United Nations Development Programme

Country: Thailand

PROJECT DOCUMENT

Project Title:	Sustainable Management of Biodiversity in Thailand's Production Landscape
UNPAF Outcome(s):	**Outcome 4:** Improved sustainable utilization and management of natural resources and environment at the community and national policy levels
UNDP Strategic Plan Environment and Sustainable Development Primary Outcome:	Mainstreaming Environment and Energy
UNDP Strategic Plan Secondary Outcome:	Mobilizing Environmental Financing
Expected CP Outcomes:	• Efficient community-based natural resources and environmental management in selected ecosystems with effective engagement of people's organizations in policy- and decision-making processes affecting the environment and the use of local natural resources; • Increased capacity of national agencies to set policy priorities and remove barriers to pursuing sustainable management of biodiversity, renewable energy, and water resources in response to national priorities and in compliance with international treaties; • Promoting community-based knowledge management by supporting the formation of community networks and promoting evidenced-based policymaking at all levels.
Expected CPAP Output/Indicator(s):	**Expected CPAP output (s):** 1.Demonstration of co-management mechanisms and practices between CBOs and government authorities with policy support and budget for local sustainable development initiatives; 2.Improved availability of data at national and sub-national levels to support evidence-based planning, policy and decision-making; 3.Dissemination of good practices on sustainable natural resource management and use; 4.A knowledge system that integrates scientific and indigenous knowledge and is accessible to community networks and policy makers; 5. A knowledge management mechanism and facilities available for community learning, sharing experiences and networking.
Implementing Partner:	Biodiversity-Based Economy Development Office (BEDO), Ministry of Natural Resources and Environment (MNRE)
Implementing Agency	UNDP

Brief Description:

Thailand is rich in biodiversity. It is the home of 12,000 vascular plant species, 302 species of mammals, and 982 species of birds. There are more than 2,100 marine and 720 freshwater fish species in the country, accounting for 10 percent of the estimated total fish species worldwide. IUCN Red List indicates that 200 significant portions of several WWF Eco-regions fall inside Thailand - including Northern Indochina Subtropical Moist Forests, Kayah-Karen/Tenasserim Moist Forests, Peninsular Malaysian Lowland and Mountain Forests, and Cardamom Mountains Moist Forests. It has coastal and marine ecosystems of the Gulf of Thailand on one side and the Andaman Sea's marine and coastal ecosystem on the other side with substantially different species assemblages.

The establishment of Protected Areas (PAs), Buffer Zones (BZs) and biodiversity corridors have been the primary approach for biodiversity conservation in Thailand with over 400 PAs currently gazette. However, only 18% of Thailand's total land area is under PAs. Therefore, much of the globally significant biodiversity in Thailand is found in "production landscapes" outside PAs – in agricultural areas and production forests and wetlands. Increasing population pressures and rapid economic development during recent decades are adding pressure to biodiversity both inside and outside PAs.

The Royal Thai Government authorities, with MONRE and MOAC as lead ministries, have made large efforts to arrest this degradation, also outside the PA's. An important initiative was the establishment of the Biodiversity-based Economy Development Office (BEDO) as a public organization. BEDO was given the mandate of promoting conservation of biodiversity in production landscapes, improving local community knowledge of best practice for sutainable production and enhancing biodiversity-based economic development. The long-term challenge for BEDO is to ensure that *Biodiversity conservation is mainstreamed into production and marketing of agricultural, forestry and fishery business, in order to create community incentives to conserve and enhance biodiversity in Thailand's land- and seascapes while maintaining appropriate incomes to satisfy family needs for livelihood and wellbeing.*

There are three main barriers to achieve this: (i) At the national level, the institutional framework is not sufficiently capacitated to address the needs of an emerging biodiversity-based business sector, based on sustainable harvesting and production principles, (ii) At the community-level, sustainable production approaches and biodiversity conservation efforts are inadequate due to low incomes from present product categories, and (iii) Community revenues are limited due to low prices in the commodity market, as well as to high transaction costs in the supply chains. The project will directly address these barriers through the three major components of the project:

1. Building national capacity for support of Biodiversity Business
2. Piloting Community-based Social Enterprises (CbSE) in valuable Ecoregions
3. Mainstreaming Biodiversity Business into the supply chains of high-value consumer markets

Programme Period: 2011-2015 Programme Component: Biodiversity PIMS#: 3642 Project Title: Sustainable Management of Biodiversity in Thailand's Production Landscape Award ID: 00061370 Project ID: 00077720 Project Duration: 4 years Management Arrangement: NIM	Total Budget: US$7,458,000 Allocated Resources: - GEF US$1,940,000 - BEDO (in-kind) US$5,518,000

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Acronyms and Abbreviations

APR	Annual Project Report
AWP	Annual Work Plan
BAAC	Bank of Agriculture and Agricultural Cooperatives
BEDO	Biodiversity-based Economy Development Office
BFs	Buffer Zones
CBD	Convention on Biological Diversity
CBO	Community Based Organisation
CbSE	Community-based Social Enterprise
CDD	Community Development Department
CO	Country Office
CPAP	Country Programme Action Plan
CSR	Corporate Social Responsibility
DEP	Department of Export Promotion
DMCR	Department of Marine and Coastal Resources
DNP	Department of National Park, Wildlife and Plant Conservation
DOAE	Department of Agricultural Extension
DOF	Department of Fisheries
EU	European Union
FAO	Food and Agriculture Organisation
GDP	Gross Domestic Product
GEF	Global Environment Facility
ha	Hectares
IUCN	International Union for Conservation of Nature
IW	Inception Workshop
LOHAS	Lifestyles of Health & Sustainability
MDG	Millennium Development Goal
M&E	Monitoring and Evaluation
METT	Management Effectiveness Tracking Tool
MFF	Mangroves for the Future
MOAC	Ministry of Agricultural Cooperatives
MONRE	Ministry of Natural Resources and Environment
NCCBD	National Committee on Conservation of Biological Diversity
NESDB	National Economic and Social Development Board
NLA	National Legislative Assembly
NSTDA	National Science and Technology Development Agency
NTFPs	Non Timber Forest Products
OFP	Operational Focal Point
ONEP	Office of National Environment Policy
OSMEP	Office of Small and Medium Enterprise Promotion
OTOP	One Tambon One Product
PAs	Protected areas
PBM	Project Board Meeting
PES	Payment for environmental (or ecosystem) services
PIF	Project Identification Form
PMU	Project Management Unit
PIR	Project Inception Report
PIRs	Project Implementation Reviews
PPG	Project Preparation Grant
PPR	Project Progress Report
PB	Project Board
PTT	Petroleum Authority of Thailand
RCU	Regional Coordinating Unit

RFD	Royal Forest Department
SAR	Self Assessment Report
SC	Project Board
SMCE	Small and Micro Community Enterprise
SMEs	Small and Medium Enterprises
TAG	Technical Advisory Group
TAO	Tambon Administrative Organisations
TAT	Tourism Authority of Thailand
TCDC	Thailand Creative and Development Centre
TEI	Thailand Environment Institute
TPR	Tripartite Review
TTR	Terminal Tripartite Review
UNESCO	United Nations Education, Scientific and Cultural Organization
UNEP	United Nations Environment Programme
UNDP	United Nations Development Programme
UNPAF	United Nations Partnership Framework
USD	United States Dollars
WWF	World Wildlife Fund

SECTION I: ELABORATION OF THE NARRATIVE

Part I: Situation Analysis

1.1 Context and global significance: Environmental, policy and institutional

1.1.1 Summary of Thailand

Geographic Information

4. Thailand is located in Southeast Asia, between latitudes $20^0$25' N, and longitudes $97^0$20' and $105^0$40' E. It is surrounded by the west and north, Lao PDR to the northeast and east, Cambodia to southeast, and Malaysia to the south. The total area of Thailand is approximately 514,000 square kilometers with a composition of land 511,770 and water area: 2,230 square kilometers. Its costal line kilometers in length, divided into 2 sides: Andaman Sea on the west Thailand on the east side. In general, the regions of Thailand can be into 5 major regions: northern, northeastern; central; eastern; and regions. Thailand comprises 76 provinces governed under the constitutional monarchy in which Bangkok is its capital city.

