bird species and their status), IUCN (which has information on the Water Lily as well as other key species) and other NGOs, and academic institutions that have conducted research on endangered species and critical habitats. The group will initially assess existing capacity and systems for monitoring biodiversity, information requirements under global, regional and national agreements and the needs of national and local level decision makers related to development planning. Based on this assessment the group will develop a system that identifies the institutional structures responsible for data collection and data management as well as the means by which information can flow between these groups. Standardized data collection formats and means of reporting will also be established to strengthen the consistency of information collected across institutions.

The technical working group will work with a range of stakeholders to identify how biological monitoring information, particularly related to the implementation of conservation and recovery plans can and should be integrated into existing planning and land use decision making process, who will be responsible for collecting the information and how that information can be provided in a timely manner. The system design will also be closely integrated to the ES and Critical Habitat Bill and the Land use planning framework (developed under Output 1.2) to ensure that there are clear linkages between data collection and monitoring and relevant management responses.

Capacity support will then be provided to ONEP and its partners to initiate the operationalization of this system. This process will ensure that partner line agencies, as well as provincial and local government understand the requirements of the system and are able to able to integrated it within their operational activities to ensure enforcement.

#### *Development of a systematized approach to conservation and recovery plan development*

No standardized approach to developing conservation and recovery plans for ES currently exists within Thailand. Plans are developed on an ad hoc basis but lack in many cases official recognition or long term financing.

The output will support ONEP in developing, as part of the national level ES and critical habitat monitoring and management system, a standardize format and approach to developing conservation and recovery plans for ES. Plans will provide a clear baseline for future management and conservation activities, provide a mechanism for setting targets for conservation and developing guidance on actions required at the national, provincial and local levels to meet these targets. The approach will build on existing systems and levels of capacity within Thailand while also drawing on international best practice.

The technical working group on monitoring and management systems (noted above), will develop a template of the Conservation and Recovery plans that will link to the monitoring system as well as the legislation and planning framework developed under Output 1.2. The template and approach to its completion will be circulated to a broad range of stakeholders for peer review and will then be submitted to the NEB for approval as part of the broader approach to ES and critical habitat management and monitoring. Training will be provided to key staff within ONEP as well as other stakeholders on how the plans should be developed at site level with a focus on PONRE staff and staff from the MoAC, as well as key representatives from NGOs, research organizations and the private sector. Plans for at least ten species will also be developed as part of this process to build understanding of how the plans can be operationalized and links to existing levels of biological data and management processes established. Three of these species will be the target species for Outcome 2 and will be developed as part of undertaking comprehensive demonstration of linking conservation and recovery plan development to implementation.

#### *Establishment of an effective GIS decision support system*

The output will support the ONEP in the development of an effective GIS planning and management tool to form part of the broader ES and critical habitat monitoring and management system.

The development process will focus on establishing a system that is able to directly feed into decision making processes at national, provincial and local levels. The system will link data collection activities at the local level with national conservation and recovery plans to help inform decision makers at different levels of the existing status of ES and critical habitats and the potential implications of different land use, policy or programme decisions. The system will be available for use at a range of different levels and will build on existing systems for data collection and management, bringing together information on existing land use, land use change and species distribution as well as reporting needs under international, regional and national agreements. The system will allow planners to initially visualise different zoning scenarios based on existing socio-economic and environmental information and to identify optimum approaches to zoning based on this information. It will then be able to support ongoing monitoring of these zones through both remote sensing information and ground trothed data collection. In-cooperation of this data into one system will also help to link local and provincial level information collection and decision making with national level systems.

The output will be delivered through an assessment of existing capacity and resources within the ONEP, their data needs. Based on this and through a collaborative design process a GIS decision support system will be designed. The project will then work with the ONEP to install appropriate hardware and software and provide training on approaches to staff. A practical operational manual to help ongoing management of the system will also be developed in partnership with the ONEP to ensure the technical sustainability of the system.

#### **Outcome 2: *Critical Habitat management demonstrated for three Endangered Species***

This outcome will focus on operationalizing ES conservation and mainstreaming activities in three key locations as well as supporting the sharing of lessons learned and opportunities for scaling up of activities. Target species and locations are:

- The Water Lily in Suk-samran District 39,508ha with a focus on the Nakha Sub-district covering 28,493 ha.
- The Spoon-billed Sandpiper in Khok Kham Sub-district covering an area of 7,000ha.
- The Eastern Sarus Crane in Ban Bua, Samet, Sakae Prong, Sakae Sum and Prakhon Chai Sub-districts – with a focus on sub-districts surrounding the three no-hunting zones of Huay Chorakaemak Non-Hunting Area, Huay Talat Non-Hunting Area and Sanambin Non-Hunting Area and a total area of 32,104ha (an area of 29,443ha when 2,661ha of non-hunting area is excluded).

The approach will utilised the establishment of the ES and Critical Habitats Bill as a basis for designation of EPAs within the three areas. These EPAs will mainstream, and enforce the requirements of the act through integration of Conservation and Recovery plan requirements into local land use planning, monitoring and enforcement activities. GIS land use planning tools will be utilised within each area to undertake land use



zoning and will be linked with the capacity building process under Output 1.4. Environmentally sustainable economic activities will also be supported within each area through support to business planning and extension services to help demonstrate how production activities can be integrated into conservation efforts. Through this approach the project will be able to demonstrate how ES conservation can be enforced within production landscapes without extensive duplication of systems or mandates or significant negative impacts on local livelihoods.

**Output 2.1.** *Management and zoning plans implemented for the identified critical habitats of Spoon-billed Sandpiper, Water Lily and Eastern Sarus Crane in Buriram, Samutsakorn and Ranong Provinces.*

The output will establish, strengthen, and implement management and zoning plans within the critical habitats of the Spoon-billed Sandpiper, Water Lily and the Eastern Sarus Crane through designation and implementation of EPAs within each area. As each site has its own specific management arrangements and is at a different stage of integrating ES conservation into local planning different approaches will be used at each site. However a common set of steps will be followed that will also link with activities undertaken under outputs 2.2 and 2.3. These are:

- *Listing of Species as ES and Defining of Critical Habitat under the ES and Critical Habitats Bill (Output 1.1.)*

Ecological assessments will be undertaken to identify the existing status of the species, its critical habitat and existing threats. This information will be linked with existing classification of the species under the National and IUCN Red list and their inclusion under the new ES and Critical Habitat Act to receive formal legal protection.

- *Development of Conservation and Recovery Plan for identified species*

A Conservation and Recovery Plan will be developed for the target species. Plan development will be undertaken through a participatory process linking scientific assessment of conservation and recovery requirements (see above), assessment of the value of ecosystem services from key habitat areas (Output 2.2), existing Provincial and Local development plans and existing local livelihoods and use of natural resources. Once developed plans will provide clear management requirements including land use zoning, requirements for SEIAs, EIAs and IEEs for different local and provincial planning processes or activities that could “take” species and penalties for non-compliance. This process will also be closely linked with Output 2.2. which, will support the development of long term financing structures to help manage and enforce these arrangements while also sustaining the livelihoods of local communities.

- *Establish formal designations for each area and associated management arrangements*

Linked to the above steps formal designations will be established to provide a legal basis for conservation activities as well as helping to provide a stronger framework for management, enforcement and financing (linked with Output 1.2). This process will be linked with the enactment of the ES and Critical Habitats Bill under Outcome 1 but will be fast tracked by utilising the existing EPA regulations to operationalize local management guided by the requirements of the Conservation and Recovery Plans.

- *Build capacity to support management and enforcement operations (linked with output 1.3)*

In each case support will then be provided to build the capacity of local stakeholders to both implement and adhere to new management arrangements. This will include, training on application of Conservation and Recovery Plans, development and review of SESAs, EIAs, IEEs, undertaking of environmentally friendly livelihoods, monitoring a species status and prosecution of infringements.

- *Full Implementation*

The project will then support the implementation of these approaches and developed skills helping participants to ‘learn through doing’ in terms of planning and management activities.

Further information on how these steps will be operationalized in each location is provided below:

Water Lily:

Existing mapping work identifies the locations of the Water Lily within the Nakha Sub-district. This work will be strengthened and combined with information from other areas of Water lily population to present a case for inclusion of the Water Lily within the list of ES under the ES and Critical Habitats Bill. This work will be led

by PONRE, in close conjunction with ONEP who have already initiated planning for the establishment of an EPA within Suk-Samran District, and the IUCN who have conducted significant work on the Water Lily to date. The work will be integrated with a further assessment to identify optimum conditions for the species and how these conditions can be maintained through effective catchment management. Assessment of the catchment dynamics will also include an assessment of how best to manage and mitigate potential flooding through effective land use management to identify both the economic and ecological basis for improved catchment management – a critical element of addressing the threats caused from channel dredging and required to change management approaches within local government. Based on this information a conservation and recovery plan will be developed for the species that identifies permissible land uses within the area and additional requirements for environmental safeguards.

This conservation and recovery plan will form a key element of ONEP's proposal for the designation of an Environmental Protection Area covering the Suk-Samran District (of which Nakha sub-district forms 72% of). This designation will be based on a participatory land use zoning and process, which will link requirements from the conservation and recovery plan for the Water Lily to existing economic and social needs to define permissible land use activities within different zones as well as setting requirements for SEIAs, EIAs and IEEs, and penalties for infringements.

This designation will set clear management requirements for the critical habitat area as well as establishing the broader administrative framework for the enforcement of the agreed land use zoning and EIA requirements. Under the designation a Committee to Control and Monitor (CMM) application of the EPA will be established with the PONRE acting as the Secretariat for the body, which is chaired by a representative from the Provincial Governor. This body will be responsible for ensuring that land use changes are managed effectively and in accordance with the regulations set out in the EPA designation with penalties being applied for failure to apply the regulations. The committee will also be responsible for assessing SEIAs submitted for Provincial and Local development plans to ensure that they will not impact the EPA. A technical Committee on Environmental Assessment (CEA) will also be established which will review EIA and IEE documents for local level development projects and applications for land use change. Financing for the basic operation of these committees will be provided through the Provincial government budget, with further long term financing plans being developed in partnership between the project (under Output 2.2) and the CMM.

At the local level the project will work with the N-ATN and in particular the Klong Nakha Eco-tourism club and the IUCN to develop sub-district level monitoring activities focused on ensuring effective environmental management and compliance at the community level and collection of information on the state of environment and ES within the area. The group will undertake monitoring activities with information submitted to District authorities and PONRE on a regular basis with representatives of the CCM verifying information on a periodic basis with a focus on ensuring illegal harvesting of water lilies is prevented. The group will also work with the local administration to develop additional site level regulations, or initiatives that are specific to the sub-district and will further support species rehabilitation as well as eco-tourism development, such as rehabilitation of riparian and catchment forest areas, local level waste management and approaches to local farming. Financing for these activities will be supported by the Klong Nakha Eco-tourism club as well as the local authority.

#### Eastern Sarus Crane

Through the rehabilitation programme ZPO have collected information on the local habitat of the ESC and its behaviour within the areas surrounding the three non-hunting zones. The project will support ZPO to utilize information from the rehabilitation process to submit an application to ONEP for the inclusion of the ESC in the ES list under the ES and Critical Habitat Bill and develop a Conservation and Recovery Plan for its ongoing reintroduction and recovery.

The plan will be used as a basis for the designation of an EPA to surround the three non-hunting areas of Huay Chorakaemak Reservoir, Huay Talat Reservoir and Sanambin Reservoir conserving key Sarus Crane habitat. The designation will be based on a participatory land use planning process that links ecological requirements with identification of economic opportunities and the potential for environmentally friendly production techniques (output 2.2). The EPA will integrate requirements of the Conservation and Recovery plan into the local land use planning processes and will set additional requirements for environmental management

surrounding the areas including restrictions on development activities and increased requirements for application of environmental safeguards including EIAs, IEEs and SIAs (particularly with regard to agricultural and urban development initiatives that may impact on irrigation requirements from the reservoirs). The EPA will also further strengthen the management requirements for the non-hunting areas requiring ecological considerations to be taken into account when setting levels of water use and managing reservoir levels, helping to enhance the overall ecological condition of the wetland areas and protect them against future changes in climate and increased water demand for irrigation. These requirements will be operationalized by the Irrigation Committees.

Oversight of the EPA will be provided by the Provincial level Committee to Control and Monitor (CMM), headed by the Provincial Governor, which, will ensure enforcement of regulations and provide information on ONEP and MoI on implementation. At the local level the Committee on Environmental Assessment will ensure that local level planning and land use activities are subject to the correct environmental safeguards and that land use is in accordance with that prescribed under the EPA with the local authority being responsible for enforcement and reporting of any breaches.

#### Spoon-billed Sandpiper

The project will support collation of information on the SBS by the BCST for submission as an ES under the ES and Critical Habitats Bill, and the development of a conservation and recovery plan for the species.

It will also work with the Thai Wetland Foundation, BCST, PONRE, DMCR (including the District Fisheries Office – responsible for aquaculture), Local government, and community members to develop a comprehensive land use plan that incorporates both terrestrial production landscapes, riparian areas and coastal areas that provide habitat for the SBS and impact on the quality of that habitat. The plan will be inline with the requirements of the Conservation and Recovery plan and will also identify opportunities for environmentally friendly economic activities that can be undertaken (Output 2.2). This plan will form the basis of an EPA designation in line with the requirements of the Conservation and Recovery plan and the ES and Critical habitats bill and will ensure that there is a legal mandate to enforce restrictions on land use activities, zoning and additional environmental safeguards through the Committee on Control and Monitoring at the Provincial Level and the Committee on Environmental Assessment at the local level.

The project will then work with local stakeholders to ensure that the plan is fully enforced with local level monitoring of production activities to ensure that they are in line with EPA regulations. Capacity building support will also be provided to the CMM and CEA to ensure they are able to effectively coordinate activities across ministries and maintain fulfil enforcement requirements.

#### **Output 2.2. Long-term financial sustainability strategy for 3 ES habitat sites developed**

Within target areas critical habitats are vulnerable to changes in land use as communities shift forms of production or change management regime as communities seek to maximize the economic value of their land. This output will focus on developing long-term sustainable financing strategies to enhance the economic basis for and feasibility of ongoing environmental conservation. This process will be closely linked with activities under output 2.1. to ensure that both clear economic opportunities are being provided alongside management restrictions and protection activities, and that financing is in place to implement those management arrangements. In this way local communities will be able to strengthen and diversify their livelihoods as part of critical habitat and ES conservation approaches.

To achieve this the project will support initial assessment of the value of ecosystem services and the economic opportunities within each location. These assessments will consider opportunities to develop sustainable economic opportunities within the sites linked to and supporting conservation of the critical habitats and ES as well as how different opportunities can be best designed to support vulnerable groups within the communities including women and youth. The assessment will consider initially the increased management costs associated with implementation of conservation and recovery plans within the sites, and how these can be financed, for example increases in national, provincial and local government budgets (with options

including direct financing through the National Environment Fund, assignment of budgets from Provincial budgets or line agency budgets), CSR support or public private partnerships. In addition and linked to this the potential for development of environmentally friendly goods and services will also be assessed (including costs of development, implementation, potential markets and price premiums) to review their potential to sustain and enhance livelihoods as well as facilitate, and potentially help finance management activities. This process will also help to strengthen links between the PONRE and provincial Tourism authority to further develop eco and 'creative' tourism based activities within the target areas. As each site is unique consideration of these issues will need to be addressed separately with initial options identified below.

Following the development of the economic assessments the project will work with key local stakeholders to develop a long term financing strategy and key business plans within this. This process will require close coordination between a range of stakeholders including government officials at provincial and sector levels, NGOs, and the private sector and will build on the coordination structures developed under Outcome 1.

### Initial Identification of Opportunities

#### Spoon-billed Sandpiper

*Sustainable salt production* – Existing salt production is small scale and provides an effective habitat for a large number of migratory and wading birds. Maintenance of current production techniques and further modifications to increase their ecological credentials and economic benefits provides an opportunity to create an ecologically friendly product that would also support long term habitat conservation and economic development. Enhanced learning around what practices are most appropriate, as SBS habitat would also have global significance. SBS appear selectively at certain salt-pans with different management regimes but limited information is available on, which, are preferable and what management techniques maintain these.

Producers are already arranged in cooperatives, which, with support from NGOs and extension workers, would be able to implement sustainable management practices across an initial 600ha of critical habitat with the potential for later scaling up into other Spoon-billed Sandpiper habitat areas. Increasing revenue from salt production would help to reduce vulnerability to land use change (particularly to aquaculture) allowing for the maintenance of existing water bird habitats. The economic assessment should identify:

- costs of developing fully eco-friendly process for salt production
- potential additional economic benefits within the system (e.g. aquaculture during wet season)
- cost of developing new certification (there are a limited number of environmentally based salt certifications as such a BEDO certification will be developed to provide standards and legitimacy to the process).
- potential market opportunities – e.g. luxury hotels and spas, or fish sauce producers

#### Water Lilly

*Eco-tourism development* – While current tourism levels do not present a direct threat to the Water Lilly potential expansion of tourism activities could put pressure on the species. Strengthening existing activities and ensuring that income continues to support Water Lilly Conservation, however, will help to further drive conservation activities within the area and the delivery of the conservation and recovery plan for the species by proving both ongoing finance and community motivation for its implementation. The existing Klong Nakha Ecotourism group (which includes over half the population of the local community) utilises income from tourism to support conservation activities such as educational trips for children and support to the water lily nursery. Further strengthening of this group would thus help to increase funding for such activities as well as increasing community level motivation to address threats to the water lily. This work will be supported by the N-ACT, which, will help to build stronger links between different community groups within the area. The project will work with the network to identify next steps in community based tourism development including assessment of the viability of different eco-tourism certification schemes, and what approaches can be taken by government, communities and NGOs to address gaps in start-up financing for eco-tourism activities.

*Watershed management* – the project will also review opportunities for improved incentives for watershed management. One of the most significant existing threats relates to channel dredging by the Local Government to reduce flood risk. Improved catchment management may also be able to deliver reductions in the risk of flooding by slowing water run off and increasing upstream catchment of water. The project will look at the potential for improved management to reduce flood risk and how this could be incentivised by local government based on reductions in the cost of dredging activities.

### Eastern Sarus Crane

*Ecologically friendly rice production* – excessive use of pesticides by some farmers have been identified as harming and even killing reintroduced ESC. These practices are also detrimental to both the wetland habitat, which the farmland surrounds, the downstream agricultural producers who rely on the reservoirs for irrigation, and the domestic water supplier which utilizes the reservoir as a water source. Development of an area in which more environmentally friendly techniques would help to conserve the critical habitat area as well as improving the environment for an expanding population of ESCs. Effective branding of such a product may also be able to attract a price premium making it economically viable for communities to commit to: Key considerations for the economic assessment will be:

- Cost of undertaking ‘environmentally friendly techniques’ – e.g. potential reductions in yields, time to certification, forms of certification and environmental vs costs of implementation benefit (organic rice is being developed within Buriram but the market for this is highly competitive and a fully organic approach – under a certification scheme such as IFOAM) may not be necessary to ensure habitat is maintained within the area, with a separate certification issued by BEDO the alternative).
- Potential market development – e.g. links with local or national markets, potential links with local football club or other significant local businesses.

This approach will also be considered for downstream users of irrigation water with them adopting approaches that would both favour the ESC in terms of direct land management and would enter into an agreement to reduce levels of irrigation water use to help maintain beneficial water levels within the reservoirs.

*Payment for enhanced water quality* – The ZPO have developed an Eastern Sarus Crane branded water. The current brand, however, has limited direct connection with the habitats in which the crane exists. Further assessment could be given to developing this concept through two main avenues.