Map 1: Thailand

5. In terms of terrain, the northern region covers most of the mountainous forested area. The peak is located at Doi Inthanon level of 2,955 meters. The northeastern region takes up majority of nation. It is covered by the Korat Plateau in which the terrain with sandy soil under flood alternating with drought conditions in seasons, respectively. The central plain is considered as the heart of production area of Thailand. It is populated and Bangkok is included region. The eastern region is a peninsular pointing into the Gulf of is a home land of fruit plantation, fisheries, and tourism. Finally the region is an evergreen mountainous rainforest area in which the earns statistically highest in the nation. Major river of Thailand is Phraya River originating from Nakhon Sawan province in the north and ending in Bangkok by the Gulf of Thailand.

6. The Andaman coastal line includes a large and important area of mangrove forests in the south of Thailand. These mangrove forests have been very important as a buffer to extreme weather events and tide-related disasters, including the Tsunami of 2004. However due to deforestation and conversion, mangrove forests in Ranong and Phang Nga provinces now only cover an area of 24,718ha and 44,051ha, respectively. These constitute approximately 13.98 percent and 24.92 percent of the total coastal zone in each province[1], and are considered as large mangrove areas in Thailand.

7. The climate of Thailand can be explained as a tropical climate influenced by annual monsoons, with high temperatures and high humidity levels throughout the year. The rainy season starts from May to October Temperatures in Bangkok, range between 68°F (20°C) in December, and 95°F (35°C) in April. January and February are normally dry, March to May is the hottest time of year, June to October tends to be the wettest season (with 90% of the country's rainfall occurring in this period), and November and December are the coolest months. Monsoons occur usually between June and October, and in September and October. The average rainfall is approximately 1,250 millimeters per year.

[1] http://www.dmcr.go.th/marinecenter/mangrove/mangrove_report.html

Demographic and Socio-economic Information

8. The population of Thailand is estimated around 65.44 million people of which roughly 10 million live in Bangkok and its vicinities. According to the Office of National and Social Development Board, the Thai GDP in 2009 was Bt. 9.04 trillion (USD 296.196 billion at 30.52 Baht to the US dollar), slightly contracted by 2.3% compared to a 2.5% expansion in 2008. The non-agricultural sector dominates the Thai GDP contributing over 90% while agricultural sector contributes to approximately 10% while still providing the majority of employment.

Biodiversity Information

9. Thailand is rich in biodiversity. It is the home of 12,000 vascular plant species, 302 species of mammals, and 982 species of birds. There are more than 2,100 marine and 720 freshwater fish species in the country, accounting for 10 percent of the estimated total fish species worldwide. Among these, it is estimated that 78 species of higher plants; 37 species of mammals; 37 species of birds; 18 species of reptiles; and 22 species of fish are threatened. Significant portions of several WWF Eco-regions fall inside Thailand - including Northern Indochina Subtropical Moist Forests, Kayah-Karen/Tenasserim Moist Forests, Peninsular Malaysian Lowland and Mountain Forests, and Cardamom Mountains Moist Forests.

10. Thailand's biodiversity is globally significant. IUCN's Red List notes that Thailand has over 1700 globally threatened species, including several Critically Endangered species -including 13 mammal species, 43 bird species, 11 reptile species, 18 fish species, and 20 plant species. Thailand also has 7 endemic mammal species, 2 bird species, 47 reptile species, 7 amphibians, 72 fish species and 757 plant species. Nine per cent of all species known to science can be found in the country.[2] Thailand's topography contributes to high gamma diversity, particularly of coastal and marine ecosystems along the thin long mountainous peninsula of Southern Thailand. This has coastal and marine ecosystems of the Gulf of Thailand on one side and the Andaman Sea's marine and coastal ecosystem on the other side with substantially different species assemblages. There are more than 100 endemic animal species and over 700 endemic plant species found in Thailand.[3] About 35 species of mangroves and 15 species of seagrass have been reported. Five species of marine turtles (Green, Hawksbill, Loggerhead, Olive Ridley and Leatherback) have been recorded in Thailand. Dugongs are also found in Thailand mainly along the southern part of the West Coast in the Andaman Sea and the eastern part of the Gulf of Thailand.[4]

11. The establishment of Protected Areas (PAs), Buffer Zones (BZs) and biodiversity corridors have been the primary approach for biodiversity conservation in Thailand with over 400 PAs currently gazetted. However, only 18% of Thailand's total land area is under PAs. Therefore, much of the globally significant biodiversity in Thailand is found in "production landscapes" outside PAs – in agricultural areas and production forests and wetlands. Increasing population pressures and rapid economic development during recent decades are adding pressure to biodiversity both inside and outside PAs. Of the globally threatened species in Thailand, at least 63% (292 species) are considered to be under threat from different categories of "biological resources use" and 32 species are found in artificial; terrestrial habitats (IUCN Red List 2008). Thailand has actually declared some key biological products as "protected": products such as wild orchids, aromatic wood (*Dracaena loureire*), agarwood (*Aguilaria sp*.), sappan (*Caesalpinia sappan*), charcoal, yang oil (*gurjan*), bark of some trees (*Gasternopsis* spp., *Jopea* spp., *Persea* spp., *Artocardus* spp., *Cinnamomum* spp., etc.), Platycerium spp., gums, resin (*gutta percha, jelutong, lacquer resin, oleoresin*), some ferns, and rattans. Such products can be collected for subsistence needs in small amounts, but permits are required for trading.[5]

12. The total economic values of NTFPs and wetland products in production lands and waters in Thailand are not known – partly as collection use and sale of some species are done illegally or are harvested for local use only. But recent analysis of NTFP use in two Thai villages suggested that NTFP collection and local sale constituted up to 50% of

[2] Bugna, Sahlee and Giacomo Rambaldi. 2001. A Review of the Protected Area System of Thailand. Biodiversity. July – September 2001 pp 1-5.
[3] IUCN Red List, Thailand.
[4] http://www.arcbc.org.ph/arcbcweb/pdf/mpa/04_marine_in_asean.pdf
[5] http://www.fao.org/docrep/x5336e0p.htm

household incomes for poorer households, and the total sale exceeds US$25,000 per village per year[6]. Statistics kept by the Royal Forest Department of Thailand shows that over 48 million US dollars worth of non-timber forest products were exported in 2007. The overall value of NTFPs in formal and informal economic sectors, therefore, makes a significant contribution to Thailand's economy, in particular in poor areas. But many economically attractive biological resources are under threat from unsustainable extraction with possible extirpation in the wild (including medicinal plants, bamboos, mushrooms etc.). Two ecosystems of significant importance are inland bamboo forests and estuarine coastal mangrove forests. The bamboo forests in Thailand contain over 13 genera and 60 species of bamboo and function as important refuge and corridors for many species including the IUCN red listed greater bamboo bat (*Tylonycteris robustula*). Many of these forests are currently being heavily over-harvested thus depriving many species of habitat and safe passage. Coastal mangrove forests provide a habitat for a great diversity of species. Some, such as estuarine shrimp, crustaceans and shellfish are permanent residents but others, including fish and birds use the mangrove ecosystem only part of the time. Increasing harvest of estuarine shrimp and establishment of other enterprises has led to large scale clearance of mangroves, resulting in an increasing loss of habitat for many species. Excessive harvesting of estuarine shrimp has also had a negative impact on other coastal and marine species by reducing their food supplies.

Biodiversity conservation

13. A combination of population pressure, rural poverty and economic development have over the last 50 years put critical pressures on natural resources and caused significant negative impact to the country's biodiversity. In particular, this applies to production lands, where the formerly rich – and valuable - biodiversity of traditional farming and forestry systems has been replaced by forest clearance, wetland loss and coastal depletion, as well as by more intensive and destructive farming and fishing approaches.

14. The Royal Thai Government authorities, with MONRE (Ministry of Natural Resources and the Environment) and MOAC (Ministry of Agriculture and Agricultural Cooperatives) as lead ministries, have made large efforts to arrest this degradation. However, it is becoming increasingly evident that local communities will not follow advice, voluntary agreements and even rules and regulations, unless they have clear economic incentives and social rewards for doing so. This is a general global experience, which has been addressed in the implementation of the UN Convention on Biological Diversity as well as in the international framework of environmental NGO's and research institutes. Here, three major trends are emerging:

- The ecosystems approach as a systemic basis for biodiversity conservation and rehabilitation.
- The concept of ecosystem goods and services as an asset for poverty alleviation and economic development.
- Payment for ecosystem services as direct economic incentive to community-based biodiversity conservation and rehabilitation.

15. The long-term solution for biodiversity conservation in and around production landscapes is to change production practices to mitigate threats to biodiversity from unsustainable harvesting and land conservation, particularly in areas of high ecological significance. Efforts in this area must be in balance with the need to enhance opportunities for local livelihoods. The key challenge to this is orchestrating a paradigm shift from unsustainable to sustainable use, and thus ensuring the conservation compatibility of production. Doing this effectively requires a re-engineering and transformation of the entire product supply chain, from harvest approaches to product development, marketing, certification and end-consumer sales. Sustainable production and marketing of biodiversity products in the production landscapes can also have positive impacts on PAs, BZs and biodiversity corridors by reducing pressures on them.

16. During recent decades, Thailand has become an emerging economy with a large and entrepreneurial private sector, including in rural areas. And in the major urban centers an increasingly wealthy middle class has created a growing market for LOHAS products[7] with an emphasis on health and fitness, the environment and sustainable living, linked in part to the national philosophy of the Sufficiency Economy. This local market is still in its infancy outside Bangkok and tourist hubs such as Chiang Mai and Phuket, however it is already firmly established in key export markets such as the US, Europe, Korea and Japan. Accordingly there is a unique window of opportunity to establish a

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http://www.mm.helsinki.fi/mmeko/vitri/FORRSA/RE_2_Course%20and%20workshop%20proceedings/repoty/Group5_Report.pdf

7 LOHAS is an acronym for Lifestyles of Health and Sustainability, see e.g. http://www.lohas.com/

brand for Thailand as a global trendsetter in this market, in the same way as has happened with the Thai tourist sector. And there appears to be substantial potential for recovering part of the value-added in the supply chain of biodiversity-based products to support community initiatives for biodiversity conservation and rehabilitation.

Policy Context

17. The policy framework for the biodiversity-based product sector in Thailand is found mainly in the National Economic and Social Development Plan. The biodiversity-based development concept is highlighted in the *Strategies for Development of Biodiversity and Conservation of the Environment* section of the National Policy, Strategies and Action Plan for the Tenth National Economic and Social Development Plan (2007-2011). The objective is to strengthen economic, social, environmental and natural resource capital to create a balanced and sustainable base for national development. One of the major principles used in the development strategy is to be cautious about utilisation of natural resources and environment and to protect existing ways of live at the community level. In doing so, the Plan emphasises the utilisation of biodiversity to ensure local and community economic stability as well as to develop the country's capacity and initiate innovations from biological resources unique to the country.

18. As addressed in the Constitution and the 9th National Economic and Social Development Plan, the Ministry of Natural Resources and Environment (MONRE) is responsible for setting out policies for management of natural resources and the environment. The responsibility of MONRE includes i) assess the status and potential of all natural resource sectors including bio-diversity; ii) preserve, conserve, develop and rehabilitate natural resources to maintain their availability and manage their use to satisfy the need for sustainable development, including promoting the implementation of Royal Development Projects, iii) assess economic, social and environmental impacts resulting from the productive use of natural resources and iv) efficiently formulate rules, criteria and procedures for accessing natural resources by the local community and people's groups, ensuring fairness in distributing benefits. This includes providing recommendations, guidelines and measures for all natural resource sectors suited to Thailand's situation based on research and development data.

19. Approach 5 of the Strategies and Approaches to the 9th National Economic and Social Development Plan is to support growth of the community at all levels through natural resource utilization, economic activities, cultural and population-related activities and improvements in infrastructure and public facilities to provide the community with a better environment and quality of life.

20. The long-term Policy and Perspective Plan for biodiversity-based products is also aligned with the Eleventh National Development Plan which adheres to the Philosophy of the Sufficiency Economy with a people-centred development approach. Strategy 4 is focused on creating a knowledge-based economy and enabling economic environment. The Strategy aims to promote Thailand as the regional hub of creative and innovative products. Knowledge technology and creativity will become crucial factors driving the country towards inclusive, balanced and sustainable growth. In this connection, value-added and value creation will be embedded in every stage of the supply chain of goods and services. At the same time, Strategy 6 highlights the management of natural resources and environment towards sustainability. This strategy is focused on conserving and restoring natural resources, harnessing the production and consumption patterns towards an environmentally-friendly society, and gearing up for climate change adaptation. One of the main principles emphasised is the improvement of efficiency of the production and service sectors towards an environmentally-friendly society by upgrading industrial processes for efficient supply chain management, promoting sustainable agricultural practices, fostering the service sectors as a driver for sustainable growth, and providing favourable market opportunities for eco-friendly products and services.

21. In response to the national development plan, an initiative at policy level to promote community-based economic production has been implemented. The *One Tambon One Product (OTOP)* programme is a local entrepreneurship stimulus programme which aims to support the unique locally made and marketed products of each Thai tambon (sub-district). The Thai OTOP aims at encouraging the development of the rural economy through the use of local resources and with community members' participation. The OTOP is thus a mechanism aimed to empower local villages with the capacity to develop one unique major product of their own to conform with traditional culture in each locality. In addition, products can sell in domestic and international markets. The entire OTOP product cycle comes under the supervision of a National OTOP Committee, with regional and provincial level committees to assist in identifying, developing and grading OTOP products. Two prominent measures for marketing OTOP products include

OTOP brand development through a common logo and internet marketing. Approved products of high quality are granted the privilege of utilising the OTOP label. Major government agencies provide support , e.g.:

a. The Interior Ministry's Department of Community Development works directly with the villages to fine-tune their products,
b. the Industry's Ministry's Department of Industrial Promotion plays a key role in production development, skills training and quality control, and
c. the Department of Export Promotion employs teams of designers to work with villages to create marketable designs and packages for their products.

Institutional Context of the project

22. The key responsible government agencies for promoting biodiversity–based community enterprises are the Ministry of Natural Resource and Environment (MONRE), Ministry of Agriculture and Cooperatives (MOAC), and Ministry of Commerce (MOC). MONRE's mission, as outlined previously, is to preserve, conserve, develop and rehabilitate natural resources and the environment to ensure their sustainable use, with active participation and support of the public and all stakeholders. MOAC aims mainly at promoting agriculturist units and encouraging them to be self-reliant, having good quality of life and stable occupations. Plus, it promotes production of agricultural produce and food of increased value that meets market demands and consumer standards. MOCs missions are to generate national income and value added for products and services and to strengthen the domestic economy & trade and create opportunities for entrepreneurs.

23. The Royal Government of Thailand established the Biodiversity-based Economy Development Office (BEDO) as a public organization under the Ministry of Natural Resources and Environment (MONRE) through Royal Decree in July 2007. BEDO was given the mandate of promoting conservation of biodiversity, improving local community knowledge of best practice for biodiversity-friendly production and enhancing biodiversity-based economy development. BEDO's activities focus on four main areas:

- Capacity development for local communities to encourage their members to sustainably utilize biodiversity resources, leading to economic development at every level.
- Knowledge management including research and development, as well as development of databases of biodiversity and traditional knowledge of local communities that supports economic development in every level.
- Business solutions and support frameworks to promote biodiversity-based businesses, provide business solutions, and protect the rights to utilize biodiversity resources and traditional knowledge for commercial purposes.
- Promote and support participation of local communities in order to effectively develop biodiversity resource utilization at every level.