- Development of a branded water product – preferably water from the product would be sourced from one of the three reservoirs. This could then be marketed locally with a particular focus at developing linkages with the Buriram United football club, which would provide a substantial market for bottled water on match days.
- Payment for enhanced water quality – many of the improvements in agricultural techniques noted above will also improve the quality of the water within the reservoirs. Consideration should be given for the potential for improved water quality to be identified as an ecological benefit that is subsidised by the municipal water supplier (due to reduced processing costs) or the irrigation offices (as reduced pollutants would improve the quality of irrigation water and improved land management would also reduce sedimentation with the reservoirs reducing the need for costly dredging and management).

### **Output 2.3:** *Strengthening of Extension support to help guide land users to adopt biodiversity friendly land-use practices.*

Existing awareness of ecosystem friendly approaches to land management and capacity to implement them is varied across the three case study areas. Output 2.3 will focus on providing support to local stakeholders to improve their capacity to implement ecosystem friendly approaches through identification of priority options for changes in land use management practices, development of training modules for extension workers, development and provision of training to extension workers on in identified areas, and development and provision of training to key local stakeholders including, communities, farmers, local businesses and government officials. These activities will be closely linked with activities developed under Output 2.2. with capacity building support aligning with identified opportunities for the development of environmentally friendly goods and services and focusing on building the capacity to implement the business plans developed under this output. Training materials developed will however be applicable for use across Thailand allowing for training activities to be expanded over the lifetime and following the project. This will be facilitated within Khok Kham by the Inner Gulf NGO network, which, covers the broader Gulf Areas and in Suk-Samran by the N-ATN, which covers a much broader area.

Work will initially focus on identifying the existing incentives and disincentives in place for sustainable and eco-friendly agricultural practices and where these are affected by lack of awareness or capacity. Based on this

assessment action plans will be developed within each site to identify how to maximize results from options that are easy to implement, are cost effective for producers, and result in environmental benefits. The project will work with local extension workers and NGOs to develop and provide training on these options.

The process will also identify more complex opportunities that will require additional capacity building as well as ongoing financial or technical support. Action plans will then be developed to identify how more complex opportunities can be achieved through the provision of ongoing extension support in combination with the relevant incentive mechanisms. These approaches will be closely linked with the business plans developed under output 2.2. as well as work with government officials to both access existing funding streams and develop their capacity to provide support to non-government actors. Activities will focus on providing additional technical support within key areas such as:

- Small business development including - business management; tourism development; branding;
- Specific agricultural techniques, such as organic farming, or specific biodiversity friendly land management regimes with a view to achieving standards at the level of national or international certification schemes in these areas.

In order to strengthen this process and ensure its sustainability training modules will be developed within these areas with the project supporting the training of extension workers within government and amongst key NGOs to deliver these modules and thus be able to continue to deliver them within different locations after the end of the project.

The output will also work with ONEP and PONRE to identify how best to increase awareness of key decision makers at the provincial level to see the opportunities and within ecosystem friendly approaches. Training in this area will seek to bring together international commitments under the Rio conventions, with existing national level policies and programmes including commitments under the NESDP, and Provincial level objectives related to economic development and development of Provincial products.

## 2.3 Assumptions and Risks

The project strategy is based on the **assumption** that by *mainstreaming* ES and critical habitat conservation into planning and monitoring of land use and that by providing clear indicators of how biodiversity and economic productivity can be combined within approaches to land management more stakeholders will take up such approaches. Mainstreaming requires the following ingredients –

- Effective policy and procedural framework
- Capacity to implement and manage the process
- Awareness, sensitivity, understanding.

In addition, it has been assumed that increased capacity in ONEP will facilitate the mainstreaming of biodiversity and that communities who are informed of the value of biodiversity good and services, and provided with the skills to develop them with chose to pursue these approaches.

These assumptions have given rise to the project design which sets about putting in place the guiding framework for the conservation of endangered species within production landscapes and provides how the integration of conservation activities and the production of environmentally goods and services can lead to strengthened livelihoods. The risk that these basic assumptions will fail is very low. However, there are other less fundamental risks, some of which were identified in the PIF and these are considered as follows:

Risk	Rating	Likelihood	Mitigation
The political situation in Thailand becomes unstable preventing	Moderate	Low	The current political situation is abnormal within Thailand, although plans are in place to facilitate the return of a democratic establishment. The project will work to mitigate the uncertainty by developing effective advocacy strategies to engage key decision

the development of any new policies or legislation and their mainstreaming.			makers with regard to bill development and formation of land use planning framework. As such the approval of such documents should be possible within the NEB and other key bodies. The project will also work to operationalize these approaches at the site level. Should full approval of them thus be impossible the project will still be able to work with local partners to develop these site level interventions that will can form the basis of future policy and legislative development.
Weak coordination and cooperation between different government agencies will be difficult at the sites	Moderate	Moderate	A number of government agencies working on water resources, agriculture, and local development will need to be involved in achieving coordinated management planning at the sites, which can be time-consuming. However, there is a recent move in Thailand to ensure strong local ownership over local development planning and the local Tambon officials and locally elected leaders are empowered to take on leadership roles to ensure strong coordination between line agencies.
Delayed approval of ES legislation	Moderate	Low	The current political environment in Thailand makes the passing of any new legislation challenging. In order to support the approval of new legislation and frameworks the project will employ a highly consultative approach drawing on reviews and inputs from various stakeholders (government, private sector, communities, local bodies and academicians) to ensure feasibility and acceptability of the proposed legal document. The proposed cross-sectoral institutional mechanism will become the vehicle for optimizing dialogue among stakeholders and support towards the enactment of the legislation. Further, the project is led by the government agency responsible for setting up environmental policies and legislation in Thailand; the local ownership of the project is high. The Government of Thailand has initiated the reform of numerous environmental policies. Inevitably, the integration of ES into production sectors will be difficult unless there is clear political understanding of the need for these changes, and a full commitment to making this happen. To some extent this understanding and commitment have already been built at Government-level. This will be further strengthened in making the economic case for biodiversity conservation and showcasing its value in the three targeted areas. In order to further mitigate this risk, UNDP will maintain a watching brief over commitment and work with national and local authorities to expedite legal reforms.
Weak coordination within and between local and national government and other stakeholder institutions responsible for land management; limited capacity (especially at lower levels) to interact with land users on land/water management	Moderate	Moderate	The project will support and facilitate activities to ensure improved institutional coordination, capacity building and awareness-raising at the national, provincial and district levels. The project's output "Office of Natural Resources and Environmental Policy and Planning led effective coordination mechanism in place" will address this risk through emplacing a multi-stakeholder coordination framework.
ES-friendly land management does not lead to sufficient economic gains for households at the project sites	Moderate	Low	Only practices identified by local communities themselves as socio-economically sustainable will be disseminated for adoption on a broader scale. The project will further reduce this risk by encouraging ES-friendly land management practices and by rapidly building the capacity of communities to increase income through business development skills and marketing. The project design phase has already identified a number of options for increased income for

			communities through ecotourism and marketing of ES-friendly products, as outlined under Outcome 2 of the project.
Migratory species are impacted by threats external to Thailand.	Low	Moderate	The Spoon-billed Sandpiper migrates over vast distances and spends considerable periods of the year outside of Thailand as do a range of other migratory bird species. During these times they are vulnerable to a range of threats that are beyond the scope of the project. The project will work to mitigate the impact of any external changes in population level. First by ensuring that the domestic environment is as favourable as possible for the species to ensure that they are able to recover from annual stresses when in Thailand. Second the project will work to provide a holistic approach to critical habitat conservation and development of environmentally friendly goods and services within each location to ensure that changes in population levels of one species do not completely change peoples' perceptions of the value of different habitats or their capacity to implement and benefit from environmental friendly goods and services.
Changes in climate adversely impact target species.	Low	Moderate	Changes in climate within Thailand have the potential to put additional pressure on the habitats of each targets species, from changes in river channel ecology for the water lily, to increases in inundation of salt pans within the SBS habitat or increased pressure on water resources within the reservoirs linked to the ESC habitat. In developing appropriate management and enforcement strategies for these areas however the project will help to reduce the impacts of any changes in climate by both reducing direct impacts (for example by strengthening regulation of water level in the reservoirs related to the ESC habitat), as well as improving the overall resilience of the habitats in which these species live by reducing ongoing disturbances within them.

Further consideration of risks will be carried out by the project during the Inception Phase.

## 2.4 Cost Effectiveness

The project provides a cost effective approach to conserving the habitats for globally important flora and fauna in production landscapes in Thailand.

The project's design is inherently cost effective focused on both the mainstreaming of approaches to ES species and critical habitat conservation into existing approaches to land use planning and management and providing clear examples of how these approaches can be operationalized to be both financially sustainable and promote green growth. At the national level the mainstreaming of ES conservation into land use planning and management approaches provides a cost effective approach to conserving significant critical habitat areas that exist outside of the PA network within production landscapes. This approach to habitat conservation will not only be less costly than development of new protected areas but will also help to streamline existing data collection, monitoring and management approaches for ES reducing the cost of these processes.

The cost effectiveness of this project will be further ensured by the following elements that have been included in project design.

- *Combination of national and site level activities* – the project combines support to addressing the legislative and capacity gaps for ES and critical habitat level as well as site level support to demonstrate how these land use planning and management approaches can be operationalized. The development of these approaches will be complimentary enabling learning at site level to inform national level approaches and for capacity building at national level to be linked to practical activities at the provincial and site level.
- *Range of site level examples with potential for shared learning* – the pilot site locations encompass different species, different habitats and different socio-economic conditions that are representative of a range of environments within Thailand. As such case study examples from these locations will be able to be utilized by a wide range of locations throughout Thailand. This is particularly true within the Gulf of Thailand where lessons from Khok Kham will have strong resonance within all provinces within the area between which there is significant potential for shared learning to strengthen existing interests in



conservation activities with an initial NGO network already in place. Similarly experiences from the Water Lily pilot site will be able to be shared in a cost effective way through the existing N-ACT.

- *Development of approaches to the production of environmentally friendly goods and services* – by focusing on developing approaches to developing environmentally friendly goods and services the project will establish financially sustainable approaches to land use management. These approaches will provide a cost effective approach to conserving habitats as well as providing clear case studies of how environmental sustainability can be linked with economic production and business development that is highly relevant in the current Thai economy and national development context.
- *Development of incentive based approaches to habitat conservation* - the project will place equal emphasis on assisting compliance with new requirements for critical habitat management as well as approaches to enforcement. This approach will require less intense and less costly levels of monitoring and prosecution as well as presenting a model that other provinces and sites will be keen to adopt. The project will work effectively with local communities and stakeholders to share management responsibilities and costs, as well as to develop sustainable economic activities that can benefit these partners and generate revenue streams for protected areas. This is more cost effective than an exclusionary strategy aimed solely at biodiversity conservation, which is likely to be costly to enforce and unlikely to be sustainable.

The financing of this project is also cost-effective in that the GEF contribution has leveraged a significant level of resources as co-financing from the Government of Thailand. The project will also work closely with existing networks and programmes at site level and national level to help share experiences and broaden the impacts of the projects across Thailand.

## 2.5 Stakeholder Involvement

The project has been developed through consultations with a number of key stakeholder representatives at national and site level. A national expert was recruited to prepare a number of background studies and consulted more broadly with national stakeholders on the validity of the project strategy.

Taking an adaptive and collaborative management approach to execution, the project will ensure that key stakeholders are involved early and throughout project execution as partners for development. This will be achieved through the central project management structures as well as the proposed Technical working groups as well as through both formal and informal consultation meetings with government, non-government and private sector representatives. The project will also run a number of awareness raising, training and consultation workshops to help increase engagement from a broader range of stakeholders and promote learning around the projects activities and outcomes. Within the project management arrangements (see Section 3) different stakeholder groups will also be engaged in the Project Board, the review of project outputs, as well as participating in monitoring activities. At site level land use zoning and planning activities will be undertaken through a participatory approach to ensure that all relevant stakeholders are engaged and that management approaches do not result in relocation of communities.

The background studies prepared as part of the development of the project included assessments of Thailand’s current institutional arrangements for ES and critical habitat conservation, best practices for coordinating environmental priorities, and stakeholder roles. Important consultations were also held with various government representatives and focal points to ensure that the project was appropriately designed and its implementation arrangements suitable.

A stakeholder analysis has also been included within the project development process (see Section 1.6) and outlines key stakeholders groups and their relevance to the project. Table 4 below provides a more focused breakdown of these stakeholders by project output focusing on key lead agencies and mechanisms for engagement of other key supporting stakeholders.

**Table 4: Stakeholder Roles Outcome 1**

<b>Outcome 1: Strengthen the enabling framework and capacity to manage endangered species and critical habitats within production landscapes</b>		
Project Outputs	Lead agencies	Key Supporting agencies

<b>Outcome 1: Strengthen the enabling framework and capacity to manage endangered species and critical habitats within production landscapes</b>		
Output 1.1 Legislative framework for ES conservation strengthened through development of an ES and Critical Habitat Bill	ONEP : Drafting and proceeding the ES Bill for NEB approval	Supporting agencies will be engaged through the Technical Working group on ES and Critical Habitat Bill development that will be formed under the Biodiversity working group under the NEB. Key agencies within this body will be: <ul style="list-style-type: none"> <li>- NESDB: back up the ES Bill with 11th Plan guiding framework on Creative economy, biodiversity and green growth</li> <li>- MoI: Include ES Conservation as KPI of the provincial development plan</li> </ul> The draft bill will also be provided for public consultation allowing for inputs from key civil society groups and the Private sector.
Output 1.2 Land Use Planning Framework in place that integrates conservation into land use planning and allocation decisions	ONEP: Review and development of land use planning framework. Identification of existing limitations regarding ES conservation and potential entry points.	Supporting agencies will be engaged through the Technical Working group on ES and Critical Habitat Bill development that will be formed under the Biodiversity working group under the NEB..
Output 1.3 Cross-sectoral coordination mechanism in place leading to better planning, coordination, monitoring and enforcement capabilities for ES conservation	ONEP: As NEB secretariat ONEP will form a ES policy task groups within the NEB subcommittee on biodiversity. ONEP will also engage more proactively across agencies to ensure EIA, requirements are met and that planned development of SEA requirements are fully integrated into different sectors.	ONEP will work closely with other agencies within MONRE as well as other stakeholders to ensure that coordination activities are effective and support further enforcement of existing legislation – other key bodies include: The provincial governors: As commander in chief of all ministerial branches in a provincial administration, convene cross sectoral coordination on ES and critical habitat conservation with secured budget for ES monitoring and enforcement in the target provinces PONRE: to integrate ES and critical habitats conservation into provincial land use plan and enforcement measures within the designated ES zoning. Chief of Local government administrations to adopt the ES mainstreamed provincial land use plan and EPA measures as local regulations with enforcement assurance
Output 1.4 Institutional capacity of ONEP to identify ES and monitor its recovery strengthened	ONEP: ONEP will coordinate the development of a central management, monitoring and enforcement system. They will work closely with other agencies to link technical capacity for system development with institutional capacity and mandate for enforcement.	ONEP will work with partners to catalyse improved data management and enhanced enforcement. Key partners will include: <ul style="list-style-type: none"> <li>- ZPO: Technical support to ONEP in building capacity to develop and manage a comprehensive ES and critical habitat monitoring and management system and as a result - development of ES Conservation and Recovery plan</li> <li>- DNP provide archives of selective ES and critical habitats' data and monitoring system</li> <li>-</li> </ul>

**Table 5: Stakeholder Roles Outcome 2**

Outcome 2: Critical habitat management demonstrated for three endangered species		
Project Outputs	Lead agencies	Key Supporting agencies
Output 2.1: Management and zoning plans implemented of the identified critical habitats of Spoon-billed Sandpiper, Water Lily, and Eastern Sarus Crane in Samut Sakorn, Ranong and Buriram provinces.	PONRE: 1) Lead the coordination of cross sectoral agencies between provincial and local administration in implementing EPA measures of the 3 ES zones 2) Development of provincial level environmental management plans which include specific conservation and recovery plans for the 3 ES and critical habitats	The designation of the EPA areas will require the establishment of multi-stakeholder committees at local and provincial levels to enforce and provide oversight of the EPA regulations. Key stakeholders within the process of formulation and enforcement include: <ul style="list-style-type: none"> <li>– DNP Non-hunting areas: strengthen EPA zoning enforcement for ESC critical habitats and management of the buffer zone of the non hunting areas with alternative BD friendly economic activities.</li> <li>– Provincial TCP: Provide technical advice to provincial sub committee on Land Use plan and change of zoning to accommodate the 3 ES zones notified as EPA</li> <li>– DMCR: as technical arm of MONRE to mainstream ES zone into local land use plan and management, and strengthen the capacity of local governments in implementing EPA measures for Spoonbill habitats protection</li> <li>– Local governments (Municipality and/or bor tor): Development of Municipal/ Tambon level regulations on land use to help guide land use management at the local level</li> <li>– IUCN and Eco tourism Club: liaise with local government and eco tourism stakeholders in implementing EPA zoning via community and ecotourism rules to prevent harms from encroaching the EPA zone</li> </ul>
Output 2.2 Long term financial sustainability strategy for 3 ES habitats sites developed	ONEP and ZPO: will coordinate with the relevant offices PONRE for the identification of and development of economic opportunity assessments for each ES critical habitat areas ( economic viability, sources of funding, market and business plan for ES friendly goods and services) for organic rice, premium salt, and eco tourism	During the economic development assessment key line agencies and other offices will be engaged to bring in additional technical knowledge and capacity. These include: <ul style="list-style-type: none"> <li>– Rice Department: Provide advice on Organic Rice certification criteria and process, including market feasibility for the ES friendly products.</li> <li>– Department of Agriculture: Provide advice on GAP (Good Agricultural Practice) certification criteria and process, including market feasibility for the ES friendly products</li> <li>– BEDO: Provide advice on Bio certification criteria and process, including market feasibility for the ES friendly products</li> <li>– Chamber of Commerce: to enhance business and traders preference for ES friendly goods and services via CSR schemes and Payment for Environment Services (PES)</li> <li>– Tourism Authority/ DASTA: provide information on ecotourism best practices and market demand.</li> </ul>
Output 2.3 Strengthening of extension support to help guide land users to adopt biodiversity friendly land-use practices	ONEP and PONRE: will work to develop a comprehensive package of extension support to communities within EPA areas. This will involve coordination of a range of line ministries and other agencies to provide the	Key agencies in this process will be linked with those identified under output 2.2.

	extension support under their mandate. 1	
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## Mainstreaming Gender

The project will play particular consideration to the potential for activities to have both positive and negative impacts on different genders. Continual review of gender considerations, combined with adaptive management will help to ensure positive impacts are maximized and the project is able to support the country's movements towards a 'just society'<sup>53</sup> by increasing income generating potential for women and also ensuring that women are effectively engaged in decision making bodies. To achieve this gender will be mainstreamed throughout all project activities with key elements of this process outlined below.

### Project Inception period

During the inception stage, the concepts of gender analysis and the gender disaggregation of project activities will be introduced to all stakeholders. This will be achieved by ensuring that the Project Manager, and Field Coordinators are fully versed with gender considerations within the project. A session of the Inception Workshop will focus on gender issues with a gender expert from UNDP providing support to this session.

### Project Implementation stage

During project implementation, gender-specific issues will be mainstreamed into all project activities and project outputs. The Table below shows the specific project Outputs where gender will be mainstreamed in project implementation this process will be lead by the Project Management Unit with backstopping provided by UNDP.