24. BEDO is managed with the supervision of its board via sub-committees and working groups. The role of the sub-committees and working groups is also to provide technical advice to BEDO. This includes the sub-committees on Human Resources Development, Utilisation of the Biodiversity-Based Economy and Community and Local Knowledge, Business Development for Biodiversity-Based and Local Knowledge, Knowledge Management and Development for Biodiversity and Local Knowledge, Support for Learning and Utilisation of the Biodiversity-based and Local Knowledge for Sustainable Economic Value Added, Monitoring and Evaluation, and Working Groups on the Development of National Biodiversity Data and Networking, Biodiversity-Based Economy Policy Framework Drafting and, Biodiversity Database Networking Project Coordination.

1.2 Threats, root causes

25. Land development and inappropriate agricultural and forestry practices are the primary threats to the biodiversity of production landscapes. Mangrove destruction, pollution and inappropriate fishing practices (often causes by commercial fishing boats from outside local waters) are the corresponding threats in coastal areas.

26. Over decades, Thailand's economy has grown in terms of economic and urban development. Much of this growth has depended on rapid exploitation of its rich natural resource endowments. Such development has led to

substantial amounts of conversion of natural habitats and ecosystems. While this development (including building roads and transport infrastructure) plays a critical role in the attainment of higher living standards for many in Thailand, they can also fragment critical habitat, destroy natural assets and place critical natural resource systems in jeopardy by opening them up to illegal exploitation.

27. Deforestation is a major consequence of this growth. For instance, in 1960, Thailand was almost 60 percent forested, of which dry dipterocarp (33 percent), semi-evergreen (23 percent) and tropical moist deciduous forest (19 percent) were predominant[8]. By 2000, forest cover had dropped to below 30 percent. While there has been an increase in forest cover in recent years due to national reforestation initiatives, coverage is still below 40 percent[9]. This forest loss was caused by increasing pressure on land, including infrastructure development, industrialization, and promotion of cash crops such as corn, sorghum, sugar cane and cassava. Today, dry dipterocarp forest cover is less than 5 percent of total land area in Thailand, while semi-evergreen and tropical moist deciduous are both figured at less than 5 percent of land cover each, a dramatic drop from the 1960 baseline[10]. However in recent years, the rate of deforestation has declined significantly. A 2005 assessment by FAO showed that between 1990 and 2005, the area of primary forest remained stable but the area under modified natural forests declined from 6,478,000 ha to 4,970,000 ha[11].

28. In the agricultural sector, there are large numbers of people living inside and/or adjacent to the Thai forest areas. It is estimated that one million people live inside all the protected areas and more than half a million people live inside national parks and wildlife sanctuaries[12]. Most of these people depend heavily on biodiversity either in the form of agricultural land (deforestation) or forest resources such as timber, wildlife and herbs. Moreover, large-scale commercial agriculture including livestock development has placed significant constraints on water resources and watersheds. Use of agro-chemicals and their leakage into wetlands and marine environment are considered an important non-point pollution source in Thailand. Unchecked agricultural expansion is a serious threat to habitats and species. Besides, marine overfishing and coastal aquaculture, particularly shrimp farms, have also brought mangrove forests under pressure.

29. In many cases, the biodiversity status of production lands also create impacts on the biodiversity of protected lands. These occur in buffer zones adjacent to national parks, etc. where it is difficult to control poaching, and where wildlife from the parks damages the farmlands and vice versa. In cases, where production lands separate major forest systems, they may also create impacts on migration between two regions.

30. The overall direct root causes can be classified into main three issues:

a. Population growth increases the pressure for production land development, causing loss of small natural ecosystems in particular (forests, pastures and wetlands).
b. Poverty forces local communities to adopt forest clearance as well as non-sustainable harvesting practices to satisfy their basic income needs for food, transportation and the raising of children.
c. Unchecked economic development and administrative malpractices lead to mining of natural resources like timber without allocation of funds for restoration.

[8] Biodiversity and Protected Areas of Thailand, Clark, J.E. (1997).
[9] Jesdapipat, S. 2006.
[10] Trisurat, Y. Applying Gap Analysis and a comparison Index to Evaluate Protected Areas in Thailand (2007).
[11] http://www.fao.org/forestry/32185/en/tha
[12] http://www.fao.org/forestry/

Threats related to bamboo production:

31. The total forest area in Thailand is approximately 17 million hectares or 33 percent of the country's area. 5.5 percent of the area is bamboo forests scattered inside and around other forest types.[13] In general, bamboos in Thailand are found abundantly in six major provinces- Kanchanaburi, Prachinburi, Ratchburi, Phetchaboon, Chiang Mai, and Phitsanulok.

32. Bamboo forest areas are rapidly declining and are considered to be one of Thailand's threatened ecosystems. Bamboo forests contribute significantly to alleviating environmental problems in terms of soil erosion control, water conservation, land rehabilitation, and carbon sequestration[14]. Moreover, bamboos are also an important economic resource for many rural communities. However, the domestic market demand for bamboos in Thailand are relatively high compared to many other forest resources, therefore, bamboo harvesting is likely to increase over time.

33. Growing demand for bamboo has led to increasing prices. As a result, illegal harvesting from Thailand's natural bamboo forests is accelerating. Furthermore, the establishment of bamboo plantations is beginning to encroach on other ecosystems, causing further biodiversity losses.

Threats related to marine production

34. Major types of the Thai marine products are (in order of importance) fish, shrimp, mollusks, squid, and crabs. Both quantity and value of marine products in Thailand have tended to decline over recent years. This confirms that marine resources have been depleted over a time horizon. The study of FAO in 2009 reveals that the proportion of marine fishery stocks which are fully exploited remains steady at about 50 percent. It is estimated that, in 2007, about one-fifth of the stock groups monitored by FAO were underexploited (2 percent) or moderately exploited (18 percent) and could perhaps produce more. Slightly more than half of the stocks (52 percent) were fully exploited and, therefore, producing catches at or close to their maximum sustainable limits, with no room for further expansion. The other 28 percent were either overexploited (19 percent), depleted (8 percent) or recovering from depletion (1 percent) and, thus, yielding less than their maximum potential owing to excess fishing pressure in the past, with no possibilities in the short or medium term of further expansion and with an increased risk of further declines and a need for rebuilding.

35. The important sources of marine products in Thailand are the Gulf of Thailand and Andaman/Indian Ocean. Samut Sakhon and Samut Prakarn provinces in central region form the main fishery for the Gulf of Thailand; and Ranong, Phang Nga, Krabi, Songkhla, and Surat Thani provinces in southern region are the main marine product centres for the Andaman/Indian Ocean.

36. Mangrove forests are crucial natural resources that are the important habitats for marine animals. They are a key indicator to determine fertility of marine resources, especially marine resources in the Asia Pacific, because they are the place for marine animal incubation and fingerling growth. However, UNEP[15] reveals that mangrove forests continue to be lost at a rate three to four times higher than land-based global forests, despite positive restoration efforts by some countries. About one fifth of all mangroves are estimated to have been lost since 1980. Studies by various researchers estimate that mangroves generate between US$2000-9000 per hectare annually, considerably more than alternative uses such as aquaculture, agriculture or insensitive tourism. However the UNEP report also underscores positive trends. Restoration efforts now cover some 400,000 hectares, as foresighted countries make the link between these coastal forests and economically-important services from flood defenses and fish nurseries to carbon storage to combat climate change.

1.3 Long-term solution and barriers to achieving the solution

37. The issues considered above become the rationale for formulating a systematic, market-based approach to sustainable production and biodiversity conservation in production lands. By creating local awareness of ecosystem goods and services as valuable commodity assets, and by producing and selling high-value products based on these

[13] Comparison of forest area and bamboo forest in 1992, the Royal Forest Department, Thailand (in Thai)
[14] Isagi-Y; Kawahara-T; Kamo-K; Ito-H., 1997
[15] http://www.unep.org/Documents.Multilingual

commodities, communities may recognize their long-term economic interests in conservation of their ecosystems by sustainable harvesting and management.

38. The proposed **long-term solution** is "*Biodiversity conservation is mainstreamed into production and marketing of agricultural, forestry and fishery business, in order to create community incentives to conserve and enhance biodiversity in Thailand's land- and seascapes while maintaining appropriate incomes to satisfy family needs for livelihood and wellbeing."*

39. In this project, such mainstreaming is named "biodiversity business" and defined as: 'commercial enterprises that generates profits via activities which conserve biodiversity, use biological resources sustainably, and share the benefits arising from this use equitably'[16].

40. However, there are substantial barriers to achieve such mainstreaming of biodiversity into commercial markets, and at the same time ensure biodiversity conservation. The project will address these barriers, as they are identified below:

Barrier # 1: A**t the national level, the institutional framework is not sufficiently capacitated to address the needs of an emerging biodiversity business sector, based on sustainable harvesting and production principles.**

41. Thailand has a robust policy framework for sustainable development, community empowerment and community-based enterprise development, including a good framework for biodiverstiy-based business. This gives Thailand a clear comparative advantage to develop a biodiversity business sector with conservation objectives. But there are still two major barriers in the capacities of the framework: (i) Limited national capacity to incubate and facilitate the establishment of biodiversity-based social enterprises and (ii) Limited coordination and collaboration in the supporting frameworks for research, product development and extension.

Element 1.1: Limited Institutional Capacity and Competences in Biodiversity Business Facilitation and Support

42. With the establishment of BEDO, Thailand has taken an important step by creating a biodiversity business facility for incubation and facilitation of sustainable production in community-based social enterprises (CbSE)[17]. As such BEDO is the obvious national focal point to achieve the long-term solution. Since initiation, BEDO has been consolidated with modern office facilities, a staff of 30 persons and an annual budget allocation from Government. Also, BEDO has already initiated partnerships with more than 100 enterprises. However, there are still limitations in the present situation that need attention.

43. BEDO is a very young organization and as such is limited by a lack of institutional capacity and experience to fully address the objectives specified in its Royal Decree. BEDO has established strategies and action plans, but they may not sufficiently reflect the demands created by the long-term solution. In particular it is important to ensure that strategic objectives and targets are appropriate, and that the annual work plans are based on the long-term view of the strategies. The staffing structure needs strengthening in several areas to satisfy the expected needs of the social enterprises, in particular in relation to product design, enterprise management and marketing issues. But equally important is the need to create a framework of supporting partners among existing instituions in Government departments, business association, community NGO's and research and development institutes.

44. A substantial part of BEDO staff are young professionals with limited knowledge and experience in facilitating biodiversity-based social enterprises. Capacities need to be strengthened in a range of areas, in particular related to (i) assessment of product potentials in ecosystem goods and services, (ii) sustainable ecosystem management, (iii) sustainable harvesting and production, (iv) community mobilization for establishment of social enterprises, (v) product marketing of high-value products, and (vi) stakeholder communication via media and internet.

[16] See Bishop, J., Kapila, S., Hicks, F., Mitchell, P. and Vorhies, F., (2008) Building Biodiversity Business, Shell International Limited and the International Union for Conservation of Nature, London, UK, and Gland, Switzerland. 164 pp.

[17] A Community-based Social Enterprise (CbSE) is in this project defined as a community enterprise with the double objective of income generation and biodiversity conservation

45. In order for BEDO to help communities and local producers gain a premium for biodiversity-based products, a strong brand image and market recognition will be necessary. Such a BEDO 'Biodiversity Business Brand' needs to be underwritten by clear, certifiable and verifiable criteria in respect to product quality and origin. To function effectively such a brand needs to be supported by capacities for quality control and certification – the latter preferably through established sustainability certification schemes with wide global acceptance.

46. In order to establish a credible certification and verification capacity for biodiversity-based products, BEDO will therefore have to establish the capacity to undertake systematic monitoring of biodiversity status at community level. Such monitoring is best built on community participation, and therefore requires strengthened community capacity to assess ecosystem status and threats.

Element 1.2: Limited national cooperation and coordination among partners with competencies related to biodiversity business

47. A biodiversity business facility draws on a large number of competences and capacities, which can never be available in one organization. It will be mandatory for BEDO to continue to expand its network of partners in a systematic and strategic way to succeed. Thailand has a multitude of institutions on biodiversity management, as well as on community enterprise development. They comprise Government departments, universities and colleges, applied research and development institutions, non-governmental organizations, as well as private sector consultants.

48. But these institutions are rarely focused on specifically supporting biodiversity-based social enterprises, as they are envisaged in the long-term solution. And due to the complex and linked issues of biodiversity management, they need to work together in multi-sector networks. The two main fields for external partner activities are related to biodiversity-based social enterprises: (i) extension services for advice and training and (ii) development of targeted tools and technology.

49. Presently, Government departments like RFD, DOAE, DOF and OTOP provide extensive extension services to rural and coastal communities on aspects related to biodiversity-based business like social forestry, organic agriculture and sustainable fisheries. Also, many NGOs and community networks like Doi Tung, Green Net, Rak Thai, etc. provide valuable services. However, these extension services and capacity support are not currently provided in the integrated framework needed for biodiversity business. Coordination and collaboration needs to be strengthened, and capabilities and skill for combining natural resource issues with business development is needed.

50. A comprehensive and effective biodiversity-based business sector would also require targeted tools and technologies which are not currently available, e.g. in areas such as (i) community-based assessment of ecosystem goods and services and their sustainable management, (ii) development of appropriate harvesting and production techniques to minimize biodiversity impacts, (iii) effective management systems and structures for community-level biodiversity business enterprises and (iv) marketing approaches for local and high-value export markets.

Barrier #2: At the community-level, sustainable production approaches and biodiversity conservation efforts are inadequate due to low incomes from present product categories.

51. The crucial component in the long-term solution is the establishment of community-based social enterprises with a double objective: (i) to mobilize local resources for biodiversity conservation and rehabilitation and (ii) to increase family incomes for poverty alleviation. The OTOP program has already demonstrated that it is possible to create community motivation and capability to establish biodiversity-based social enterprises for poverty alleviation. Therefore, the most important challenge of the present project is to demonstrate that it is possible to allocate part of the income for biodiversity conservation and – when appropriate – active rehabilitation. The project must demonstrate that it is possible to convince communities that it is in their long-term interest to take care of the productivity of their ecosystems, as opposed to taking short-term profits by mining or destroying them. In order to develop such a model, at least two barriers must be addressed: (i) lack of capacity to assess the social and economic benefits of biodiversity conservation and rehabilitation and (ii) lack of proven models for establishing biodiversity-based social enterprises with sufficient revenue for both family income and ecosystem conservation.

Element 2.1: Lack of capacities to assess the benefits of sustainable management of ecosystem goods and services.

52. In developing enterprises such as OTOP and other local resource based economic activities, local communities and community enterprises are largely focused on immediate economic costs and benefits. Even when these enterprises are based on the harvesting and use of locally-specific ecosystem goods such as local flowers, herbs or other NTFPs, community enterprises generally do not see it as their responsibility to sustain the broader ecosystems or landscapes from which these goods are derived. As a result, NTFP-based enterprises (including OTOP in some instances) can negatively impact the sustainability of local ecosystems rather than contributing to conservation.

53. Even where there is a willingness to take broader ecosystem sustainability into account, communities and community enterprises generally do not have the resources or technical capacities to properly assess ecosystem state, pressures and changes, or the economic skills necessary to incorporate such considerations into the business models on which their enterprises are based. Without the skills and capacities required to take a more holistic and longer-term view of economic costs and benefits (incorporating ecosystem externalities), communities will continue to place emphasis on short-term economic opportunities which will often have negative longer-term consequences for their livelihoods and quality of live.