**Table 6: Gender Mainstreaming within Project**

Project Output	Process	Activities	Timeframe
<i>Outcome 1: Enabling framework and capacity to manage ES in productive landscapes strengthened</i>			
1.1 Legislative framework for ES conservation strengthened through development of an ES and Critical Habitat Bill	- Potential differential impacts of bill across genders is considered	- Draft Bill reviewed to assess potential differential impacts across gender as well as other vulnerable groups.	Months 4 - 12
1.2 Land Use Planning Framework in place that integrates conservation into land-use planning and allocation decisions	- Potential differential impacts of framework across genders is considered	- Draft land use planning framework reviewed by multi-stakeholder panel to consider potential impacts on different livelihoods and related gender implications as well access to decision-making structures, recourse mechanisms and the potential differential access between genders.	Months 4 - 18
1.3: ONEP-led cross-sectoral coordination mechanism in place leading to better planning, coordination, monitoring and enforcement capabilities for ES conservation	- Levels of female participation within decision making process	- Assessment of how to increase womens' participation in coordination and decision making structures included within development process.	Months 18 onwards

<sup>53</sup> The concept of a 'just society' which includes equal opportunities for all Thai people is included within the 11<sup>th</sup> NESDP.

1.4: Institutional capacity of ONEP to identify ES and monitor its recovery strengthened	- Both genders benefit appropriately from capacity building process.	- Ensure appropriate gender balance at all training events with a minimum 70/30 gender balance.	Months 6 - 40
Outcome 2: Critical Habitat management demonstrated for three Endangered Species			
2.1. Management and zoning plans implemented of the identified critical habitats of Spoon-billed Sandpiper, Water Lily and Eastern Sarus Crane in Buriram, Samutsakorn and Ranong Provinces.	- Women are engaged in zoning process, management and enforcement.	- Zoning process undertaken with participation of full range of stakeholders including women. - Women engaged in management committees and decision-making bodies.	Months 10-40
2.2. Long term financial sustainability strategy for 3 ES habitat sites developed	- Consideration given to supporting income generating activities that are relevant to both genders.	- Initial assessment of genders engaged in different income generating activities. - Development of activities for activities engaging both genders. - Provision of training to both genders.	Months 10-40
2.3: Strengthening of Extension support to help guide land users to adopt biodiversity friendly land-use practices.	- Gender mainstreamed into extension activities.	- Gender training for extension workers - Inclusion of gender considerations in extension training materials.	

#### Project monitoring/ review/ evaluation

The project monitoring and evaluation process will mainstream gender issues by ensuring that gender considerations are included within all monitoring, review and evaluation activities. This will include both technical review of project outputs (draft ES and Critical Habitat Bill and land use planning framework) and review and evaluation of project management structures and operational practices.

## **2.6 Expected Global, National and Local Benefits**

The project is designed to strengthen and complement ongoing efforts in Thailand to conserve globally significant ecosystems and biodiversity within production landscapes. As a result the project will deliver a number of positive impacts within at the national and local scales within Thailand and will also be carefully designed to ensure that potential negative impacts are either avoided or where unavoidable at mitigated for. In addition through conserving globally important biodiversity the project will also deliver global benefits in the form of conservation of the habitats of endangered migratory species.

At the **site level** the project will help to secure the conservation of target ES within their critical habitats while also strengthening livelihood opportunities for local communities. Enhanced management of critical habitat areas guided by the national frameworks, developed through the project will, help to address conflicts over land use and sustainable development planning within target areas. Support to the establishment of effective management committees will also improve the clarity and transparency of land use planning, management and enforcement decision, while the project's focus on gender equality and public participation will also help to ensure the inclusion of women and vulnerable groups within land use planning processes that they are traditionally excluded from. The project will also strengthen local livelihoods through the development of environmentally friendly goods and services. Increased income from these activities will help to provide increased, sustainable income to rural communities, helping to reduce poverty within some of the poorer communities within Thailand. Improved environmental management in these areas will also help to improve environmental quality reducing the exposure of many communities to excess levels of fertilizers, and pesticides.

At the **national level** the project will deliver benefits through the strengthening of the legislative framework, enhanced capacity within key agencies and enhanced experience in developing environmentally friendly goods and services. These outcomes will deliver increased protection for a large number of the 1,059 species identified as threatened on the National Red List whose habitats remain outside protected areas. Strengthened environmental management within these areas will also help to deliver broader environmental benefits by conserving habitats for a wider range of species within production landscapes and helping to maintain national level biodiversity. Reductions in habitat degradation and maintenance of a more diverse production landscape, including key wetlands, will also help to improve Thailand's capacity to adapt to a changing climate and make the country less vulnerable to environmental shocks.

Through the development of a number of environmentally friendly products and services the project will also build experience in developing and implementing environmental certification schemes that will provide a basis for further expansion of environmentally and socially certified production within Thailand. In developing linkages between private sector groups, NGOs, and government officials the project will also help to support innovative approaches to environmental and land management. In supporting these linkages the project will explore a mix of approaches to developing environmentally friendly products and services such as re-alignment (or increasing) existing government budgetary resources, raising additional funds from innovative approaches such as public-private partnerships, and attracting CSR spending by private companies operating in or ES habitats. Collaboration between these different groups will help to streamline the development of environmentally friendly goods and services and increase awareness of their potential to support local, provincial and development.

The **global environmental benefits** of this project derive from the fact that the project is addressing the direct and indirect threats of globally significant biodiversity caused by current land use practices. The immediate global biodiversity benefit is the stabilization of critical habitats outside protected areas in 7 sub-districts (covering approximately 63,800 hectares), ensuring stability of globally threatened species of Water Lily (*Crinum thaianum*), Spoon-billed Sandpiper (*Eurynorhynchus pygmaes*) and Eastern Sarus Crane (*Grus antigone sharpii*). The critical habitats that will be conserved will also benefit other globally significant species, namely Black-winged Stilt (*Himantopus himantopus*), Pacific Golden Plover (*Pluvialis fulva*), Lesser Sand Plover (*Charadrius mongolus*), Asian Dowitcher (*Limnodromus semipalmatus*), Black-tailed Godwit (*Limosa limosa*), Whimbrel (*Numerius phaeopus*), Common Redshank (*Tringa stagnatilis*), Marsh Sandpiper (*Tringa stagnatilis*), Common Greenshank (*Tringa nabularia*), Nordmann's Greenshank (*Tringa guttifer*), Red-necked Stint (*Calidris ruficollis*), Curlew Sandpiper (*Calidris ferruginea*), Comb Duck (*Sarkidiornis melanotos*), Lesser Whistling Duck (*Dendrocygna javanica*), Northern Pintail (*Anas acula*), Garganey (*Anas quequedula*), Cotton Pygmy Goose (*Nettion coromandelianus*), Common Moorhen (*Gallinula chloropus*), Purple Swamphen (*Porphyrio porphyrio*), Bronze-winged Jacana (*Metopidius indicus*), Black Bittern (*Ixobrychus flavicollis*), Yellow Bittern (*Ixobrychus sinensis*) and Purple Heron (*Ardea purpurea*).

More broadly the legislative framework and capacity that is developed through the project will help to support the conservation of the 575 IUCN Red Listed species<sup>54</sup> within Thailand as well as increasing capacity for environmental management more broadly.

## 2.7 Project Consistency with National Priorities/Strategies

The project is in line with national and sectoral plans as well as with the objectives of existing provincial and local development activities as well as being consistent with ongoing support activities provided by UNDP.

At the national level the project is fully aligned with the objectives of the Eleventh NESDP, which further develops the concepts of the sufficiency economy and focuses on the need to restructure the economy towards inclusive growth (including a move towards environmentally friendly production) and to move the

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<sup>54</sup> IUCN Red list information from [http://www.iucnredlist.org/about/summary-statistics#Tables\\_5\\_6](http://www.iucnredlist.org/about/summary-statistics#Tables_5_6) accessed 06/2014

management of natural resources and the environment further towards a position of sustainability<sup>55</sup>. In particular the project will help contribute to achieving the following objectives and indicators:

Under the Strategy to Strengthen Food and Energy Security and the Agricultural Sector

- 4.2.2 Ensure that agricultural products and food will meet market demands. Continually develop the quality and standards of commodities and food by expanding sustainable agricultural areas by at least 5 percent per year, and provide consumers access to safe and healthy food at fair prices. Including the need to *increase in the number of agricultural farms with accreditation per year and the increase in the area practicing sustainable farming and encourage production that supports basic biodiversity in accordance with climate and environmental conditions.*

Under the Strategy for Managing Natural Resources and the Environment to Achieve Sustainability

- 4.2.1 Enrich the abundance of natural resources and biodiversity so that conservation lands occupy at least 19 percent of total area, expand forest reserves up to 40 percent, and attain at least 5,000 rai per year of mangrove coastal reforestation.
- 4.2.6 Increase efficiency in the management of natural resources and the environment such that communities can coexist in harmony with the forests.

The project will also help support the NESDP's objectives on gender through both supporting increases in income opportunities for women (through work on development of eco-tourism opportunities<sup>56</sup>) and the role of women in management positions at local level.

The project is also fully aligned with Thailand's "National Policies, Measures and Plans on the Conservation and Sustainable Utilisation of Biodiversity 2008-2012" which is the country's NBSAP. In particular the project is fully coherent with key strategies including:

- "Build capacity of the people and local administrative organizations on the conservation and sustainable use of biodiversity over at least 40% of the country's total area";
- "build capacity and expertise of institutions and their staff on the biodiversity conservation";
- "Strengthen capacity in conservation, restoration and protection of natural habitats, within and outside the protected areas";

The NBSAP has also notes the need to "provide protection for endangered, rare and endemic species."

This project will also support the implementation of Thailand's Action Plan (2009 – 2014) on wetland conservation, which has five goals – including conservation of wetlands with significant international importance; international cooperation; and institutional performance and efficiency. The project is also in line with a Cabinet Resolution from a meeting on November 3, 2009, which approved several measures for wetland conservation. These include issues such as the declaration of public wetland areas prohibiting any further utilization and conserving areas as water sources and water retention; the monitoring and maintenance of the wetland areas including containing the accessibility and land encroachment that will affect the public wetland areas; the increase of public wetland areas; the increase of public awareness and the participation in the planning and management process of nationally- and internationally-significant wetlands; boundary demarcation to prevent land encroachment; the declaration of nationally- and internationally-significant wetlands as sanctuary and environment protected areas; and the restoration and rehabilitation of degraded wetland areas to allow ecological and hydrological systems to function naturally.

In addition the project will address a number of challenges identified within the National Capacity Self-Assessment (NCSA 2010), which noted limitations in levels of awareness of biodiversity issues, capacity within MONRE to effectively monitor and implement legislation and limited engagement of the private sector in environmental conservation. The project will thus contribute to achieving the following objectives from the National Capacity Building Action Plan:

- Objective 2: Build capacity for the implementation of environmental laws and policies.

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<sup>55</sup> National Economic and Social Development Plan

<sup>56</sup> Eco-tourism activities within Thailand have been identified as providing increased opportunities for women to increase their incomes (see Section 1).

- *Strategy 2.1: Building the capacity of MONRE to implement actions*
- Objective 3: Build the capacity for knowledge and public outreach in biodiversity matters at all levels (local, regional, national)
  - *Strategy 3.1: Increase the knowledge of CBD and biodiversity themes and priority issues for all elected government officials and department heads.*
- Objective 4: Enhance collaboration within national agencies as well as across different stakeholder groups.
  - *Strategy 4.2: Encourage private sector to increase involvement on national biodiversity actions by having an appointed private sector representative, who represents the private sector community, to the National Committee on Conservation and Sustainable Use of Biological Diversity*

The project is also in line with the country's Tourism Development Plan 2012-16, which focuses on the need to promote sustainable tourism, ensuring rehabilitation and protection of the environment as well as increased participation by local communities. The strategy also recognises the important role that the natural environment has in developing tourism noting that 80% of tourists in Thailand prefer nature based tourism to cultural tourism.

The project will also provide support to provincial and local development plans within the pilot areas working to build the capacity of provincial and local administrations to better plan and manage land use decision making to ensure that development activities are in line with ES and critical habitat conservation. These approaches will help to safeguard existing and future tourism opportunities as well as strengthen local management capacity to support development outcomes.

The project is also complementary to the following five key on-going initiatives all of which are supported by the GEF Trust Fund. Project management will forge links with these initiatives, build on their achievements and collaborate to the extent possible.

*“Integrated Community-based Forest and Catchment Management through an Ecosystem Service Approach (CBFCM)”*

This UNDP/GEF project is creating an enabling policy and institutional environment for scaling-up integrated CBFCM practices in Thailand. This is being done through: (i) strengthening systemic capacities in sustainable forest and catchment management at the local, regional and national levels, and (ii) the expansion of CBFCM coverage throughout the country through pilot testing of defined PES and bio carbon financing mechanisms and up-scaling of best practices. This project is closely linked to Component 2 of the proposed project in regards to encourage local management and benefits from the natural resource management.

*“Catalyzing Sustainability of Thailand’s protected Area System”*

This UNDP/GEF project aims to overcome barriers to sustainability of Thailand’s PA system through: (i) improving the governance in order to support an enabling environment for long-term PA system sustainability; (ii) enhancing institutional and individual capacities; (iii) assessing and testing revenue generation mechanisms and management approaches at 5 demonstration sites leading to increased funding levels of the PA system; and (iv) emplacing new models of PA management that support effective management of the System. The project focuses on Protected Area Management where the proposed project will focus on mainstreaming biodiversity in productive and development sectors outside PAs, thereby complementing each other in the overall conservation of biodiversity in Thailand.

*“Sustainable Management of Biodiversity in Thailand’s Production Landscapes”*

This UNDP/GEF project’s objective is designed to strengthen national and local capacity for mainstreaming biodiversity into the management of ecologically important production landscapes by transforming the supply and market chain of biodiversity-based products. The project will be building national capacity for support of Biodiversity Business through: (i) Improved institutional capacity and staff competences of BEDO (Biodiversity-based Economy development Office) as Thailand’s Biodiversity Business Facility for facilitation and support of community-based social enterprises; and (ii) Improved national cooperation and coordination, among partners with competencies related to biodiversity business. The proposed project will focus on land-use planning and the implementation of restrictions (communities compensated in the event that



subsistence livelihoods are negatively influenced) adding an important component to the range of mainstreaming tools available in Thailand.

A Technical Working Group will be established that brings together technical experts on biodiversity conservation: all the above related projects will be represented on this group. Regular meetings will be held between the said projects to leverage synergies.

## 2.8 Sustainability and Replicability

The project has been carefully designed to optimize prospects for improving the sustainability of mainstreaming biodiversity into the tourism sector in the following areas:

**1. Environmental sustainability:** The project builds on a strong baseline of activities towards biodiversity and endangered species conservation as well as an increasing movement within Thailand to enhanced environment protection and increasingly environmentally concerned consumption. The project will provide a national level framework to secure legal protection for a broader range of species and critical habitats providing the tools to decision makers and enforcement agencies to ensure that these species and habitats are conserved. It will also show the opportunities available to the private sector and communities in terms of conserving biodiversity within production landscapes helping to develop a cultural shift towards environmentally friendly production nationwide, in the long term, while also ensuring the long term conservation of three critical habitats within Thailand, in the immediate term.

**2. Institutional sustainability:** The project will influence the policies and investments of key Government agencies responsible for land use planning, agriculture, tourism and environmental protection. The project will develop the tools and mechanisms needed to simplify and strengthen the protection of ES and critical habitats within Thailand. To ensure that these tools are fully utilized it will also build the capacity of key institutions within MONRE to be able to better coordinate work on ES and critical habitat conservation as well as to effectively monitor the condition of these species, as well as increasing the awareness and capacity of other key agencies responsible for agriculture, tourism and land use planning to ensure that they are both able to and willing to work with MONRE in these areas.

The project strategy will anchor the policy and regulatory reform process in the ONEP – which has a mandate to lead on environmental protection issues and coordinate relevant government bodies. While specifically enhancing the capabilities of ONEP to undertake these duties the project will also strengthen their capacity to monitor the status of ES and critical habitats and feed this information back into the decision making processes at national and provincial levels. This combined with the mainstreaming of ES and critical habitat conservation into land use planning and management mechanisms, through tools such as EIAs and SEIAs will be critical to helping real time decision be made on land use and conservation activities within production areas.

In order to show these processes in action the project will also work closely with PONRE in the three pilot sites as well as other partners in these areas to demonstrate how ongoing monitoring and management of ES and critical habitats within production landscapes can occur effectively. This dual approach will help to solidify learning and create a central group of trained and experienced practitioners at national and provincial level who will be able to both maintain conservation gains made within those areas and further demonstrate and share that knowledge across Thailand.

**3. Financial sustainability:** The project has a significant focus on making the case for all stakeholders to start seeing biodiversity protection as making economic as well as ecological sense. Recognition of the economic value of biodiversity together with the potential for development of environmentally friendly goods and services that are not only economically viable but profitable will help drive this process. In developing long term financial sustainability plans for each pilot site the project will demonstrate how the long term future of these approaches can be secured while also building linkages between different bodies in communities, the government and private sector to build innovative approaches to long term financing.

At the national level mainstreaming of ES and critical habitat conservation into existing land use planning and management will ensure that approaches become part of a basic budget requirement with key ministries and agencies also moving to increase budget allocations to further address recommendations coming from the planning processes. Demonstration activities will also help to make the financial case for changes in budget allocation across activities to increase focus on, extension services and financial tools to both increase and secure long term environmentally friendly productivity within production landscapes.

At the site level capacity building will also be provided to community groups and farmers to help develop longer term sustainable business plans for environmentally friendly goods and services. These plans and the capacity building associated with them will help to develop local level production while ensuring sound financial and business management. This will not only help to strengthen local level production but will also help to ensure the long term financial viability of conservation activities within the areas. Support to communities developing eco-tourism activities is also likely to have a positive effective on the income of women within target areas with existing eco-tourism activities within one pilot site and supported by a collaborating NGO showing significant benefits for women within households<sup>57</sup>.

**Replicability and scaling up:** The selection of three ESs with different characteristics (one a stationary species mainly present outside PAs, one species with a foraging range that cannot be effectively conserved in a localised protected area system, and one international migrant species) has been made so as to cover as much diversity as possible, and generate a diverse set of practical experiences on mainstreaming ES conservation into economic activities outside protected areas. The project will develop and use a knowledge management system to ensure the effective collation and dissemination of experiences and information gained in the course of the project's implementation. The project will also develop a set of national policies and legislations including the Endangered Species and Habitat Act, that will not only apply to the sub-districts the project will be covering, but will have national coverage establishing the enabling environment for the project initiatives to replicated in all other sub-districts of Thailand. This framework combined with the institutional capacity building that will occur, the development of linkages between actors (in particular private sector groups interested in environmentally friendly goods and services) and the existing complementary projects and activities will help ensure that scaling up of project activities will be rapid and ongoing.

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<sup>57</sup> Garrett B and de Silva J (2010) *Lessons learned - the North Andaman community tourism network* available at [http://cmsdata.iucn.org/downloads/lessons\\_learned\\_the\\_north\\_andaman\\_community\\_tourism\\_network.pdf](http://cmsdata.iucn.org/downloads/lessons_learned_the_north_andaman_community_tourism_network.pdf)

### 3 PROJECT RESULTS FRAMEWORK

**This project will contribute to achieving the following Country Programme Outcome as defined in CPD:** Thailand is better prepared to address climate change and environmental security issues through the enhancement of national capacity and policy readiness.

**Country Programme Outcome Indicators:**

**Indicator 1:** Number of national and local (networking) platforms supported and/or strengthened.

**Baseline:** As of 2011, there are few (networking) platforms fully operated by the Thai Government and participated by communities and stakeholders.