54. One common example of this scenario is the development of community shrimp ponds in coastal mangrove areas, where mangrove forests are cleared (with the timber being used for construction, charcoal making or sold to merchants) in order to develop large-scale shrimp ponds. Commercial shrimp cultivation in this manner is profitable in the short term, but the build-up of chemical inputs (feed, antibiotics, etc.), disease and pest infestations and the gradual erosion of coastlines often results in the failure of these enterprises after a few years. What remains are eroded and degraded coastlines which are far more vulnerable to erosion and storm damage, often exposing inland villages and farming areas to saltwater intrusion and storm surges. Examples of such situations abound along the coastal zone, including in areas affected by the Tsunami of 2004.

Element 2.2: Lack of appropriate and documented models for establishment of community-based social enterprises.

55. In spite of the successful implementation of the OTOP program there is still no documented business models for generation of economic incentives for development neither of sustainable production practices, nor for direct funding of biodiversity conservation and rehabilitation. The OTOP models have apparently not generated sufficient revenue to allow for this, nor have this been a specific objective in OTOP. The removal of this barrier is at the very heart of the BEDO project: Only field demonstrations of the feasibility and economic credibility of the proposed biodiversity-based social enterprises will be able to create a momentum for further replication to other communities. To create this credibility, a number of issues need to be addressed.

56. First and foremost, the present prices at the gate level are in many cases only sufficient to ensure incomes for basic family needs. Accordingly, there has to be a substantial rise in the gate prices to allow for allocation of expenses to sustainable production or biodiversity conservation projects.

57. Next, there is a lack of innovation to develop more appropriate and sustainable harvesting and post-harvesting techniques. This applies in particular to harvesting and use of non-timber forest products, but also to the use of fertilizers and pesticides in agriculture. Also there is a lack of appropriate and affordable tools to ensure a high and stable quality of the finished products, including all production steps from storage of commodities over production processes to packaging and on-site storage of final products.

58. Another significant factor is the lack of of models for enterprise establishment and management. In this respect, OTOP has provided numerous successful experiences to learn from. But in relation to issue of increasing gate prices, there is a significant lack of knowledge and access to potential high-value markets and to the designs and quality criteria these markets demand. There is a need to establish community access to niche markets, where consumer demand and proper product designs can be sold at high prices. And – in the other end of the scale – there is a barrier in the form of the threat of counterfeiting in many markets, not least in the Thai market. For local sales, this is a factor that needs close examination.

Element 2.3: Lack of community skills and technologies

59. Applying the concept of 'Community-based Social Enterprises' to provide economic incentives for sustainable production and biodiversity conservation is new to Thai communities. Therefore, there will be a significant lack of skills to make this concept work. A Community-based Social Enterprise (CbSE) is defined here as "a community enterprise or organization comprising individuals, groups, community units, etc. who are interested in doing business for the improvement of social conditions and the environment".

60. In particular, there is a lack of information and training documents with respect to specific issues like (i) Monitoring and Assessment of biodiversity and ecosystem goods and services, (ii) Sustainable production approaches, (iii) Projects for ecosystem rehabilitation, (iv) identification of local production options, (v) production development and (vi) management of biodiversity-based social enterprises.

61. And finally, there is a lack of information materials and campaigns to promote establishment of community-based social enterprises in the targeted eco regions in Prachinburi, Sa Kaeo, Kanchanaburi, Ranong, Phang Nga and Krabi.

Barrier #3: Community revenues are limited due to low prices in the commodity market, as well as to high transaction costs in the supply chains.

62. A key issue in the marketing aspects is the maximization of gate prices to allow for allocation of economic community incentives for sustainable production and biodiversity conservation. Two fundamental market mechanisms to increase gate prices are (i) maximization of sales prices to consumers and (ii) minimization of transaction costs in the supply chain. Today, most biodiversity based products are sold at the gate as basic commodities for products to the mass market, where competition is fierce and prices accordingly low. Also, 50% or more of the value added is recovered by the "middlemen" in the supply chain of buyers, producers, wholesale and retail. These transaction costs also create barriers for the long-term solution. Furthermore, barriers are related to lack of appropriate financing options, as well as to lack of awareness in the private sector about the market potentials of biodiversity based products in high-value niche markets.

Element 3.1: Low farm-gate prices for commodity products limits sustainable development opportunities for small scale community producers.

63. The present reliance on commodity markets in rural and coastal communities is an important barrier to limit environmental incentives. It is created by lack of direct access to appropriate consumer markets and lack of capability and capacity to produce high-value product based on the commodities their ecosystems provide.

64. One way to raise the revenue at community gate level is to raise the sales prices at the consumer level. But local communities have no capacities to identify these markets by themselves, not to access to high-value lifestyle markets for natural and sustainable products. These markets are rapidly emerging among wealthy Thailand customers, but in particular in several customer sections in Europe, East Asia (Japan and Korea) and the USA. The communities receive extension services from DOAE, RFD and DOF, but these extension officers are rarely experienced in advising on marketing options. Also, the present design of Thai community products like the OTOP products are not sufficiently focused on high-value markets in their utility and design, from the project itself to the packaging and presentations in shops and the media. There are many Thai designers available for introducing better designs, but so far they have not been effectively involved in community-based business.

65. Finally, there is an evident lack of coherent and professional media-based promotion campaigns, similar to the ones that have made Thai food, and Thai tourism and hospitality services into international brands.

Element 3.2: High transaction costs reduce returns to local producers.

66. Net benefits to local producers are also constrained by high margins introduced by middlemen, wholesalers, large agribusiness purchasers and others along the supply chain. Spot assessments conducted during the formulation

process indicate that net revenues to local commodity producers are often as little as 5% of final sale prices in overseas markets, with the bulk of margins accruing to wholesalers, marketers and exporters.

67. Amongst the barriers constraining efficient access to end-markets are lack of marketing skills, inability to underwrite higher packaging and transportation costs, and market access barriers such as regulatory testing and compliance.

68. In addition, language forms a significant barrier also, with few local commodity producers in Thailand being fluent in English or other international commercial languages.

69. At the same time, opportunities exist to reduce these barriers, including through direct marketing channels such as internet sales, niche 'socially responsible' and 'ecologically responsible' buyers in high-value international markets, and through market promotion and facilitation activities conducted by intermediaries as part of their Corporate Social Responsibility efforts..

Element 3.3: Lack of appropriate investment capital for Community-based Social Enterprises.

70. At the moment, the limited value generation at the community level has caused a limited interest among financers and investors for community enterprises. This has led to growth of a black market for loans with very high interests, often killing the economic feasibility of community-based productions. If the long-term solution shall create major impacts, this financial barrier will have to be addressed.

71. Presently, there is a lack of access to appropriate finance options in both Government and private sector, and there is a lack of dedicated windows for financing of social enterprises with environmental objectives. In connection with poverty alleviation initiatives, the use of microcredit has been extensively used but there is a need to further explore how these approaches can benefit biodiversity conservation, as well as the transformation of the supply chains for biodiversity-based products.

72. Also, there are limited Government subsidies to support the financial sustainability of community-based social enterprises and their biodiversity conservation initiatives. The EU Community Agricultural Policy is a gigantic example on how subsidies may be used (and misused) to support social and environmental objectives. I will not be appropriate to copy such a system, but certain elements for protection of vulnerable biotopes like rivers, lakes and wetlands may be introduced.

73. Finally, there is a lack of awareness and creativity concerning the concept of Corporate Social Responsibility (CSR). CSR has so far primarily been used for social purposes such as poverty alleviation, education, etc. But an increasing number of companies establish CSR programs for visible activities like forest rehabilitation, garbage removal, etc. and use this as a branding tool. There is a lack of innovation to exploit such programs to support the biodiversity conservation of the communities. A further extension of this approach would be to have consumer organizations, development NGO's, environment NGO's etc. to adopt specific community enterprises.

Element 3.4: Lack of commercial market development of biodiversity-based products from sustainable harvesting and production approaches.

74. There is ample evidence that there is substantial consumer demand for high-value biodiversity based products like organic food, sustainably harvested marine products, certified forest product, natural cosmetics, and herbal medicines. However, there still is a lack of initiative on market development in the supply chain of how to exploit these markets without destroying the ecosystem basis for short term profiteering. There is a need to address this issue via targeted campaigns and seminars in relation to commercial associations, export organizations, commercial sections in embassies, major business enterprises, etc.

1.4 Stakeholder analysis and baseline analysis

1.4.1 Stakeholder analysis

75. As previously mentioned, the primary agency responsible for the management of the biodiversity-based economy products in Thailand is the Biodiversity-Based Economy Development Office (BEDO). Therefore, the BEDO is the main agency responsible for developing and managing the implementation of the Project, and for ensuring that the necessary collaborations are forged and maintained.

76. At the national level, it will strengthen its cooperation with various Governmental agencies including the National Economic and Social Development Board (NESDB), Community Development Department (CDD), Office of Natural Resources and Environmental Policy and Planning (ONEP), Department of National Parks, Wildlife and Plant Conservation (DNP), Department of Agricultural Extension (DOAE), Department of Marines and Coastal Resources (DMCR), Department of Fisheries (DOF) and, Department of Export Promotion (DEP). Other agencies and organisations will also be involved in the implementation of certain aspects of the Project. These include Office of Small and Medium Enterprise Promotion (OSMEP), Bank of Agriculture and Agricultural Cooperatives (BAAC), Tourism Authority of Thailand (TAT) and, Thailand Creative & Design Centre (TCDC).

77. At the local level, collaboration will be strengthening at the selected project sites to demonstrate and apply the social enterprise approach for the development and promotion of biodiversity-based products to meet the demand of the supply-chain market through the Project. These pilots will showcase the benefits of mainstreaming in various aspects as local development planning, local initiative, promotion of biodiversity-based economy product and business opportunities, and in the generation and management of data needed for decision making.

78. The role and responsibilities of selected key stakeholders in the project are addressed in the following table.

Table 2: Stakeholder Roles and Responsibilities

Stakeholder	Roles and Responsibilities
Biodiversity-Based Economy Development Office (BEDO)	BEDO is the primary agency responsible for managing the biodiversity-based economy production promotion for biodiversity conservation. BEDO is the principal proponent and implementer for this Project, facilitating the successful execution of the Project, providing necessary operational support, and most importantly, ensuring that lessons learnt from the Project leads to sustained improvements in the management of Biodiversity-Based Economy Products development at different level.
Office of Natural Resources and Environmental Policy and Planning (ONEP)	As the Secretariat to NEB, ONEP also sets policies and measures for conservation of natural resources and environment. ONEP is the focal point of all environmental treaties, and it also houses an office that approves environmental impact assessment report. In this project, ONEP's contribution comes from assisting BEDO in its overall project execution and specifically guiding and facilitating DNP in its capacity as a member of the Project Board. ONEP could also take part in some components of the project to ensure policy consistency.
National Economic and Social Development Board (NESDB)	NESDB is the highest authority for economic and social development planning in Thailand. A five-year economic and social development plan, presently 10th plan, is produced and monitored by NESDB. As a potential member of the Project Board, NESDB's involvement in the Project could ensure policy consistency and synergies with broader development plans, particularly the national five-year plans.
Community Development Department (CDD)	CDD has the sole responsibility to provide the development framework and direction as well as set standard system for community development in order to promote leaning process and knowledge management for community development. As a member on Project board, CDD will provide technical advice and logistical supports for project implementation, and policy integration concerning the community

	development at national level.
Department of Marine and Coastal Resources (DMCR)	DMCR has the exclusive administrative authority over coastal zones and marine areas of the country. Its potential role, besides being a member on the Project Board, is to guide the Project operations, to collaborate in the project implementation. It could also provide technical advice and logistical supports for project implementation, as well as policy integration.
Department of National Parks, Wildlife and Plant Conservation (DNP)	Department of National Parks, Wildlife and Plant Conservation (DNP) has the mandate to preserve, support and rehabilitate natural resources for the management of Thailand's national parks and protected areas, including coastal and marine resources that fall within national park boundaries. DNP has the functions to conserve and rehabilitate forest resource in protected areas, conduct research and provide academic service, support the sustainable use of natural resources with participation and systematic management of forest for natural learning source for public. As a member of the Project Board, DNP will provide technical advice and logistic supports for project implementation.
Department of Agriculture Extension (DOAE)	DOAE undertakes the task of increasing agriculturally production capacity, processing, increasing agricultural goods values, establishing measures and guidelines in agricultural promotion, controlling goods and product qualities, as well as transferring agricultural technology to agriculturists for their income generation and, production security, agricultural careers. DOAE will serve as member of the Project Board to provide necessary advice for the development of agricultural products through Research and Development (R&D)
Department of Fisheries (DOF)	DOF has its role to conduct study, research, and experiment in every fields of fisheries, to explore, analyze, and research for fishing grounds as well as promote and develop all occupations relating to fisheries. DOF will play a role as member to the Project Board to provide advice for the development of fisheries through research and development.
Department of Export Promotion (DEP)	DEP has the mandate to provide leadership in promoting exports that make a major contribution to the growth of Thai economy. DEP's interests are also to foster the development of the competitive capabilities of Thai companies and businesses by organizing activities and events that create opportunities to increase exports, to develop and promote goods and services in order to enhance value creation, and to penetrate and expand international market by building international trade networks through DEP's representative offices setting up worldwide. DEP will serve as member of Project Board to provide technical advice and logistic support to the Project.
Office of Small and Medium Enterprise Promotion (OSMEP)	OSMEP acts as a central planning office and coordinates the action plans of all relevant offices in promoting SMEs in Thailand. The plans will be instrumental in SMEs promotion as the integrated plan and served as the national SMEs promotion plan. OSMEP is thus assigned the following roles as Coordinator. Facilitator for all SMEs promotional agencies and, Promoter and supporter for all SMEs promotional agencies. As a member of Project Advisory Board, OSMEP will provide technical advice and logistic support to promote the CbSE.
Bank of Agriculture and Agricultural Cooperatives (BAAC)	BAAC has the responsibilities to provide service and loan for farmer to increase their product effectively and efficiency and develop agricultural learning society in order for farmer to increase the quality of farmer life. BAAC will serve as member of Project Advisory Board to provide the technical advice concerning the financial opportunity for the development of social enterprise to increasing marketing opportunity.
Thailand Environment Institute (TEI)	TEI is a center of high-quality information and meaningful action committed to sustainable human development through research activities to benefit the conservation of natural resources and the environment, support and participate in the practical application of the research findings, establish information systems to disseminate quality

	information on environmental issues, produce quality research publications, and undertaking environment related capacity building activities among the more vulnerable groups of society in support of the national poverty alleviation goals and within the overall framework of sustainable development. TEI has its role in the Project as member of Project Board and leading one of Task Force Group to provide technical advice and logistics support particularly on the biodiversity monitoring aspect and other relevant environmental concerns.
Universities, Research Institutions and Academic Institutions	Universities at central levels as well as Research and Academic Institution have its role in R&D and capacity development through training in various areas. Representatives from Universities and academic institutions can be served as member of advisory board to provide technical advice and other logistic support to the project particularly on R&D and capacity development.
Green Net Coop.	Green Net is the leader of organic food wholesaler in Thailand. It carries a wide range of products including fresh produce, dried foods, drinks, snacks, seeds and local natural dye textiles. Under the "alternative market" programme, Green Net has innovated socio-economic mechanisms to support sustainable development for a better livelihood of producers and consumers as well as a clean environment for Thailand. Green Net will play a key role to promote social enterprise for the biodiversity-based economy products.
Raks Thai Foundation	Raks Thai Foundation has its role to development of livelihoods for poor rural communities through traditional occupations in cotton and silk weaving, related woven products, wood and bamboo products, pottery, and other local cottage industries. Raks Thai Foundation has supported village industries in collaborating with small-industrial entrepreneurs. The range of activities includes occupational group strengthening, production skills, technique development, revolving funds and marketing skills. Raks Thai will play a key role to promote social enterprise for the biodiversity-based economy products.
Local governments	Local governments at the lowest level care called Tambon Administrative Organisation (TAO). TAO, are directly, elected by local peoples, and thus has the administrative authority at the sub-district level. Local governments could also provide matching fund, participate as a member and chaired for Local Pilot Site Committee (LPSCs), and provide critical guidance to the operations and ensure the implementation at local level.
Community Groups	Community Group in selected pilot sites are the key player in the Project as they are the producer of the Biodiversity-based Economy products. There are 4 selected communities in the project of which two communities from Prachinburi and Kanchanaburi provinces are on the development of bamboo and two communities from Ranong and Phan Nga provices are on the coastal and marine products. Community Group will also the primary beneficiaries of the Project.
Local Technology and vocational Colleges	Local Technology and vocational colleges will provide technical back-stopping, know-how and technology to develop the equipment and tools for the development of biodiversity-based products at community level. Local Technology and vocational colleges will work closely with the NGOs and community group and will serve as member of Task Force Group for product development.
Non-Profit Organisations and Associations (e.g. Tourism, Hotels, Chamber of Commerce, Handicraft Promotion and etc.)	Non-Profit Organisations and Associations will play supplementary role to assist in the promotion of biodiversity-based products generated from the Project. They serve as member of project Advisory Board with the mandate to provide advice on the production promotion, public relation and business opportunity.