**Target:** At least 3 national and local platforms developed with UNDP support by 2016.

**Indicator 2:** Number of climate-related policies and model actions established applied and/or replicated by national and local partners; as well as exchanged in south-south cooperation forums.

**Baseline:** As of 2011, no strong climate-related national policies and model actions established, applied and/or replicated by national and local partners.

**Target:** At least 3 climate-related policies and model actions established, applied and/or replicated by 2016 with support by UNDP. At least 3 south-south exchange forums conducted addressing the three outputs and other key issues (e.g. mitigation, adaptation, environmental security, climate fiscal framework, etc.)

**Primary applicable Key Environment and Sustainable Development Key Result Area :** UNDP Strategic Plan (2014-2018): Inclusive Growth and Sustainable Development

**Applicable GEF Strategic Objective and Program:** BD2

**Applicable GEF Expected Outcomes:** Outcome 2.1: Increase in sustainably managed landscapes and seascapes that integrate biodiversity conservation; Outcome 2.2: Measures to conserve and sustainably use biodiversity incorporated in policy and regulatory frameworks.

**Applicable GEF Outcome Indicators:** Indicator 2.1: Landscapes 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. Indicator 2.2: Policies and regulations governing sectoral activities that integrate biodiversity conservation as recorded by the GEF tracking tool as a score.

	INDICATOR	BASELINE	END OF PROJECT TARGETS	SOURCE OF INFORMATION	RISKS AND ASSUMPTIONS
<p><b>Project Objective:</b></p> <p>To mainstream globally important biodiversity species conservation into production sectors through improved management of critical habitats.</p>	<p>Hectares of production landscapes legislated as ES critical habitats and protection enforced to assure the long-term survival of ES in Thailand.</p>	<p>There are currently no areas of production landscape that are formally protected due to their importance to an endangered species.</p>	<p>At least 33,893 ha legislated as ES Critical Habitats and managed in a manner that assures the long-term survival of target ES– based on:</p> <p>600 ha of salt pans in Khok Kham Sub-district</p> <p>4,800 ha – which includes 1 km buffer around the 3 non-hunting areas in Buriram Province</p> <p>28,493 ha which is the entire Nakha Subdistrict</p>	<p>Government gazette</p>	<p><b>Assumptions:</b> That improved legislative environment and land use planning framework combined with mainstreaming and increased information on ES will support the expansion of action on ES and critical habitat conservation.</p> <p><b>Risks:</b> Migratory species status is impacted by</p>

	Status of species on the National Red list.	Thailand currently has 1,058 species identified as threatened within the country's National Red list of which 6 are extinct.	No overall decline in species status of species currently listed on the National Red list for Thailand (i.e. movement from one category to another).	National Red list assessment	population levels outside of Thailand.
<b>Outcome 1:</b> <i>Enabling framework and capacity to manage ES in productive landscapes strengthened</i>	Approval of ES and Critical Habitat Bill and landuse planning framework by key decision makers	No Act currently exists focused on the conservation of endangered species.	Bill approved by Cabinet	Government gazette.	<b>Assumptions:</b> That improved availability of information on ES and critical habitat status will help to ensure effective land use decision-making taking into account ES and critical habitats.  <b>Risks:</b> The political situation in Thailand prevents effective national level discussion on a new bill or acceptance of a land use planning framework.  The impact of this will be mitigated against by developing effective products that can be utilized over time as well as the development of demonstration sites (under Outcome 2) that are able to show tangible benefits of proposed changes.
	Reduction in threats to ES and critical habitats from landuse change through adoption of landuse zoning for ES and critical habitat conservation within Provincial Plans based on landuse planning framework	Currently no provincial plans have ES focused landuse zoning.	At least 5 provincial plans clearly integrate the designation of critical habitat areas and increase environmental safeguards for development within these areas	Provincial Plans	
	Management and monitoring system for endangered species operational indicated by number of species for which conservation and recovery plans are in place, critical habitats are defined, management plans in place utilising GIS decision support tool and monitoring is in action.	Basic data system in place but not operational and with limited data management capacity.	Target of 10 species. (Target includes 3 pilot species and 7 additional species).	Species monitoring reports	

	Improvements in capacity development indicator score for ONEP for:	Current capacity assessment score card <sup>58</sup> notes ONEP scores as:	Capacity scores increase to:	End of project assessment:	
	<ul style="list-style-type: none"> <li>• Indicator 2: Existence of operational co-management mechanisms</li> <li>• Indicator 3: Existence of cooperation with stakeholder groups</li> <li>• Indicator 11: Adequacy of the environmental information available for decision-making mainstreaming</li> </ul>	<ul style="list-style-type: none"> <li>• Indicator 2: Score 1.</li> <li>• Indicator 3: Score 1.</li> <li>• Indicator 11: Score 1.</li> </ul>	<ul style="list-style-type: none"> <li>• Indicator 2: Score 3.</li> <li>• Indicator 3: Score 3.</li> <li>• Indicator 11: Score 3.</li> </ul>		
	<p>Outputs:</p> <p>1.1 Legislative framework for ES conservation strengthened through development of an ES and Critical Habitat Bill</p> <p>1.2 Land Use Planning Framework in place that integrates conservation into land-use planning and allocation decisions</p> <p>1.3: ONEP-led cross-sectoral coordination mechanism in place leading to better planning, coordination, monitoring and enforcement capabilities for ES conservation</p> <p>1.4: Institutional capacity of ONEP to identify ES and monitor its recovery strengthened</p>				
<b>Outcome 2: Critical Habitat management demonstrated for three Endangered Species</b>	Number of hectares of production landscape where land owners/users have been capacitated in producing environmentally friendly products.	No areas within the target locations currently use biodiversity friendly production techniques.	600 ha of salt pans in Khok Kham Subdistrict have been capacitated in sustainable SBS-friendly salt production Communities engaged in salt production <sup>59</sup>  400 ha of rice fields in within 1 km of reservoirs in Buriram Province have been capacitated in organic and Eastern Sarus Crane-friendly rice <sup>60</sup>	Project assessments	<b>Assumption:</b> That stakeholders will be willing to uptake new technologies and land use management practices that deliver environmental benefits and sustain livelihoods.  <b>Risks:</b> That the economic situation within Thailand

<sup>58</sup> Please see annex 2

<sup>59</sup> Figure based on production of sustainable salt from salt-pans that are used by SBS within Khok Kham sub-district.

<sup>60</sup> Figure based on 15% of farmland within 1km of reservoirs adopting certified environmentally friendly farming approaches during the project duration.

	<p>Stability or increase in numbers of populations of the following species at target sites:</p> <ul style="list-style-type: none"> <li>– Spoon-billed Sandpiper</li> <li>– Water lily</li> <li>– Eastern Sarus Crane</li> </ul>	<p>Spoon-billed Sandpiper – 4 at pilot location in Khok Kham</p> <p>Water lily – 0.5ha (blooming area)</p> <p>Eastern Sarus Crane – 25 in ‘wild population’</p> <p>No wild breeding occurred</p>	<p>Spoon-Billed Sandpiper – no reduction in species number</p> <p>Water Lily – 10% increase in blooming areas – 0.55ha</p> <p>ESC &gt; 25 in “wild’ population and ‘wild’ breeding taking place.</p>	<p>Surveys by project partners</p>	<p>worsens limiting opportunities to obtain price premiums for environmentally friendly products and reducing tourism levels.</p> <p>This will be mitigated against by ensuring capacity building provides landholders with low cost approaches to biodiversity friendly production.</p>
	<p>Identified threats to targeted species reduced:</p> <ul style="list-style-type: none"> <li>- Spoon-billed Sandpiper – critical habitat converted for intensive agriculture and urban/industrial development</li> <li>- Eastern Sarus Crane – deaths due to excessive pesticide or hunting</li> <li>- Water Lily – Number of ‘wild’ collected plant specimens to exported out of Thailand</li> </ul>	<p>Area of possible SBS habitat that has been converted to uses incompatible for SBS use<sup>61</sup></p> <p>Eastern Sarus Crane – 25 in ‘wild population’ (36 released 4 deceased<sup>62</sup> 7 missing<sup>63</sup>)</p> <p>669,563 Water Lilies exported through Suvarnbhumi Airport during 2006 -2009 (number of ‘wild’ collected specimens not known)<sup>64</sup></p>	<p>No increase in area of critical SBS habitat converted to uses incompatible to the long-term survival of SBS in the Khok Kham location</p> <p>ESC increase in survival rate of reintroduced population. Current survival rate 70% over a three year period.</p> <p>At end-of-project, no export recorded of ‘wild’ collected water lilies at the Suvarnbhumi Airport</p>	<p>Surveys by project partners</p> <p>Department of Agriculture Report in Suvarnbhumi Airport</p>	
	<p>Outputs:</p> <p>2.1. Management and zoning plans implemented of the identified critical habitats of Spoon-billed Sandpiper, Water Lily and Eastern Sarus Crane in Buriram, Samut sakorn and Ranong Provinces.</p> <p>2.2. Long term financial sustainability strategy for 3 ES habitat sites developed</p> <p>2.3: Strengthening of Extension support to help guide land users to adopt biodiversity friendly land-use practices.</p>				

<sup>61</sup> Baseline populations figures will be provided once the biodiversity inventories are completed by year 2 of the project.

<sup>62</sup> Release numbers and deceased numbers from ONEP Newsletter Q3 2013.

<sup>63</sup> ZPO pers comms

<sup>64</sup> A report from plant quarantine officials at the Department of Agriculture in Sawannaburi Airport estimated that 669,563 Water Lilies were exported during the period 2006 – 2009.

## 4 TOTAL BUDGET AND WORKPLAN

<b>Award ID:</b>	00083158	<b>Project ID(s):</b>	00091787
<b>Award Title:</b>	Flora and Fauna	<b>PIMS #</b>	4839
<b>Project Title:</b>	<b>Conserving Habitats for Globally Important Flora and Fauna in Production Landscapes</b>		
<b>Business Unit</b>	THA10		
<b>Implementing Partner</b>	Office of Natural Resources and Environmental Policy and Planning (ONEP)		
<b>Responsible Party:</b>	Zoological Park Organisation (ZPO)		

GEF Outcome/Atlas Activity	Implementing Agent/ Responsible Party	Fund ID	Donor Name	Atlas Budget Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Total (USD)	See Budget Note
<b>Outcome 1: Enable Framework and Capacity to manage ES in production landscapes strengthened.</b>	ONEP/ ZPO	62000	GEF	71300	Local Consultants	24,000	24,000	24,000	24,000	96,000	1
				71400	Contractual Service, individual	8,000	17,334	17,333	17,333	60,000	2
				71600	Travel	5,000	5,000	5,000	5,000	20,000	3
				72100	Contractual services, Company (IT SVs)	0	33,333	33,334	33,333	100,000	4
				72500	Supplies (Stationery, Office)	3,620	2,619	2,619	2,619	11,477	5
				74100	Professional Service (micro assessment + audit)	3,100	0	6,000	0	9,100	6
				74200	AV and Print Production Costs	10,000	13,077	13,077	13,076	49,230	7
				74500	Miscellaneous and contingencies	800	799	799	799	3,197	8
				75700	Training and workshops	20,000	43,333	43,333	43,334	150,000	9
					<b>TOTAL OUTCOME 1</b>	<b>74,520</b>	<b>139,495</b>	<b>145,495</b>	<b>139,494</b>	<b>499,004</b>	
				71200	International Consultant	0	18,000	0	18,000	36,000	10
				71300	Local consultant	-	10000	0	10,000	20,000	11

<b>Outcome 2:</b> Critical Habitat management demonstrated for three Endangered Species	ONEP/ZPO	62000	GEF	71400	Contractual services, Individuals	13846	13846	13846	13846	55,384	12
				71400	Contractual services, Individuals	34650	34650	34650	34650	138,600	13
				71600	Travel	15,000	15,000	15,000	15,000	60,000	14
				72100	Contractual Services, Company	20,000	43,333	43,333	43,334	150,000	15
				72100	Contractual Services, Company	20,000	43,333	43,333	43,334	150,000	16
				72500	Supplies	4,250	4,250	4,250	4,250	17,000	5
				72200	Equipment	15,000	33,333	33,333	33,334	115,000	17
				74200	AV and Print Production Costs	10,000	31,005	31,005	31,006	103,016	18
				74500	Miscellaneous and contingencies	1,250	1,250	1,250	1,250	5,000	8
				75700	Training and workshops	30,000	73,333	73,333	73,334	250,000	19
					<b>TOTAL OUTCOME 2</b>	<b>163,996</b>	<b>321,333</b>	<b>293,333</b>	<b>321,338</b>	<b>1,100,000</b>	
<b>Project Management</b>	ONEP/ZPO	62000	GEF	71400	Contractual services, individuals	30,463	40,615	40,615	40,615	152,308	20
				74599	Direct Project Cost	1,898	1,898	1,898	1,898	7,592	21
					<b>Total Project Management</b>	<b>32,361</b>	<b>42,513</b>	<b>42,513</b>	<b>42,513</b>	<b>159,900</b>	
<b>PROJECT TOTAL</b>						<b>270,877</b>	<b>503,341</b>	<b>481,341</b>	<b>503,345</b>	<b>1,758,904</b>	



**SUMMARY OF FUNDS IN US DOLLARS: <sup>65</sup>**

FUNDING SOURCE	Type	Amount Year 1	Amount Year 2	Amount Year 3	Amount Year 4	Total
GEF	Cash	270,877	503,341	481,341	503,345	1,758,904
UNDP	Cash	5,000	20,000	10,000	5,000	40,000
ONEP – Ministry of Natural Resources and the Environment	In-kind	1,749,308	1,749,308	1,749,309	1,749,308	6,997,233
ZPO – Ministry of Natural Resources and Environment	In-kind	1,000,000	1,200,000	1,000,000	800,000	4,000,000
Thailand Wetland Foundation	In-kind	25,000	25,000	25,000	25,000	100,000
<b>TOTAL</b>		<b>3,050,185</b>	<b>3,497,649</b>	<b>3,265,650</b>	<b>3,082,653</b>	<b>12,896,137</b>

**Budget Notes.**

<i>Items</i>	<i>Indicative \$/person/ week</i>	<i>Estimated week</i>	<i>Total</i>	<i>Note</i>	<i>Relevant Output and tasks to be performed</i>
<i>Outcome 1</i>					
Chief Technical Advisor	2,000	48	96,000	1	A national biodiversity policy expert to serve as a chief technical advisor for overall technical backstopping. S/he will work in close collaboration with the project manager and in support of the project director (in-kind from ONEP) to ensure technical coherence of outcomes as well as policy linkages. The advisor will work for 5 days a month (1 person week) throughout the entire 4 years.
Legal Expert (NRM related)	2,500	12	30,000	2	<b>Output 1.1</b> The consultant will work closely with the WG for development of the new ES and Critical Habitat Bill. The consultant will develop analysis of existing legislative gaps and linkages with existing legislation and support the drafting of the bill. They will also work closely with the Land use planning expert to link work on the Bill and the land use planning framework. Engagement anticipated over the full project duration.

<sup>65</sup> Summary table should include all financing of all kinds: GEF financing, co-financing, cash, in-kind, etc...

Land Use Planning Expert	2,500	12	30,000	2	<b>Output 1.2</b> Provide support to the WG for development of the new Land use Planning Framework. The consultant will develop analysis of existing frameworks, gaps and linkages between existing mechanisms and present best case example to guide the discussion of the working group. The consultant will be engaged in drafting of the framework. Engagement anticipated over 12 months
Travel	N/A		20,000	3	This will cover travel under the four outputs. Budget will cover travel within Thailand to conduct training and awareness raising events with relation to Outputs 1.3 and 1.4. It will also cover at least two international trips for key decision makers to gain increased understanding of ES conservation within production landscapes in other countries.
Contractual Services, Company	N/A		100,000	4	The contractual services for institution to be responsible for Output 1.4. over the course of 4 years. The team of consultants will consist of: <b>(1) Information Management Specialist:</b> The expert will work with ONEP and ZPO in the development of an approach to ongoing monitoring of ES and critical habitats and how information can be effectively managed and integrated with existing systems; <b>(2) IT/GIS systems expert:</b> The expert will work with ONEP and ZPO to identify required technical capacity needs in terms of staff capacity, hardware and software. They will then be engaged to develop a capacity building plan and provide training to support the development of capacity. The consultant will be engaged in drafting of the framework. Engagement anticipated over 12months; <b>(3) Conservation planning expert:</b> the expert will work with ONEP and ZPO to assess existing approaches to conservation and recovery planning for endangered species. The expert will then provide support in developing a framework plan that can be utilised. The expert will work in close collaboration with the Information management specialist. The consultant will be engaged in drafting of the framework.
Supplies	N/A		11,477	5	This will cover supplies for project database and information system coordination
Professional Service (micro assessment + audit)	N/A		9,100	6	For third-party financial capacity and internal control assessment (Year 1) and Audit (Year 3)
AV and Print Production Costs	N/A		49,230	7	This will cover the cost of developing information materials and training guides. Information materials will primarily be developed under Outputs 1.1 and 1.2, while training materials will be developed under Output 1.4.
Miscellaneous	3,197		3,197	8	This has been budgeted for any unforeseeable developments during project implementation that require adaptive management actions that cannot be finance through the existing planned budget to account for inflation, currency rate exchanges
Training and Workshops	N/A		150,000	9	This will provide for a number of workshops to be help to increase understanding of the different approaches to ES management and policy (Output 1) as well as provide training on the Land use Planning Framework (Output 2). It will also support training on new GIS monitoring approaches and use of conservation and recovery plans

					(Output 1.4) and will provide some support to training under Output 1.3. It will also cover the project board meetings to create awareness and understanding as well as policy entry points on ES critical habitats management.
<b>Sub-Total</b>			<b>499,004</b>		
<b>Outcome 2:</b>					
International Consultant	N/A		36,000	10	To cover fees for international consultant for Midterm Review (Year 2) and Final Evaluation, inclusive of travels
Local Consultant	N/A		20,000	11	To cover fees for national consultant for Midterm Review (Year 2) and Final Evaluation (Year 4), inclusive of travels
Contractual Services - Monitoring and Knowledge Management Consultant	N/A		55,384	12	A national M&E and knowledge management consultant will work in support of the project management unit to develop and conduct the system of monitoring and documentation of results. The expert will work throughout the 4 years, on output-based contractual services @ USD 1,230/ month for 45 months.
Contractual Services - Capacity Building and Training Provider	N/A		138,600	13	This will cover the costs of a capacity building and training provider in each location. These individuals will work closely with the technical specialists to support the development of location specific training and capacity building materials and plans and will work closely with PONRE and the PMU to ensure capacity building needs are met. These providers will work throughout the 4 years @ USD 1100/month for 42 months (x 3 persons)
Travel	N/A		60,000	14	Travel will cover travel of consultants to and within project pilot sites. It will also provide for key stakeholders within each site to visit other locations (Under Outputs 2.1 and 2.2) to identify existing best case examples of land use zoning and development of environmentally friendly goods and services.
Contractual Services, Company	N/A		150,000	15	<b>Institutional contract for a team of 3 consultants (one for each site), for:</b> <b>Output 2.1</b> to conduct initial mapping work of target species and develop in partnership with local stakeholders an initial zoning proposal <b>Output 2.2</b> to conduct economic valuation of each pilot critical habitat <b>Output 2.3</b> to provide capacity building training and support to government ministries, extension workers and local stakeholders in improved land use management techniques.
Contractual Services, Company	N/A		150,000	16	<b>Institutional contract for a team of 3 consultants (one for each business model),</b> consisting of one ecotourism expert, and two sustainable agricultural experts (for salt production and for rice production): <b>Output 2.2.</b> Conduct ecotourism assessments for each pilot area and develop initial business plans for key areas. The consultants will work with key partners to develop business plans for potential environmental friendly businesses.
Supplies	N/A		17,000	5	This will cover supplies for project database and information system coordination at pilot sites

Equipment	N/A		115,000	17	This includes operational equipment related to land use planning/ zoning (Output 2.1) as well as to support actions to implement monitoring and recovery plan at each pilot site.
AV and Print Production Cost	N/A		103,016	18	This covers materials required for awareness raising, trainings, capacity buildings, surveys, information dissemination, advocacy, manuals, under all three outputs.
Training and Workshops	N/A		250,000	19	This will provide for a number of trainings and workshops for capacity building for the implementation on ES landscape management, land use planning, biodiversity-friendly enterprises development, and extension. It will also cover the cost of meetings of local committee in each pilot site.
Miscellaneous	N/A		5,000	8	same as budget note 8
<b>Sub-total</b>			<b>1,100,000</b>		
<b><i>Project Management</i></b>					
Contractual Services Individuals	N/A		152,308	20	a full-time project manager @ 3384.6 USD/ month for 45 months
Direct Project Cost	N/A		7,592	21	Cost to UNDP for providing support services for project implementation, in hiring project personnel/consultants, and in facilitating the transfer of fund between the implementing partner (ONEP) and responsible party (ZPO). The cost will be incurred on actual transactions, based on UNDP's Universal Price List
Sub-Total			159,900		
<b>Total Project</b>			<b>1,758,904</b>		

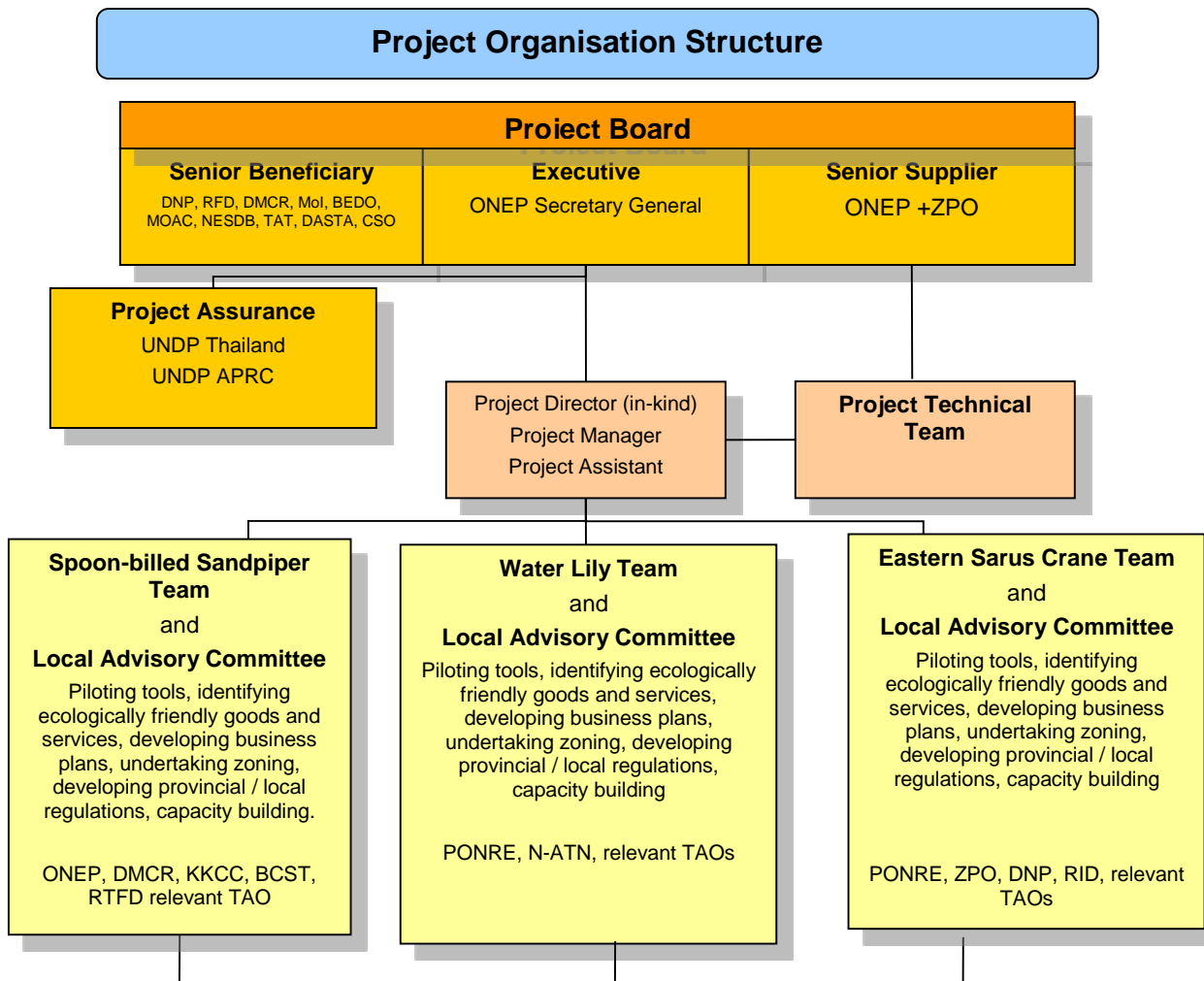
## 5 MANAGEMENT ARRANGEMENTS

The project will be executed through UNDP's National Implementation Modality (NIM) with the Office of Natural Resources and Environmental Policy and Planning (ONEP) as the Implementing Partner (IP) and the Zoological Park Organisation (ZPO) as the Responsible Party (RP).

**Implementing Partner:** Following the programming guidelines for national implementation (NIM) of UNDP-supported projects, ONEP, will sign the project document with UNDP, together with ZPO as the responsible party. The implementing partner shall be accountable for the disbursement of funds and the achievement of the project objective and outcomes, according to the approved work plan. In particular, ONEP, as the Implementing Partner (IP), will be responsible for the following functions: (i) coordinating activities to ensure the delivery of agreed outcomes (ii) certifying expenditures in line with approved budgets and work-plans; (iii) facilitating, monitoring and reporting on the procurement of inputs and delivery of outputs; (iv) coordinating interventions financed by UNDP with other parallel interventions; (v) preparation of Terms of Reference for consultants and approval of tender documents for sub-contracted inputs; and (vi) reporting to UNDP on project delivery and impacts.

**Responsible Party:** ZPO will be the responsible party to lead the implementation of the Eastern Sarus Crane Cluster. A responsible party is defined as an entity that has been selected to act on behalf of the Implementing Partner and is directly accountable to the Implementing Partner in accordance with the terms of their agreement with the Implementing Partner. In close coordination with the ONEP, ZPO will undertake the engagement of consultants, and other goods and services required to ensure the effective and timely delivery of the agreed outcomes. ZPO will also be responsible to deliver the project progress and financial reports to ONEP, in accordance with UNDP requirements.

The project will establish a Project Board (PB) and a Project Management Unit (PMU) within the ONEP. The PB and PMU will be responsible for communicating the lessons/outcomes of actual site work to relevant central bodies and make use of them in developing new policies. Existing local coordinating bodies will be utilized, enhanced, and/or expanded so as to ensure coordination of activities at the site level and the participation of important stakeholders. The overall management structure of the project is shown below:



The government will appoint a high level official within ONEP who will serve part time as the **Project Director** and focal point to the project. S/he is accountable to Government and UNDP for the implementation of the project in line with the signed project document. S/he is the approving officer for the project and will be responsible for providing government oversight and guidance for project implementation. The project director will not be paid from project funds, but will represent a Government in-kind contribution to the project.

Among the duties and responsibilities of the Project Director are the following<sup>66</sup>:

1. Assumes overall responsibility for the successful execution and implementation of the project toward achieving the outcomes and outputs.
2. Ensures the proper use of project resources.
3. Serves as a focal point for coordination of the project with implementing agencies, UNDP, Government and other partners
4. Ensures that Government inputs for project are available.
5. Leads and coordinates partners in the selection of the Project Coordinator.
6. Supervises the Project Coordinator and facilitates the work of the Project Coordinator and all staff.
7. Ensures that the required project work plan is prepared and updated in consultation and agreement with UNDP and distributed to the Government (Counterpart Ministry)
8. Leads and arranges the recruitment of project professional and support staff in line with laid out recruitment process.

<sup>66</sup> See UNDP Bureau of Management (2003) Country Office Support For Effective Project Management: Working Paper #3- National Project Directors Manual

9. Authorizes commitments of resources for inputs including staff, consultants, goods and services and training. May appoint an alternate that can support the project work in the absence of the GFP.
10. Will represent the National Executing Agencies at project meetings and annual reviews.
11. Will lead efforts to build partnerships for the support of outcomes indicated in the project document.
12. Will support resource mobilization efforts to increase resources in cases where additional outputs and outcomes are required.

The project will hire a **Project Manager (PM)** who will report to the Project Board (PB), and who will work in close collaboration with the Project Director to ensure cost efficient, technical and administrative project operations. The PM will be supported by technical consultant which will provide advice and support on any technical aspects, in particular the reviewing and drafting of Terms of Reference and reviewing the outputs of consultants and other subcontractors.

Working closely with and through the PB, the UNDP Country Office (UNDP-CO) will be responsible for: (i) providing financial and audit services to the project; (ii) recruitment of project staff and contracting of consultants and service providers; (iii) overseeing financial expenditures against project budgets approved by PB; (iv) appointment of independent financial auditors and evaluators; and (v) ensuring that all activities including procurement and financial services are carried out in strict compliance with UNDP/GEF procedures. A UNDP staff member will be assigned with the responsibility for the day-to-day oversight and control over project deliveries.

## 5.1 At Central Level

A Project Board (PB) will be designated by ONEP and will serve as the project's governance and decision-making body. The PB, will comprise representatives of ONEP, ZPO, UNDP and relevant agencies within MONRE – including the RFD, the DNP, the DMCR, and ZPO and within MoI – including the DOLA, and within the MoAC, and the MoTS. Representatives of civil society and the private sector will also be present on the PB.

The PM will also be in attendance at PB meetings. It will meet as necessary, but not less than once every 6 months, to review project progress, approve project work plans (including budgets) and approve major project deliverables. The PB is responsible for ensuring that the project remains on course to deliver products of the required quality to meet the outcomes defined in the project document. The PB's role will include: (i) overseeing project implementation; (ii) approving all project work plans and budgets, as put forward by the PM, for submission to the UNDP Country Office, and the GEF Unit in New York; (iii) approving any major changes in project plans or programmes; (iv) providing technical input and advice; (v) approving major project deliverables; (vi) ensuring commitment of resources to support project implementation; (vii) arbitrating any conflicts within the project and/or negotiating solutions between the project and any parties beyond the scope of the project; and (viii) overall project evaluation.

A **Project Management Unit (PMU)** will be set up to provide the day-to-day coordination and administration of the project. It will comprise the Project Manager (PM) and the Project Assistant (PA). The project staff will be recruited using standard UNDP recruitment procedures. The PM, will assume the lead responsibility for the upstream elements of the project (primarily Outcome 1), as well as provide oversight and coordination among the key Implementing Partners at the three downstream localities, namely, Khok Kham Sub-district (Spoon-billed Sandpiper) and Nakha Sub-district (Water Lily), and Ban Bua, Samet, Sakae Prong, Sakae Sum and Prakhon Chai Sub-districts (Eastern Sarus Crane). The PMU, while assuming responsibility for the upstream activities, will provide advice, support and coordination for all project activities. The PM will liaise and work closely with all partner institutions to link the project with complementary national programmes and initiatives. The PM is accountable to the PB for the overall quality, timeliness and effectiveness of the activities carried out, as well as for the use of funds. The PM will collate the input from the key Implementation Partners and produce Annual Work and Budget Plans to be approved by the PB at the beginning of each year. These plans will provide the basis for allocating resources to planned activities. The PM will further produce collated quarterly operational reports and Annual Progress Reports (APR/PIR) for submission to the PB. These reports will summarize the progress made by the project against the expected results, explain any significant variances, detail the necessary adjustments and be the main reporting mechanism for monitoring project activities.

**Project Assurance** function will be performed by UNDP Thailand and UNDP Asia Pacific Regional Centre (APRC). The function supports the Project Board by carrying out objective and independent project oversight and monitoring functions.

The role ensures appropriate project management milestones are managed and completed. Project Assurance has to be independent of the Project Manager; therefore the Project Board cannot delegate any of its assurance responsibilities to the Project Director or the Project Manager. UNDP will be responsible for Project oversight, ensuring milestones are achieved. It will undertake financial and technical monitoring, as part of its oversight functions. In addition, UNDP will be responsible for: (i) coordinating with UN Country Team in Thailand with a view to mainstreaming in their interventions at the country level and funding as appropriate; (ii) establishing an effective networking between project stakeholders, specialized international organizations and the donor community; (iii) facilitating networking among the country-wide stakeholders and south-south exchange.

## 5.2 At Local Level

Whereas the project activities at the national level will be the responsibility of the PMU to organize, and ONEP to lead, implementation and management of project activities at each of the project localities will be the responsibility of the Implementing Partner at that location with the support, guidance and overall coordination of the PMU. In each case, the Implementing Partner will nominate a senior official to serve as the Local Project Director (LPD) who will serve as the formal link between the project, UNDP, and the PMU with the Implementing Partner. The PMU will assign a Local Project Officer (LPO) at each location within the PONRE, to facilitate project activities (under Outcomes 2). It is expected that in each location the Implementing Partner will use existing infrastructure and staff support resources and facilities to implement project activities and these will be considered as part of their contribution to the project in-kind. However, while it is unable to pay staff salaries, the project may be able to assist with equipment and facilities to safeguard the effective implementation of project activities. The project will also provide the necessary expertise and know-how as well as the incremental resources required to carry out the agreed project Activities leading to the targeted Outputs.

A Local Advisory Committee (LAC) will be set up by the respective LPD at each of the project localities. The LAC will be set up by the LPD with the support of the LPO and will comprise representatives of the Implementing Partner, relevant central government organizations, the private sector, NGOs, communities and individuals known to possess valuable expertise. The LAC, which will be chaired by the LPD for the Implementing Partner, will provide advice and support to the LPD, the LPO and others involved in project implementation.

## 6 MONITORING FRAMEWORK AND EVALUATION

The project will be monitored through the standard M&E activities and allowances have been made for this in the M&E budget as in the table below.

### 6.1 The Inception Phase

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

The **Inception Workshop** will address a number of key issues including:

- 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.
- 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.
- Provide a detailed overview of reporting, monitoring and evaluation (M&E) requirements. The Monitoring and Evaluation work plan and budget will be agreed and scheduled.
- Discuss financial reporting procedures and obligations, and arrangements for annual audit.



- Plan and schedule Project Board meetings. Roles and responsibilities of all project organisation structures will be clarified and meetings planned. The first Project Board meeting will be held within the first 12 months following the Inception Workshop.

The Inception Workshop Report will serve as a key reference document and will be prepared and shared with participants to formalize various agreements and plans decided during the meeting.

## 6.2 Monitoring and Reporting Responsibilities and Events

On a **quarterly basis** –

- Progress made will be monitored in the UNDP Enhanced Results Based Management Platform.
- Based on the initial risk analysis submitted, the risk log will be regularly updated in ATLAS. Risks become critical when the impact and probability are high. As this is a UNDP GEF project, all financial risks associated with financial instruments such as the proposed microfinance scheme for AIGs, are automatically considered as critical on the basis of its innovative nature (high impact and uncertainty due to no previous experience justifies classification as critical).
- Based on the information recorded in ATLAS, a Project Progress Report (PPR) will be generated in the Executive Snapshot.
- Other ATLAS logs will be used to monitor issues, lessons learned, etc. The use of these functions is a key indicator in the UNDP Executive Balanced Scorecard.

On an **annual basis** –

Annual Project Review/Project Implementation Reports (APR/PIR): This key report will 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.

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) for the Biodiversity focal area.

**Periodic Monitoring** through site visits –

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 PB 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 PB members.

### - **Project Terminal Report**

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. The Project Terminal Report will be available, at least in draft, for the Terminal Evaluation.

### - **Learning and knowledge sharing**

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

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 through lessons learned. The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects.

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

### - **Communications and visibility requirements**

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](http://www.thegef.org/gef/GEF_logo). The UNDP logo can be accessed at <http://intra.undp.org/coa/branding.shtml>.

Full compliance is 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](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.

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

## **6.3 Independent Evaluations and Audits**

**Mid-term of project cycle** – The project will undergo an independent Mid-Term Evaluation at the mid-point of project implementation. 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 second 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).

The relevant GEF Focal Area Tracking Tools will also be completed during the mid-term evaluation cycle.

**End of Project** – An independent Terminal Evaluation will take place three months prior to the final PEB 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.

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).

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

## 6.4 M&E Workplan and Budget

Type of M&E activity	Responsible Parties	Budget US\$ <i>Excluding project team staff time</i>	Timeframe
Inception Workshop and Report	<ul style="list-style-type: none"> <li>▪ PM</li> <li>▪ UNDP CO, UNDP GEF</li> </ul>	Indicative cost: US\$ 10,000 (as part of Outcome 1)	Within first three months of project start up
Setting of Baselines and end of project Targets together with Means of Verification of project results	<ul style="list-style-type: none"> <li>▪ UNDP CO/PM will oversee the hiring of specific surveys, studies and institutions, and delegate responsibilities to relevant team members.</li> </ul>	To be finalized in Inception Phase and Workshop	Start, mid and end of project (during evaluation cycle) and annually when required.
Measurement of Means of Verification for Project Progress on <i>output and implementation</i>	<ul style="list-style-type: none"> <li>▪ Oversight by PM</li> <li>▪ Project team</li> </ul>	To be determined as part of the Annual Work Plan's preparation.	Annually prior to ARR/PIR and to the definition of annual work plans
ARR/PIR	<ul style="list-style-type: none"> <li>▪ PM and team</li> <li>▪ UNDP CO</li> <li>▪ UNDP RTA</li> <li>▪ UNDP EEG</li> </ul>	None	Annually
Periodic status/ progress reports	<ul style="list-style-type: none"> <li>▪ PM and team</li> </ul>	None	Quarterly
Mid-term Review	<ul style="list-style-type: none"> <li>▪ PM and team</li> <li>▪ UNDP CO</li> <li>▪ UNDP RCU</li> <li>▪ External Consultants (i.e. evaluation team)</li> </ul>	Indicative cost: US\$ 28,000	At the mid-point of project implementation.
Final Evaluation	<ul style="list-style-type: none"> <li>▪ PM and team</li> <li>▪ UNDP CO</li> <li>▪ UNDP RCU</li> <li>▪ External Consultants (i.e. evaluation team)</li> </ul>	Indicative cost : US\$ 28,000	At least three months before the end of project implementation
Project Terminal Report	<ul style="list-style-type: none"> <li>▪ PM and team</li> <li>▪ UNDP CO</li> </ul>	None	At least three months before the end of the project
Micro Assessment	<ul style="list-style-type: none"> <li>▪ UNDP CO</li> <li>▪ PM and team</li> </ul>	Indicative cost per year: US\$ 3,100	Year 1
Audit	<ul style="list-style-type: none"> <li>▪ UNDP CO</li> <li>▪ PM and team</li> </ul>	Indicative cost per year: US\$ 6,000	Year 3
Visits to field sites	<ul style="list-style-type: none"> <li>▪ UNDP CO</li> <li>▪ UNDP RCU (as appropriate)</li> <li>▪ Government representatives</li> </ul>	For GEF supported projects, paid from IA fees and operational budget	Yearly
<b>TOTAL indicative COST</b> Excluding project team staff time and UNDP staff and travel expenses		US\$ 75,100	

## 7 LEGAL CONTEXT

The Royal Thai Government and the United Nations Special Funds have entered into the Agreement to govern assistance from the Special Fund to Thailand, which was signed by both parties on 04 June 1960. Pending the finalization of the Standard Basic Assistance Agreement (SBAA) between UNDP and the Government, the Agreement will govern the technical assistance provided by UNDP Thailand under the Country Programme Document (2012-2016).

Under the UNDP-funded programmes and projects, 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 in accordance with the aforementioned Agreement between the UN Special Fund and the Government of Thailand concerning Assistance from the Special Fund 1960.

The implementing partner shall:

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

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.

The implementing partner agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Programme 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 Programme Document.

## **8            AUDIT CLAUSE**

The Audit will be conducted in accordance with UNDP Financial Regulations and Rules and applicable audit policies on UNDP projects.

# ANNEXES

## Annex 1: ToR of Key Personnel

<i>Items</i>	<i>Relevant Output and tasks to be performed</i>
<b>Outcome 1.</b>	
Contractual Services Individual: Chief Technical Advisor	<p>The consultant will be the technical lead on all work under Outcome 1 and will work closely with consultants and capacity building experts under Outcome 2 to ensure that there is ongoing adaptive management and technical development across the project – with field experience and testing feeding into legislation and framework development. They will work closely with the Working Group for development of the new ES and Critical Habitat Bill and its linkages with the Land use planning framework.</p> <p>Key responsibilities:</p> <ul style="list-style-type: none"> <li>- Analysis of existing policy framework for ES and critical habitat conservation</li> <li>- Coordinate policy development process and facilitate engagement of range of stakeholders in the process to ensure strong technical depth to the policy as well as generating political momentum for its enactment.</li> <li>- Coordinate engagement with site level activities to test and verify different policy approaches</li> <li>- Develop draft bill for consultation and discussion</li> <li>- Integrate international best practice with national experience in bill formulation</li> <li>- Coordinate policy formulation with development of land use planning framework.</li> </ul> <p>The expert will have at least 10 years’ experience of working on environmental or other relevant legislation within Thailand. S/he will be an excellent coordinator and facilitator able to bring together senior government officials, technical experts and civil society members and have experience of leading both technical policy work and advocacy work.</p> <p>Engagement anticipated over the full project duration.</p>
Land use Planning Expert	<p>The expert will lead in the development of the Land use planning framework (Output 1.2). They will work closely with the National Policy and Planning Expert and support the WG for legislation and framework development.</p> <p>Key responsibilities:</p> <ul style="list-style-type: none"> <li>- Identify existing gaps and opportunities within existing land use planning mechanisms with regard to ES and critical habitat conservation.</li> <li>- Identify international best practice on land use planning for ES and critical habitat conservation within production landscapes</li> <li>- Present findings to key stakeholder groups</li> <li>- Develop a clear framework approach that mainstreams ES and critical habitat conservation into existing land use planning frameworks</li> <li>- Identify where amendments will need to be made to other acts or regulations.</li> <li>- Develop a full framework for consultation with the WG</li> </ul> <p>The consultant will have at least 7 years’ experience of working on land use planning and management in Thailand and will have an excellent understanding of the operational linkages between national, provincial and local planning processes.</p>
Legal Expert	<p>The consultant will work closely with the WG for development of the new ES and Critical Habitat Bill. The consultant will develop analysis of existing legislative gaps and linkages with existing legislation and support the drafting of the bill. They will also work closely with the Land use planning expert to link work on the Bill and the land use planning framework. Engagement anticipated over the full project duration.</p>
Contractual Services, Company (for Output 1.3: Monitoring	<p><b>Information Management Specialist:</b> The expert will work with ZPO and ONEP in the development of an approach to ongoing monitoring of ES and critical habitats and how information can be effectively managed and integrated with existing systems.</p> <p>Key responsibilities:</p>

<p>System and Recovery Plan)</p>	<ul style="list-style-type: none"> <li>- Conduct a capacity assessment of ZPO and ONEP as well as other relevant institutions</li> <li>- Identify existing information needs for land use decision making (In partnership with the Land use planning expert and the Policy and Planning expert)</li> <li>- Identify existing challenges and barriers to effective ES and critical habitat information management in Thailand</li> <li>- Consolidate lessons learned from existing information management platforms within government in particular the clearing house mechanisms.</li> <li>- Identify an information management approach including identification of: <ul style="list-style-type: none"> <li>o Institutional responsibilities</li> <li>o Mechanisms for information management</li> <li>o Mechanisms to ensure sustainability of information management</li> </ul> </li> <li>- Present findings to a technical group established by ZPO and ONEP</li> <li>- Develop capacity building plan for system development and operation.</li> </ul> <p>The consultation will work closely with all other consultants under Outcome 1. They will have at least 7 years' experience in information management processes and will be familiar with government systems.</p>
	<p><b>IT / GIS systems expert:</b> The expert will work with ZPO and ONEP and the Information Management Specialist in the development and operationalization of the monitoring and management system. It is anticipated that work with be divided over the course of a year.</p> <p>Key responsibilities:</p> <ul style="list-style-type: none"> <li>- Identify existing GIS and IT human and technical capacity within key institutions</li> <li>- Identify existing lessons learned from IT and GIS systems within Thailand</li> <li>- In collaboration with the Information management specialist identify potential system requirements for review by key government staff</li> <li>- Identify resource requirements for establishment of system</li> <li>- Support instillation of hardware and software</li> <li>- Work with government staff and other stakeholders to provide hands on training</li> <li>- Develop and operational training manual.</li> </ul> <p>The expert will have at least 7 years' experience of developing complex GIS based information management systems. They will have excellent knowledge of government systems.</p>
	<p><b>Conservation Planning Expert:</b> The expert will work with ZPO and ONEP in developing the technical information requirements for a system of conservation and recovery plans for ES species. The consultant will work closely with the IT/GIS specialist and the information management expert, as well as the land use planning expert.</p> <p>Key responsibilities:</p> <ul style="list-style-type: none"> <li>- Review existing approaches to ES conservation and recovery plan development within Thailand</li> <li>- Identify international best practice in conservation and recovery plan development</li> <li>- Develop a draft approach to a system of conservation and recovery plans within Thailand and information requirements at different levels.</li> <li>- Facilitate expert review and discussion of draft proposals</li> <li>- Develop a final Conservation and Recovery Planning System</li> <li>- Provide training to key staff on conservation and recovery plans and the new system.</li> </ul> <p>The expert will have at least 7 years of experience of working on environmental conservation and will be familiar with ES and critical habitat conservation. They will also be familiar with existing land use planning frameworks and processes at local, provincial and national levels.</p>
<p><b>Outcome 2.</b></p>	
<p>Contractual Services – Monitoring and Knowledge Management</p>	<p>A national M&amp;E and knowledge management consultant will work in support of the project management unit to develop and conduct the system of monitoring and documentation of results</p> <p>The consultant will have at least 3 years' experience of environmental management at provincial and local level within Thailand. They will have excellent facilitation skills and strong track record of developing and</p>

	implementing capacity building programmes for a range of stakeholders. The consultants will be engaged for the full project duration.
Contractual Services - Capacity Building and Training Provider	<p>Three consultants will be recruited to work within each pilot location. The consultants will work closely with local stakeholders, other technical consultants, the PMU and consultants under Outcome 1 to identify and address key capacity building needs at site level. In partnership with the PMU, PONRE and ZPO they will identify key technical requirements within target area and work with consultants and other stakeholders to address these and build capacity of different stakeholders at this level. Their work will cut across all three outputs including:</p> <ul style="list-style-type: none"> <li>- Facilitating participatory land use zoning processes and designation and land use management areas (Output 2.1)</li> <li>- Supporting the identification of environmentally friendly goods and services and working with other technical experts to develop long term capacity building plans for those engaged in these activities (Output 2.2)</li> <li>- Working with extension workers to increase their capacity and understanding of biodiversity friendly techniques and approaches to ES and critical habitat conservation within production landscapes.</li> </ul> <p>The consultant will have at least 3 years' experience of environmental management at provincial and local level within Thailand. They will have excellent facilitation skills and strong track record of developing and implementing capacity building programmes for a range of stakeholders. The consultants will be engaged for the full project duration.</p>
Contractual Services, Company (Outcome 2.1 and 2.2)	<p>Ecological consultants: will be recruited to support ES and critical habitat mapping work, including the identification of critical habitat and ES management requirements.</p> <p>Key responsibilities</p> <ul style="list-style-type: none"> <li>- Develop initial environmental assessments of target areas</li> <li>- Present environmental management recommendations for key areas and approaches to integrating habitat and ES conservation into production techniques (eg Saltpan management regimes).</li> <li>- Provide recommendations on potential environmental certification schemes</li> <li>- Work closely with other consultants and local communities to support habitat zoning process</li> </ul> <p>Consults will have at least five years' experience of conducting ecological assessments and should have a good understanding of target species and locations. Estimated at 4 months work per site over period of 12 months.</p>
Contractual Services, Company (Outcome 2.2)	<p>Ecotourism Consultant: The consultant will be responsible for supporting the development of eco-tourism activities at pilot sites. Key responsibilities:</p> <ul style="list-style-type: none"> <li>- Assessment of Eco-tourism potential for each site based on national level tourism information and local visitor numbers</li> <li>- Identification of key opportunities for eco-tourism development and existing barriers and capacity constraints.</li> <li>- Development of ecotourism development plans for each location</li> <li>- Development of capacity building plans for key stakeholders and provision of ongoing capacity building support.</li> </ul> <p>It is anticipated that consultant time may not be evenly spent over the three locations with more resources devoted to areas in which the most impact can be achieved.</p> <p>The consultants should have at least 5 years' experience of eco-tourism development.</p> <p>Sustainable Agriculture Consultants: the consultants will be responsible for supporting the development of environmental business activities at pilot sites. They will work closely with the ecological consultants to identify specific environmental requirements within each location and potential business development options within this environment. Key responsibilities:</p> <ul style="list-style-type: none"> <li>- Assessment of environmental business potential for each site based on existing market access, levels of demand, existing price premiums, costs of certification, costs of uptake and implementation</li> <li>- Identification of key opportunities for environmental business development and existing barriers and capacity constraints.</li> <li>- Development of environmental business development plans for each location</li> <li>- Development of capacity building plans for key stakeholders and provision of ongoing capacity building support.</li> </ul>

	It is anticipated that consultant time may not be evenly spent over the three locations with more resources devoted to areas in which the most impact can be achieved. The consultants should have at least 5 years' experience of sustainable agriculture (rice/ salt-farming) development.
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## **Project Management**

### **Project Manager**

- Assume primary responsibility for daily project management , including: communication and maintenance of good relations with all project stakeholders, budgeting, planning and general monitoring of the project;
- Develop and implement a project communication strategy, in order to facilitate effective and constructive communication between different project stakeholders and adequate understanding of the objectives, strategies and advances of the project stakeholders at all levels;
- Coordinate closely with and maintain regular contact with UNDP Country Office, ONEP Project Director, ZPO and PONRE project area Directors on project implementation issues of their respective competence;
- Review of quarterly work plans, expenditure reports and disbursement requests prepared by contractors, and recommendation to UNDP regarding their approval or, where necessary, modification prior to approval;
- Provide on-going supervision of and support to the Project Technical Team in the preparation of Annual Work Plans and Budgets (AWPBs) and review of the AWPBs prior to their presentation to the Project Board for approval, in order to ensure their feasibility, relevance, correspondence with project resource availability and the harmonization of the activities proposed under each component ;
- Drafting of TOR's for contractual services (companies and institutions) and all outsourced activities;
- Assume overall responsibility for the proper handling of logistics related to project workshops and events;
- Prepare necessary GEF project progress reports, as well as any other reports requested by the Executing Agency and UNDP;
- Monitor the expenditures, commitments and balance of funds under the project budget lines, and draft project budget revisions;
- Assume overall responsibility for reporting on project progress vis-à-vis indicators in the log- frame;



## Annex 2: Capacity Scorecard Assessment

<b>Project Name:</b>	Conserving Habitats for Globally Important Flora and Fauna in Production Landscapes					
<b>Project Cycle Phase:</b>	Project					
Design						
<b>Date:</b>	08.07.14					
Capacity Result / Indicator	Staged Indicators	Rating	Score	Comments	Next Steps	Contribution to which Outcome
<b>Indicator 1: Degree of legitimacy/mandate of lead environmental organizations</b>	<b>Organizational responsibilities for environmental management are not clearly defined</b>	<b>0</b>		MONRE have a clear mandate for environmental management. Within the ministry responsibility for different elements of environmental management and management areas (eg forest, marine, protected areas and policy development) have been clearly assigned.	The project will develop an ES and Critical Habitat bill that will clarify the roles and responsibilities of different bodies with regard to ES conservation (Output 1.1). The project will also develop a Land use planning framework which will strengthen operational guidance for how land use planning should occur highlighting the roles and responsibilities of Environmental organisations (Output 1.2). As part of this it is anticipated that modifications to existing legislation such as the Town and Country Planning Act will be required in order to provide greater clarity and prevent overlap. In addition the project will work with ONEP to strengthen existing coordination mechanisms (Output 1.3) linking national and provincial level and land use planning at the national level strengthen their capacity to facilitate environmentally friendly land use planning and decision making. Increased capacity within ONEP to provide accurate information on the status of ES and critical habitats (Output 1.4) will also help their legitimacy with other stakeholders.	Outcome 1
	<b>Organizational responsibilities for environmental management are identified</b>	<b>1</b>		Within this ONEP have a clear mandate for environmental policy and planning. Though the legitimacy is recognized in areas in which this mandate overlaps with other institutions and decision making is contested, for example in developing environmental regulations for industry, the legitimacy of ONEPs mandate can be suppressed by other line ministries, with an interest in setting environmental standards, or policy specific to their own sector.		
	<b>Authority and legitimacy of all lead organizations responsible for environmental management are partially recognized by stakeholders</b>	<b>2</b>	<b>TRUE</b>			
	<b>Authority and legitimacy of all lead organizations responsible for environmental management recognized by stakeholders</b>	<b>3</b>				
<b>Indicator 2: Existence of operational co-management mechanisms</b>	<b>No co-management mechanisms are in place</b>	<b>0</b>		There are a significant number of co-management committees at different levels within Thailand, including the NEB as the highest level with regard to environment. At the provincial level reforms have sought to strengthen co-	The project will work with ONEP and PONRE offices to help strengthen PONRE's coordination role and input into the provincial planning process (Output 1.3).	Outcome 1
	<b>Some co-management mechanisms are in place and operational</b>	<b>1</b>				

	Some co-management mechanisms are formally established through agreements, MOUs, etc.	2	TRUE	management approaches through coordinated provincial plans and land use plans developed by a Provincial Development Committee. These bodies however are not always fully functional, are dominated by either a Governor or specific line agencies and often do not represent effective cooperative planning, rather a combination of siloed plans.		
	Comprehensive co-management mechanisms are formally established and are operational/functional	3				
<b>Indicator 3: Existence of cooperation with stakeholder groups</b>	<b>Identification of stakeholders and their participation/involvement in decision-making is poor</b>	<b>0</b>		Regular consultation is stipulated as being required within decision making processes. Effective consultation on provincial and local development plans and land use planning is however limited with varied engagement from civil society and indeed different government bodies.	The project will work with ONEP and PONRE offices to help strengthen PONRE's coordination role and input into the provincial planning process (Output 1.3).	Outcome 1
	Stakeholders are identified, but their anticipation in decision-making is limited	1	TRUE			
	Stakeholders are identified, and regular consultations mechanisms are established	2				
	Stakeholders are identified, and they actively contribute to established participative decision-making processes	3				
<b>CR 2: Capacities to Generate, Access and Use Information and Knowledge</b>						
<b>Indicator 4: Degree of environmental awareness of stakeholders</b>	<b>Stakeholders are not aware of global environmental issues and their relevant possible solutions</b>	<b>0</b>		MONRE are aware of the existing global environmental challenges and the country's commitments under the Rio Conventions. A broader range of stakeholders engaged in land management in critical habitat areas are however less aware of these commitments. There is thus a gap between key agencies within MONRE's awareness and their capacity to communicate this and engage other stakeholders in these commitments to deliver solutions.	The project will strengthen the capacity of ONEP to monitor and report on the existing status of ES and critical habitats and feed this information into land use decision making processes (Output 1.4), as well as supporting them to be engaged in informing key decision makers and coordinating action (Output 1.3.). In this way they will be able to engage others in actively participating in delivering solutions to both local and global environmental challenges. At the site level the project will also support local level awareness raising and capacity building to increase both awareness of global and local environmental	Outcome 1.
	Stakeholders are aware of global environmental issues, but not the possible solutions	1				
	Stakeholders are aware of global environmental issues and the possible solutions, but do not know how to participate	2	TRUE			

	Stakeholders are aware of global environmental issues, and are actively participating in the implementation of relevant solutions	3			challenges and enabling them to respond to these through both better planning and management at the local level and development of environmentally friendly production activities.	
<b>Indicator 5: Access and sharing of environmental information by stakeholders</b>	The environmental information needs are not identified, and the information management infrastructure is inadequate	0		There is an awareness of the need to have improved information on the status of ES and critical habitats to more effectively be able to integrate them into land use management.	The project will support ONEP in partnership with ZPO to develop an ES and critical habitat monitoring and management system (Output 1.3). It will also develop the capacity of stakeholders to effectively manage and monitor three target ES (Outcome 2).	Outcome 1, 2
	The environmental information needs are identified, but the information management infrastructure is inadequate	1	TRUE	Existing information management is not efficient at national and local levels. A number of clearing house has been set up but access and dissemination is still limited.		
	The environmental information is partially available and shared among stakeholders, but is not covering all focal areas and/or the information management infrastructure is limited	2		Universities produced lots of studies but there is a gap of Isolated academic research and action-oriented work to be done. While many NGOs are seeking to develop site level activities but lack the capacity to develop systematised monitoring activities. ONEP and ZPO		
	Comprehensive environmental information is available and shared through an adequate information management infrastructure	3		have developed some initial monitoring activities but further work is required to effectively coordinate and standardise information collection and management.		
<b>Indicator 6: Existence of environmental education programmes</b>	No environmental education programmes are in place	0		Most curriculum or environment education schemes are for awareness raising. More evidenced -based and sciences-based education programme is needed. This will strengthen civic groups in campaigning for real actions and policy advocacy.	The project will support the development of structured awareness raising and educational materials associated with the three pilot areas to engage school children and youth groups as well as local community members to become more educated about the status of key habitats and improved management practices. This will also be linked with improved extension services to farmers and other community members to strengthen their capacity to manage the environment (Output 2.3)	Outcome 2
	Environmental education programmes are partially developed and partially delivered	1	TRUE			
	Environmental education programmes are fully developed but partially delivered	2				
	Comprehensive environmental education programmes exist and are being delivered	3				

<b>Indicator 7: Extent of the linkage between environmental research/science and policy development</b>	<b>No linkage exist between environmental policy development and science/research strategies and programmes</b>	<b>0</b>		Considerable research has and continues to be undertaken within Thailand. The linkages between this research and policy development however remains limited in many areas including with regard to ES and critical habitat protection. Existing species information is developed through an adhoc approach and often does not bring together key decision makers or other researchers to link research, legitimacy and action.	The project will support the development of an effective ES and critical habitat monitoring and management system (Output 1.3). This will help to provide a framework to link research on species and habitats with policy and decision making through both standardise methodologies and improved mechanisms to consolidate, process and present information.	Outcome 1
	<b>Research needs for environmental policy development are identified, but are not translated into relevant research strategies and programmes</b>	<b>1</b>				
	<b>Relevant research strategies and programmes for environmental policy development exist, but the research information is not responding fully to the policy research needs</b>	<b>2</b>	<b>TRUE</b>			
	<b>Relevant research results are available for environmental policy development</b>	<b>3</b>				
<b>Indicator 8: Extent of inclusion/ use of traditional knowledge in environmental decision-making</b>	<b>Traditional knowledge is ignored and not taken into account for relevant participative decision-making processes</b>	<b>0</b>		Local wisdom is always admired but its replication is still limited at the local level. While decision making processes on land use management and provincial development are intended to engage a broad range of stakeholders they are poorly structured to fully capture or utilise traditional knowledge.	At national level the project will work to ensure that traditional knowledge is effectively represented within ES and habitat monitoring and management processes (Output 1.3). At the site level the project will work closely with local stakeholders to identify traditional practices and build on traditional knowledge to both develop land use zoning (Output 2.1), and to strengthen livelihoods through improved environmentally friendly production techniques (Output 2.2). These approaches will subsequently be integrated into training for extension workers strengthening the capacity of these groups to both recognise and pass on traditional knowledge (Output 2.3).	Outcome 2
	<b>Traditional knowledge is identified and recognized as important, but is not collected and used in relevant participative decision-making processes</b>	<b>1</b>	<b>TRUE</b>			

	Traditional knowledge is collected, but is not used systematically into relevant participative decision-making processes	2				
	Traditional knowledge is collected, used, and shared for effective participative decision-making processes	3				
<b>CR 3: Capacities for Strategy, Policy and Legislation development</b>						
<b>Indicator 9: Extent of the environmental planning and strategy development process</b>	<b>The environmental planning and strategy development process is not coordinated, and does not produce adequate environmental plans and strategies</b>	<b>0</b>		A significant number of environmental plans and strategies exist. These however exist within a highly contested institutional arena, which despite policy statements focused on sustainability still focuses heavily on economic growth and production. With regard to ES and critical habitats limited national planning is in place to provide a coherent response to pressure on ES outside of Protected Areas. At the site level limited coordination and a lack of environmental prioritisation mean that PONRE are unable to prioritise environmental issues within Provincial development planning which is often heavily dictated by line agency priorities and desire for rapid economic development.	The project will develop and ES and Critical habitats bill (Output 1.1) which combined with the land use planning framework (Output 1.2) will strengthen both national strategies on ES and critical habitats and their application. This will also be strengthened by capacity building support to ONEP to effectively manage and monitor informational ES and critical habitats (output 1.4) allowing for regular feedback of results into policy and decision-making processes.	Outcome 1
	<b>The environmental planning and strategy development process does produce adequate environmental plans and strategies, but they are not implemented or used</b>	<b>1</b>				
	<b>Adequate environmental plans and strategies are produced, but are only partially implemented because of funding constraints and/or other problems</b>	<b>2</b>	<b>TRUE</b>			

	<b>The environmental planning and strategy development process is well coordinated by the lead environmental organizations, and produces the required environmental plans and strategies that are being implemented</b>	<b>3</b>				
<b>Indicator 10: Existence of adequate environmental policies and regulatory frameworks</b>	<b>The environmental policy and regulatory frameworks are insufficient; they do not provide an enabling environment</b>	<b>0</b>		There are currently gaps in the way in which endangered species and critical habitats are addressed within the legislation as well as planning and regulatory frameworks. The Wildlife Reservation and Protection Act does not provide for the conservation of habitats or for the reservation of plant species. While other legislation does exist that can fulfill some requirements, awareness of this is low and it has not been fully utilised to date.	The project will develop a new ES and Critical habitat bill and land use planning framework to address existing legislative gaps and provide clear guidance to government bodies on how land use planning and management should occur with relation to critical habitats (Output 1.1. and 1.2). The project will also support ONEP to coordinate between key stakeholders in implementing these approaches and will build the institutions capacity to feed up to date monitoring information into land use decision making processes at national and site level to improve the application of legislation (Outputs 1.3 and 1.4).	Outcome 1
	<b>Some relevant environmental policies and laws exist, but few are implemented and enforced</b>	<b>1</b>	<b>TRUE</b>			
	<b>Adequate environmental policy and legislation frameworks exist, but there are problems in implementing and enforcing them</b>	<b>2</b>				
	<b>Adequate policy and legislation frameworks are implemented, and provide an adequate enabling environment; a compliance and enforcement mechanism is established and functions</b>	<b>3</b>				
<b>Indicator 11: Adequacy of the</b>	<b>The availability of environmental information for decision-making is lacking</b>	<b>0</b>		There are significant gaps in the level and quality of information on endangered species and critical habitats	The project will support the development of an ES and critical habitat monitoring and management system that will provide information to decision	Outcome 1

environmental information available for decision-making	Some environmental information exists, but it is not sufficient to support environmental decision-making processes	1	TRUE	outside of Protected areas available to decision makers at national and provincial level with information developed on an adhoc basis.	makers at the national and provincial / local levels (Output 1.3).	
	Relevant environmental information is made available to environmental decision-makers, but the process for updating this information is not functioning properly	2				
	Political and administrative decision-makers obtain and use updated environmental information to make environmental decisions	3				
Indicator 12: Existence and mobilization of resources	The environmental organizations don't have adequate resources for their programmes and projects, and the requirements have not been assessed	0		Significant resources are allocated to environmental management with Thailand and considerable plans and resource requirements have been developed. There remains however a gap between required resources and available resources. This is partially due to several environmental management functions being the responsibility of key line agencies which have limited incentive to allocate significant resources in these areas. In terms of ES and critical habitats, limited planning and resource requirement assessments exist at the national level particularly with regard to species outside protected areas. At the three site levels initial plans have been developed with basic budget allocations but significant funding gaps exist.	The project will work at national level to support the development of land use planning frameworks that improves the allocation of resources to ES and critical habitat management (Output 1.2). At site level the project will also work with each pilot area to develop resource requirement plans and ensure sustainable financing is in place (Output 2.2) as well as working with extension officers and line ministries to identify how long term budget changes can be developed to ensure financing is available for extension support and incentive payments (where relevant) within other areas (Output 2.3).	Outcomes 1 and 2
	The resource requirements are known but are not being addressed	1				
	The funding sources for these resource requirements are partially identified, and the resource requirements are partially addressed	2	TRUE			
	Adequate resources are mobilized and available for the functioning of the lead environmental organizations	3				

<b>Indicator 13: Availability of required technical skills and technology transfer</b>	<b>The necessary required skills and technology are not available, and the needs are not identified</b>	<b>0</b>		Thailand has very high levels of national capacity but has limitations in some key areas of environmental management and conservation. Thai universities still produce overload of conventional management skills and core sciences. Particular required skills for innovative management such as The Economics for Ecosystem and Biodiversity should be promoted and form the knowledge base of which capacity development by foreign sources will be tangible. Within MONRE as well as other key line agencies to build capacity on approaches to PES and environmentally friendly production techniques develop nation systems to not only support their implementation but to continue to develop and lead knowledge in these areas.	The project will support the development of innovative approaches to land use management within critical habitat areas building capacity in environmentally friendly production techniques and the potential for PES approaches (Output 2.2 and 2.3).	Outcome 2
	<b>The required skills and technologies are obtained, but their access depends on foreign sources</b>	<b>2</b>	<b>TRUE</b>			
	<b>The required skills and technologies are available, and there is a national-based mechanism for updating the required skills and upgrading the technologies</b>	<b>3</b>				
<b>Indicator 14: Adequacy of the project/programme monitoring process</b>	<b>Irregular project monitoring is being done without an adequate monitoring framework, for detailing what and how to monitor the particular project or programme</b>	<b>0</b>		Existing monitoring systems are varied by area. Monitoring of environmental impacts of policies and programmes is limited at national and local scale leading to limited assessment or feedback on the environmental impacts.	The project will support the development of an effective ES and critical habitat monitoring and management system (Output 1.4). This will help to provide a framework to link research on species and habitats with policy and decision making. The project will also strengthen the use of strategic impact assessments, and environmental impact assessment and the development of conservation and recovery plans to ensure the potential impacts of different policies and programmes are identified and the on-going impacts are effectively tracked (Output 1.2, 1.3) The project will also conduct regular monitoring and assessment activities to assess project performance. This will help to strengthen the capacity of stakeholders engaged with the project to undertake monitoring activities and to effectively feedback on the impact of project activities.	Outcome 1
	<b>An adequate resourced monitoring framework is in place, but project monitoring is irregularly conducted</b>	<b>1</b>				
	<b>Regular participative monitoring of results is being conducted, but this information is only partially used by the project/programme implementation team</b>	<b>2</b>	<b>TRUE</b>			



	<b>Monitoring information is produced timely and accurately, and is used by the implementation team to learn and possibly change the course of action</b>	<b>3</b>			
<b>Indicator 15: Adequacy of the project/programme evaluation process</b>	<b>No or ineffective evaluations are being conducted, with no adequate evaluation plan or the necessary resources</b>	<b>0</b>		Evaluation processes are currently undertaken for development partner supported activities. Full evaluation of government policies and programmes is more limited.	The project will support the development of an effective ES and critical habitat monitoring and management system (Output 1.4). capable of providing information to evaluate the impact of different policies and programmes at different scales. This will also be strengthened by improved capacity to conduct and follow the implication of SEIA and EIAs for policies and programmes. The project will also conduct its own end of project evaluation which will be able to provide key lessons learned with regard to the projects objectives that can be used by partners to further their own work.
	<b>An adequate evaluation plan is in place, but evaluation activities are irregularly conducted</b>	<b>1</b>	<b>TRUE</b>		
	<b>Evaluations are being conducted as per an adequate evaluation plan, but the evaluation results are only partially used by the project or programme implementation team</b>	<b>2</b>			
	<b>Effective evaluations are conducted timely and accurately, and are used by the implementation team and the Implementing Agencies and/or GEF staff to correct the course of action, if needed, and to learn for further planning activities</b>	<b>3</b>			
					Outcome 1 and 2

### **Annex 3: GEF Tracking Tool**

- Please see separate document. -

## Annex 4: Environmental and Social Review Criteria

### QUESTION 1:

**Has a combined environmental and social assessment/review that covers the proposed project already been completed by implementing partners or donor(s)?**

Select answer below and follow instructions:

- NO** → Continue to Question 2 (do not fill out Table 1.1)
- YES** → No further environmental and social review is required if the existing documentation meets UNDP’s quality assurance standards, and environmental and social management recommendations are integrated into the project. Therefore, you should undertake the following steps to complete the screening process:
1. Use Table 1.1 below to assess existing documentation. (It is recommended that this assessment be undertaken jointly by the Project Developer and other relevant Focal Points in the office or Bureau).
  2. Ensure that the Project Document incorporates the recommendations made in the implementing partner’s environmental and social review.
  3. Summarize the relevant information contained in the implementing partner’s environmental and social review in Annex A.2 of this Screening Template, selecting Category 1.
  4. Submit Annex A to the PAC, along with other relevant documentation.

<b>TABLE 1.1: CHECKLIST FOR APPRAISING QUALITY ASSURANCE OF EXISTING ENVIRONMENTAL AND SOCIAL ASSESSMENT</b>	<b>Yes/No</b>
1. Does the assessment/review meet its terms of reference, both procedurally and substantively?	
2. Does the assessment/review provide a satisfactory assessment of the proposed project?	
3. Does the assessment/review contain the information required for decision-making?	
4. Does the assessment/review describe specific environmental and social management measures (e.g., mitigation, monitoring, advocacy, and capacity development measures)?	
5. Does the assessment/review identify capacity needs of the institutions responsible for implementing environmental and social management issues?	
6. Was the assessment/review developed through a consultative process with strong stakeholder engagement, including the view of men and women?	
7. Does the assessment/review assess the adequacy of the cost of and financing arrangements for environmental and social management issues?	

**Table 1.1 (continued) For any “no” answers, describe below how the issue has been or will be resolved (e.g., amendments made or supplemental review conducted).**

## QUESTION 2:

Do **all** outputs and activities described in the Project Document fall within the following categories?

- Procurement (in which case UNDP’s [Procurement Ethics](#) and [Environmental Procurement Guide](#) need to be complied with)
- Report preparation
- Training
- Event/workshop/meeting/conference (refer to [Green Meeting Guide](#))
- Communication and dissemination of results

Select answer below and follow instructions:

- NO** → Continue to Question 3
- YES** → No further environmental and social review required. Complete Annex A.2, selecting Category 1, and submit the completed template (Annex A) to the PAC.

## QUESTION 3:

Does the proposed project include activities and outputs that support *upstream* planning processes that potentially pose environmental and social impacts or are vulnerable to environmental and social change (refer to Table 3.1 for examples)? (Note that *upstream* planning processes can occur at global, regional, national, local and sectoral levels)

Select the appropriate answer and follow instructions:

- NO** → Continue to Question 4.
- YES** → Conduct the following steps to complete the screening process:
  1. Adjust the project design as needed to incorporate UNDP support to the country(ies), to ensure that environmental and social issues are appropriately considered during the upstream planning process. Refer to Section 7 of this Guidance for elaboration of environmental and social mainstreaming services, tools, guidance and approaches that may be used.
  2. Summarize environmental and social mainstreaming support in Annex A.2, Section C of the Screening Template and select “Category 2”.

3. If the proposed project ONLY includes upstream planning processes then screening is complete, and you should submit the completed Environmental and Social Screening Template (Annex A) to the PAC. If downstream implementation activities are also included in the project then continue to Question 4.

<b>TABLE 3.1</b> <b>EXAMPLES OF UPSTREAM PLANNING PROCESSES WITH POTENTIAL DOWNSTREAM ENVIRONMENTAL AND SOCIAL IMPACTS</b>	Check appropriate box(es) below
1. Support for the elaboration or revision of <b>global-level</b> strategies, policies, plans, and programmes. <i>For example, capacity development and support related to international negotiations and agreements. Other examples might include a global water governance project or a global MDG project.</i>	
2. Support for the elaboration or revision of <b>regional-level</b> strategies, policies and plans, and programmes. <i>For example, capacity development and support related to transboundary programmes and planning (river basin management, migration, international waters, energy development and access, climate change adaptation etc.).</i>	
3. Support for the elaboration or revision of <b>national-level</b> strategies, policies, plans and programmes. <i>For example, capacity development and support related to national development policies, plans, strategies and budgets, MDG-based plans and strategies (e.g., PRS/PRSPs, NAMAs), sector plans.</i>	<b>X</b>
4. Support for the elaboration or revision of <b>sub-national/local-level</b> strategies, policies, plans and programmes. <i>For example, capacity development and support for district and local level development plans and regulatory frameworks, urban plans, land use development plans, sector plans, provincial development plans, investment funds, provision of services, technical guidelines and methods, stakeholder engagement.</i>	<b>X</b>

## QUESTION 4:

### Does the proposed project include the implementation of *downstream* activities that potentially pose environmental and social impacts or are vulnerable to environmental and social change?

To answer this question, you should first complete Table 4.1 by selecting appropriate answers. If you answer “No” or “Not Applicable” to all questions in Table 4.1 then the answer to Question 4 is “NO.” If you answer “Yes” to any questions in Table 4.1 (even one “Yes” can indicate a significant issue that needs to be addressed through further review and management) then the answer to Question 4 is “YES”:

- NO** → No further environmental and social review and management required for downstream activities. Complete Annex A.2 by selecting “Category 1”, and submit the Environmental and Social Screening Template to the PAC.
- YES** → Conduct the following steps to complete the screening process:
  1. Consult Section 8 of this Guidance, to determine the extent of further environmental and social review and management that might be required for the project.
  2. Revise the Project Document to incorporate environmental and social management measures. Where further environmental and social review and management activity cannot be undertaken prior to the PAC, a plan for undertaking such review and management activity within an acceptable period of time, post-PAC approval (e.g., as the first phase of the project) should be outlined in Annex A.2.
  3. Select “Category 3” in Annex A.2, and submit the completed Environmental and Social Screening Template (Annex A) and relevant documentation to the PAC.

**TABLE 4.1: ADDITIONAL SCREENING QUESTIONS TO DETERMINE THE NEED AND POSSIBLE EXTENT OF FURTHER ENVIRONMENTAL AND SOCIAL REVIEW AND MANAGEMENT**

1. Biodiversity and <a href="#">Natural</a> Resources	Answer (Yes/No/ Not Applicable)
1.1 Would the proposed project result in the conversion or degradation of <a href="#">modified habitat</a> , <a href="#">natural habitat</a> or <a href="#">critical habitat</a> ?	Yes
1.2 Are any development activities proposed within a legally protected area (e.g., natural reserve, national park) for the protection or conservation of biodiversity?	No
1.3 Would the proposed project pose a risk of introducing invasive alien species?	No
1.4 Does the project involve natural forest harvesting or plantation development without an independent forest certification system for sustainable forest management (e.g., <i>PEFC</i> , the <i>Forest Stewardship Council certification systems</i> , or <i>processes established or accepted by the relevant National Environmental Authority</i> )?	No
1.5 Does the project involve the production and harvesting of fish populations or other aquatic species without an accepted system of independent certification to ensure sustainability (e.g., the <i>Marine Stewardship Council certification system</i> , or <i>certifications, standards, or processes established or accepted by the relevant National Environmental Authority</i> )?	No

<b>TABLE 4.1: ADDITIONAL SCREENING QUESTIONS TO DETERMINE THE NEED AND POSSIBLE EXTENT OF FURTHER ENVIRONMENTAL AND SOCIAL REVIEW AND MANAGEMENT</b>		
<b>1.6</b>	Does the project involve significant extraction, diversion or containment of surface or ground water? <i>For example, construction of dams, reservoirs, river basin developments, groundwater extraction.</i>	Yes
<b>1.7</b>	Does the project pose a risk of degrading soils?	No
<b>2.</b>	<b>Pollution</b>	<b>Answer</b> (Yes/No/ Not Applicable)
<b>2.1</b>	Would the proposed project result in the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional, and transboundary impacts?	No
<b>2.2</b>	Would the proposed project result in the generation of waste that cannot be recovered, reused, or disposed of in an environmentally and socially sound manner?	No
<b>2.3</b>	Will the propose project involve the manufacture, trade, release, and/or use of chemicals and hazardous materials subject to international action bans or phase-outs? <i>For example, DDT, PCBs and other chemicals listed in international conventions such as the Stockholm Convention on Persistent Organic Pollutants, or the Montreal Protocol.</i>	No
<b>2.4</b>	Is there a potential for the release, in the environment, of hazardous materials resulting from their production, transportation, handling, storage and use for project activities?	No
<b>2.5</b>	Will the proposed project involve the application of pesticides that have a known negative effect on the environment or human health?	No
<b>3.</b>	<b>Climate Change</b>	
<b>3.1</b>	Will the proposed project result in significant <sup>67</sup> greenhouse gas emissions? <i>Annex E provides additional guidance for answering this question.</i>	No
<b>3.2</b>	Is the proposed project likely to directly or indirectly increase environmental and social vulnerability to climate change now or in the future (also known as maladaptive practices)? You can refer to the additional guidance in Annex C to help you answer this question. <i>For example, a project that would involve indirectly removing mangroves from coastal zones or encouraging land use plans that would suggest building houses on floodplains could increase the surrounding population's vulnerability to climate change, specifically flooding.</i>	No
<b>4.</b>	<b>Social Equity and Equality</b>	<b>Answer</b> (Yes/No/ Not Applicable)
<b>4.1</b>	Would the proposed project have environmental and social impacts that could affect indigenous people or other vulnerable groups?	No

<sup>67</sup> Significant corresponds to CO<sub>2</sub> emissions greater than 100,000 tons per year (from both direct and indirect sources). Annex E provides additional guidance on calculating potential amounts of CO<sub>2</sub> emissions.

<b>TABLE 4.1: ADDITIONAL SCREENING QUESTIONS TO DETERMINE THE NEED AND POSSIBLE EXTENT OF FURTHER ENVIRONMENTAL AND SOCIAL REVIEW AND MANAGEMENT</b>		
<b>4.2</b>	Is the project likely to significantly impact gender equality and women’s empowerment <sup>68</sup> ?	No
<b>4.3</b>	Is the proposed project likely to directly or indirectly increase social inequalities now or in the future?	No
<b>4.4</b>	Will the proposed project have variable impacts on women and men, different ethnic groups, social classes?	No
<b>4.5</b>	Have there been challenges in engaging women and other certain key groups of stakeholders in the project design process?	No
<b>4.6</b>	Will the project have specific human rights implications for vulnerable groups?	No
<b>5. Demographics</b>		No
<b>5.1</b>	Is the project likely to result in a substantial influx of people into the affected community(ies)?	No
<b>5.2</b>	Would the proposed project result in substantial voluntary or involuntary resettlement of populations? <i>For example, projects with environmental and social benefits (e.g., protected areas, climate change adaptation) that impact human settlements, and certain disadvantaged groups within these settlements in particular.</i>	No
<b>5.3</b>	Would the proposed project lead to significant population density increase which could affect the environmental and social sustainability of the project? <i>For example, a project aiming at financing tourism infrastructure in a specific area (e.g., coastal zone, mountain) could lead to significant population density increase which could have serious environmental and social impacts (e.g., destruction of the area’s ecology, noise pollution, waste management problems, greater work burden on women).</i>	No
<b>6. Culture</b>		
<b>6.1</b>	Is the project likely to significantly affect the cultural traditions of affected communities, including gender-based roles?	No
<b>6.2</b>	Will the proposed project result in physical interventions (during construction or implementation) that would affect areas that have known physical or cultural significance to indigenous groups and other communities with settled recognized cultural claims?	No
<b>6.3</b>	Would the proposed project produce a physical “splintering” of a community? <i>For example, through the construction of a road, powerline, or dam that divides a community.</i>	No
<b>7. Health and Safety</b>		
<b>7.1</b>	Would the proposed project be susceptible to or lead to increased vulnerability to earthquakes, subsidence, landslides, erosion, flooding or extreme climatic conditions? <i>For example, development projects located within a floodplain or landslide prone area.</i>	No
<b>7.2</b>	Will the project result in increased health risks as a result of a change in living and working conditions? In particular, will it have the potential to lead to an increase in HIV/AIDS infection?	No

<sup>68</sup> Women are often more vulnerable than men to environmental degradation and resource scarcity. They typically have weaker and insecure rights to the resources they manage (especially land), and spend longer hours on collection of water, firewood, etc. (OECD, 2006). Women are also more often excluded from other social, economic, and political development processes.



<b>TABLE 4.1: ADDITIONAL SCREENING QUESTIONS TO DETERMINE THE NEED AND POSSIBLE EXTENT OF FURTHER ENVIRONMENTAL AND SOCIAL REVIEW AND MANAGEMENT</b>		
<b>7.3</b>	Will the proposed project require additional health services including testing?	No
<b>8.</b>	<b>Socio-Economics</b>	
<b>8.1</b>	Is the proposed project likely to have impacts that could affect women's and men's ability to use, develop and protect natural resources and other natural capital assets? <i>For example, activities that could lead to natural resources degradation or depletion in communities who depend on these resources for their development, livelihoods, and well-being?</i>	No
<b>8.2</b>	Is the proposed project likely to significantly affect land tenure arrangements and/or traditional cultural ownership patterns?	No
<b>8.3</b>	Is the proposed project likely to negatively affect the income levels or employment opportunities of vulnerable groups?	Yes
<b>9.</b>	<b>Cumulative and/or Secondary Impacts</b>	<b>Answer</b> (Yes/No/ Not Applicable)
<b>9.1</b>	Is the proposed project location subject to currently approved land use plans (e.g., roads, settlements) which could affect the environmental and social sustainability of the project? <i>For example, future plans for urban growth, industrial development, transportation infrastructure, etc.</i>	N/A
<b>9.2</b>	Would the proposed project result in secondary or consequential development which could lead to environmental and social effects, or would it have potential to generate cumulative impacts with other known existing or planned activities in the area? <i>For example, a new road through forested land will generate direct environmental and social impacts through the cutting of forest and earthworks associated with construction and potential relocation of inhabitants. These are direct impacts. In addition, however, the new road would likely also bring new commercial and domestic development (houses, shops, businesses). In turn, these will generate indirect impacts. (Sometimes these are termed "secondary" or "consequential" impacts). Or if there are similar developments planned in the same forested area then cumulative impacts need to be considered.</i>	No

## ANNEX 4: ENVIRONMENTAL AND SOCIAL SCREENING SUMMARY

(To be filled in after Annex A.1 has been completed)

**Name of Proposed Project:** Integrating global environment commitments in investment and development decision-making

### **A. Environmental and Social Screening Outcome**

Select from the following:

Category 1. No further action is needed

Category 2. Further review and management is needed. There are possible environmental and social benefits, impacts, and/or risks associated with the project (or specific project component), but these are predominantly indirect or very long-term and so extremely difficult or impossible to directly identify and assess.

Category 3. Further review and management is needed, and it is possible to identify these with a reasonable degree of certainty. If Category 3, select one or more of the following sub-categories:

Category 3a: Impacts and risks are limited in scale and can be identified with a reasonable degree of certainty and can often be handled through application of standard best practice, but require some minimal or targeted further review and assessment to identify and evaluate whether there is a need for a full environmental and social assessment (in which case the project would move to Category 3b).

Category 3b: Impacts and risks may well be significant, and so full environmental and social assessment is required. In these cases, a scoping exercise will need to be conducted to identify the level and approach of assessment that is most appropriate.

**B. Environmental and Social Issues** (for projects requiring further environmental and social review and management)

**Upstream activities that could have potential social and environmental impacts:** the project will support the elaboration of a new ES and Critical Habitats Bill (Output 1.1) that will (i) stipulate the procedures for listing a species as ES; (ii) stipulates the procedures for designating “critical habitat”; (iii) stipulate the procedures for assigning lead agency to coordinate management of “critical habitat” and clarifying its role and responsibilities vis-à-vis those of other sectors; (iv) endorse the land use planning framework for managing the “critical habitats”; and (v) stipulate the procedures for establishing “take” prohibitions”. It will also develop a “Land-use Planning framework in place that integrate ES conservation into land use planning and allocation decisions by (i) no-go areas for development in highly sensitive areas identified; (ii) prescribe appropriate measures and practices that reduce threats to biodiversity in production areas; (iii) define clear roles, responsibilities and rights of national, provincial and local authorities, communities and private sector in ES management.”

**Social Impacts:** The delivery of these two outputs has the potential to cause negative social impacts. It is anticipated that the two outputs will work together to prescribe land use practices in those areas believed to be of critical importance for the continued survival of endangered species. Such land use plans and land allocations would build on existing biodiversity-friendly practices where possible, but could potentially influence the income of local communities and other vulnerable groups by restricting their economic activities. Application of improved environmental management within critical habitat areas may also have

positive social benefits. Increased protection of traditional land use practice will safeguard livelihoods and reduce risk for environmental degradation from surrounding developments. Enhanced environmental conservation and recognition may also provide opportunities for the development of environmentally branded agricultural or customary products or the development of eco-tourism activities. Improved environmental protection will also help to prevent excess levels of agricultural or industrial pollution within agricultural land, water-ways and maintain air quality providing health benefits to local communities.

Environmental Impacts: These impacts are anticipated to be predominantly positive. The implementation of the policies and regulations especially the Endangered Species and Habitat Act, as well as Land Use Planning Framework will result in the conservation of the listed Endangered Species. This approach is also characteristic of that for many endangered and threatened species; the mainstreaming measures that will be applied to conserve the listed species will improve the conservation status of many other species, depending on the same habitats for survival.

The two main environmental risks associated with implementation are: diversion of resources from broad environmental or conservation objectives to specific high cost ES conservation resulting in overall environmental decline, and rapid habitat degradation in advance of the bill being enacted as developers seek to gain approvals prior to additional requirements coming into force.

**Site-level implementation activities that could have social or environmental impacts:** The project will result in the conversion of modified habitat and critical habitats; it will involve the containment of surface water, and might negatively affect the income levels of vulnerable groups. The project is targeting three project sites for the conservation of three targeted ES namely Spoon-billed Sandpiper, Eastern Sarus Crane and Water Lily.

Social Impacts: In the Buriram Province, the project will include a component to strengthen management of water levels in three reservoirs to help maintain and effective habitat for the Eastern Sarus Crane as well as other species. This impact is not considered significant as decision making on water levels will occur through an Irrigation Committee that includes representatives from farmers groups the Provincial Irrigation office and the DNP responsible for the non-hunting areas that the reservoirs are also classified as. Discussions during the project development stage have indicated that water management within the reservoirs can be improved but such changes would not cause substantial social impacts.

As a result of the prescription to be developed during the land use planning exercise in each of the project sites, production sectors i.e. aquaculture and agriculture, will be influenced. Both of these sectors are maintained by poor farmers and villagers, which can be considered as vulnerable groups. The project will use incentives such as extension packages to adopt sustainable practices in salt production, aquaculture and agriculture, as well as assist in the marketing of biodiversity-friendly enterprises such as salt products and rice products.

Environmental Impacts: These are positive: the immediate global biodiversity benefit is the stabilization of critical habitats outside protected areas in an area covering approximately 131,539 hectares, ensuring stability of globally threatened species of Water Lily (*Crinum thaianum*), Spoon-billed Sandpiper (*Eurynorhynchus pygmaes*) and Eastern Sarus Crane (*Grus antigone sharpii*). The project sites where the three ES occur will undergo a land use planning exercise whereby critical habitats of these three species will be zoned with certain land use prescriptions. The project will therefore result in the 'positive' conversion of land for the benefit of the endangered species. The exact scope of this conversion will only be determined during the project implementation phase. Other than the conservation of the three target ES, The critical habitats that will be conserved will also benefit other globally significant species, namely Black-winged Stilt (*Himantopus himantopus*), Pacific Golden Plover (*Pluvialis fulva*), Lesser Sand Plover (*Charadrius mongolus*), Asian Dowitcher (*Limnodromus semipalmatus*), Black-tailed Godwit (*Limosa limosa*), Whimbrel (*Numerius phaeopus*), Common Redshank (*Tringa stagnatilis*), Marsh Sandpiper (*Tringa stagnatilis*), Common Greenshank (*Tringa nabularia*), Nordmann's Greenshank (*Tringa guttifer*), Red-necked Stint (*Calidris ruficollis*), Curlew Sandpiper (*Calidris ferruginea*), Comb Duck (*Sarkidiornis*

melanotos), Lesser Whistling Duck (*Dendrocygna javanica*), Northern Pintail (*Anas acula*), Garganey (*Anas quequedula*), Cotton Pygmy Goose (*Nettapus coromandelianus*), Common Moorhen (*Gallinula chloropus*), Purple Swampphen (*Porphyrio porphyrio*), Bronze-winged Jacana (*Metopidius indicus*), Black Bittern (*Ixobrychus flavicollis*), Yellow Bittern (*Ixobrychus sinensis*) and Purple Heron (*Ardea purpurea*).

**C. Next Steps (for projects requiring further environmental and social review and management):**

The adaptive collaborative management approach to the project is intended to ensure that stakeholder concerns, in particular the traditionally marginalized stakeholders, i.e., local communities, are able to voice their priorities and concerns early on in the project implementation process so that the right and sound decisions are made.

At the upstream level the impact of the implementation of the new policies and legislation (including the Endangered Species and Habitat Act) and the new Land Use Planning Framework for ES will only be known in the long term. However, the project is supporting the development of this legislation and there is a need to nest environmental and social safeguards in the legislation. At the upstream level the following next steps should be undertaken:

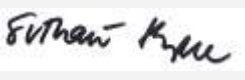
*Project Implementation Activity 1:* Identify potential perverse incentives in design of ES and Critical Habitat Bill and Land use planning framework to ensure that ES conservation will not result in divergence of resources from other environmental management.

*Project Implementation Activity 2:* Initiate early engagement with NEB to identify approaches to preventing projects being fast tracked prior to the enactments of the ES and Critical Habitats Bill – this could include retroactive application of the Act once passed.

At the site levels the project has been designed to ensure that different activities are fully assessed to ensure that they deliver both environmental and social benefits. Land use zoning and regulation development will be undertaken in a fully participatory way to ensure that all stakeholders are able to present their views and no groups are marginalized or have their livelihoods unduly impacted. Feasibility assessments of different management regimes within production areas will also be undertaken to ensure that approaches identified are both economically viable and deliver significant environmental benefits. During the inception phase further consultation and stakeholder mapping should occur to ensure that all appropriate stakeholders are identified for engagement within the project and feasibility work and subsequent extension and capacity building support can be suitably targeted.

The Local Project Appraisal Committee (LPAC) for this project will be convened after CEO endorsement.

**D. Sign Off**

<b>Project Manager</b>		<b>Date 15.07.14</b>
<b>PAC</b>		<b>Date</b>
<b>Programme Manager</b>		<b>Date</b>

## Annex 5: Co-financing Letters

### Office of Natural Resources and Environmental Policy and Planning (ONEP)

No.1012/ 7580.1



Office of Natural Resources and  
Environmental Policy and Planning  
60/1 Soi Phibun Wattana 7,  
Rama VI Road, Bangkok 10400 Thailand  
Tel/Fax + 66 2265 6640

7 July B.E.2557 (2014)

Dear Sir,

**Subject: Conserving Habitats for Globally Important Flora and Fauna in Production Landscapes Project**

Kindly refer to your letter ref: 140/14/ENV, dated 3 July 2014, concerning the co-financing confirmation: Conserving Habitats for Globally Important Flora and Fauna in Production Landscapes. On behalf of the Office of Natural Resources and Environmental Policy and Planning (ONEP), I am pleased to express our commitment to the above-mentioned project. The project is closely aligned with the Royal Thai Government's policy on natural resources and environmental protection and sustainable utilization through landscape approaches.

ONEP has been working closely with UNDP in the preparation process of the project proposal and the project document. The project will be complementary to the works of ONEP and the Zoological Park Organisation (ZPO), the key responsible agency. As stated in the full project document, the co-financing contribution from MONRE to the project is equivalent to USD 6,997,233 consisting of:

1. ONEP's indicative budget related to integrated catchment management
  2. Contribution of staff time, office space, vehicles use, and communication devices
- The commitment will support the implementation during the project's entire lifetime

(4 years).

Thank you very much for your kind consideration.

Yours sincerely,

A handwritten signature in blue ink that reads "S. SUPHOT." with a stylized flourish at the end.

**Suphot Tavichakchai**  
Secretary-General

Mr. Luc Stevens  
UN Resident Coordinator and  
UNDP Resident Representative  
Floor, UN Secretariat Building  
12<sup>th</sup> Rajadamnoen Nok Avenue  
Bangkok 10200

## Zoological Park Organisation (ZPO)



### องค์การสวนสัตว์ ในพระบรมราชูปถัมภ์

THE ZOOLOGICAL PARK ORGANIZATION UNDER THE ROYAL PATRONAGE OF H.M. THE KING  
ถนนพระราม 5 ดุสิต กรุงเทพฯ 10300 โทร. 0 2282 7111-3 โทรสาร 0 2282 6125, 0 2282 9104  
Rama V Rd., Dusit, Bangkok 10300 Thailand Tel. (662) 2827111-3 Fax : (662) 2826125, 2829104 www.zoothailand.org

No. 1101/723

4 July 2014

Subject Conserving Habitats for Globally Important Flora and Fauna in Production Landscapes Project  
Dear Mr. Stevens,

On behalf of the Zoological Park Organization (ZPO), I am pleased to express our commitment to the above-mentioned project. The project is closely aligned with the Royal Thai Government's policy on natural resources and environmental protection and sustainable utilization through landscape approaches.

ZPO has been working closely with UNDP and the Office of Natural Resources and Environmental Policy and Planning (ONEP) in the preparation process of the project proposal and the project document. The project will be complementary to the works of (ZPO), with regards to the re-introducing of the Eastern Sarus Crane into its natural habitats.

As stated in the full project document, the co-financing contribution from MONRE to the project is equivalent to USD 4,000,000 consisting of:

1. ZPO's indicative budget related to the reintroduction and habitat conservation of the Eastern Sarus Crane = USD 2,000,000
2. Contribution of staff time, office space, vehicles use, and communication devices = USD 2,000,000

The commitment will support the implementation during the project's entire lifetime (4 years).

Yours Sincerely,

(Mr. Ritnarong Kulprasoot)  
Member of ZPO Boards of Director  
Acting Director General, ZPO.

Bureau of Conservation and Research  
Zoological Park Organization, Thailand  
Tel. 662-2827111#161-163

- ส่วนสัตว์ดุสิต กรุงเทพฯ โทร. 0 2281 2000 โทรสาร 0 2282 9245	- ส่วนสัตว์สวนดุสิต โทร. (044) 934531 โทรสาร (044) 934531 RM 1
- ส่วนสัตว์เปิดเขาเขียว (ชลบุรี) โทร. (038) 298289-71 โทรสาร (038) 298273	- ส่วนสัตว์สงขลา โทร. (074) 336038 โทรสาร (074) 336040
- ส่วนสัตว์เชียงใหม่ โทร. (053) 221179 โทรสาร (053) 222283	- ส่วนสัตว์อุบลราชธานี โทร. (045) 217224 โทรสาร (045) 412258

United Nations Development Programme



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Ref. 143/14/ENV

10 July 2014

Dear Ms. Dinu,

**Confirming Co-financing Commitment to the GEF-funded Project  
"Conserving Habitats for Globally Important Flora and Fauna  
in Production Landscapes"**

I am pleased to note that the Global Environment Facility (GEF) has approved the project preparation grant of US\$ 67,580 for the above-mentioned project and an indicative grant of US\$ 1,758,904 once the project document is approved later this year.

In support of the project's objectives and outcomes, and in accordance with the United Nations Partnership Framework with the Royal Thai Government (2012-2016), I would like to confirm the co-financing in the amount of US\$ 40,000 from the core resources of UNDP Thailand to support the project's implementation during the project's entire cycle of 4 years.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'Lut Stevens', with a horizontal line extending to the left.

Lut Stevens  
UN Resident Coordinator  
UNDP Resident Representative

Ms. Adriana Dinu  
GEF Executive Coordinator  
United Nations Development Programme  
One United Nations Plaza  
10<sup>th</sup> Floor, FF Building  
304 East 45<sup>th</sup> Street  
New York, NY 10017  
USA

## Thai Wetland Foundation



Thai Wetlands Foundation

79/253 M.3 Samet sub-district, Muang  
District, Chon Buri province, 20000

No. TWF. 008/14

11 July 2014

Conserving Habitats for Globally Important Flora and Fauna in Production Landscapes  
Project.

Dear Mr. Stevens,

On behalf of the Thai Wetlands Foundation (TWF), I am pleased to express our commitment to the above-mentioned project. The project is closely aligned with TWF's mandate in Thailand..

The project will be complementary to our works in conserving coastal ecosystems in the inner gulf of Thailand,

As stated in the full project document, the co-financing contribution from TWF to the project is equivalent to USD 100,000. The commitment will support the implementation during the project's entire lifetime (4 years).

I look forward to our further collaboration in the implementation of this project.

Yours Sincerely,

Wicha Narungsri

Chairman