1.4.2 Baseline analysis

79. Presentation of baseline analysis has been focused on the project intervention areas, corresponding with the three project components. These are described below.

National Support for Biodiversity Business:

80. The concept of Biodiversity-Based Economy product is totally new particularly on the utilization of the biodiversity based products for economic growth purpose. In this regards, The Royal Government of Thailand established the Biodiversity-Based Economy Development Office (BEDO) in July 2007 as a public organization under the Royal Decree on the Establishment of the Biodiversity-Based Economy Development Office with the mandate to implement solutions to major issues facing buidversity consdervatuib described in the previous chapter. BEDO was given the mandate of promoting conservation of biodiversity, improving local community knowledge of best practices for biodiversity friendly and enhancing biodiversity based economic development. In particular, the objectives of the BEDO are set to:

- Promote, support and conduct biodiversity-based economy development;
- Promote and support conservation of biodiversity and knowledge of localities and communities;
- Collate, study, analyse, and evaluate data and needs for biodiversity-based economy development in order to suggest policies and measures for the development to the Cabinet (Council of Ministers).
- Gather and make lists of plants, animals and micro-organisms of which origins and places of sightings are in the country as well as local and community knowledge to be used in a database and to oversee economic use from biodiversity and local and community knowledge;
- Promote and support development research, in addition to knowledge about use of biodiversity and local and community knowledge, for commercial purposes;
- Promote and support investments on biodiversity-based economy development;
- Promote, support and disseminate knowledge on, provide access to, and make use of biodiversity and local and community knowledge;
- Promote, support and take steps to register protection of biodiversity and local and community knowledge according to relevant laws as well as to protect and solve problems concerning violation of rights and interests of the country regarding this matter;
- Be a centre for follow-up and coordination of government offices and relevant private agencies, both inside and outside the country, in biodiversity-based economy development to ensure they are linked and consistent with the policies formulated by the Cabinet;
- Work or carry out assignments as assigned by the Cabinet or Cabinet-appointed committees on biodiversity-based economy development.

81. According to the Article 14 of the Royal Decree for the Establishment of the BEDO, it is stated that BEDO is managed under the Committee for Administration of the Biodiversity-Based Economy Development Office. The Committee for Administration of the Biodiversity-Based Economy Development Office comprises of the Committee chairman who is appointed by the Cabinet, three ex-officio committee members – the permanent secretaries for Natural Resources and the Environment and Agriculture and Cooperatives, and the secretary-general of the National Economic and Social Development Board and no more than six capable members appointed by the Cabinet from persons with high levels of knowledge, expertise, and experience in the fields of economic administration, agriculture, natural resources and the environment, science and technology, finance, or other fields related and beneficial to the Office's operations. The Director will be an ex-officio member of the Committee and secretary of the Committee. The Director can appoint an assistant secretary as considered necessary.

<u>BEDO capacity to implement policies, strategies and programmes</u>

82. BEDO has adopted a strategy and plan for implementation focusing on four main areas including i) strategy to build capacity for communities and local communities, ii) strategy on the development of knowledge management, study and research, iii) business solutions and support strategy and iv) participation strategy to promote and support participation from communities and local communities in order to effectively develop biodiversity resource utilization in every level.

83. All strategies are implemented and managed in forms of projects of which 13 significant projects were implemented in 2009. This includes the project to Promote Biodiversity Resource Management Planning for Communities and Local Communities, Communities Leaders and Youths Training for Sustainable Biodiversity Resource and Traditional Knowledge Management project, National Biodiversity Database Network and System Development project, Biodiversity Resource Inventory Development project, Thai Traditional Knowledge Encyclopaedia Project, Conceptual Framework Study Project for Biodiversity and Traditional Knowledge Discovery Centre, Research and Development Project for Biodiversity Business Solutions, Study Project on Tree Plantation Promotion for a Long-term Saving, Promotion of Biodiversity Business Development Project, Business Solution Centre Project, Communication Network for Biodiversity and Traditional Knowledge Data Exchange Project and, BEDO Conference Project.

84. A management plan is prepared on an annual basis. According to the Self Assessment Report (SAR), there are 19 indicators established to measure the performance of the organisation set under the management plan in 4 different areas. This includes (7) indicators for Efficiency for Operation (2) indicators for Service Quality, (1) indicator for Effectiveness Operation and (9) indicators for Organisation Development. As of 2009, BEDO is reported to have a score of 4,880 for their Self Assessment Report (SAR)

85. As of 2009, a total budget of 154 million baht was annually allocated by the government for BEDO's operations, of which 16% is spending on staff and personal expenditures, 17% use for management and administrative purposes, 13% is for equipments and procurements and 54% is for any other purposes. According to the BEDO budget strategy plan, a total amount of 78 million baht is used for management purposesd, 26 million baht is use for the development of biodiversity database at all levels, and 49 million baht is set for the activities at community levels. As of the record for 2009, total expenditure is 121 million baht, which is lower than the budget. To some extent this reflects the capacity constraints BEDO still operates under.

86. BEDO has a total of 27 full-time staff at mid-management to senior levels and 17 contract staff as of 30 September 2009. This includes 1 Director, 2 Assistant Directors, 2 Advisors, 2 Internal Auditors, 10 management staff, 3 staff for Research and Development Support and Promotion, 5 Database development officers and 5 staff in the business development unit. In addition, there is also 17 part-time staff working in different units. There are 12 staff who have Masters Degrees and 12 staff with Bachelor's degrees. In addition, there are three experts attached to BEDO with 2 Ph. D degrees and 1 Masters Degree in the field of Wildlife Ecology, Public Administration and Pharmacology.

Community-based Enterprises

87. Community development issues have been included in all recent national plans especially in the Ninth and the Tenth Plans. The Ninth National Economic and Social Development Plan (2002-2006) emphasized on expanding the people-centered development approach from the Eighth Plan into the "sufficiency economy philosophy", initiated by His Majesty the King. Currently, the Tenth Plan (2007-2011) prioritizes development of a green and happy society in which people have integrity and knowledge of world standards; families are warm; communities are strong; society is peaceful; the economy is efficient, stable, and equitable; environment is of high quality and natural resources are sustainable; administration follows good governance under the system of democracy with the king as head of state; and the country is a respected member of the world community. Accordingly, community enterprise development is one of outputs and outcomes drawn for promoting people and communities to be self reliant and have higher living standard.

88. In Thailand, 'Community Enterprise' refers to to small and micro community enterprise or SMCE. SMCE is a community enterprise which produces goods and services run by its committees or administrative board. The principle aims of establishing community enterprises are to enable communities to earn higher incomes and be self-reliant. In short, community enterprise is a management of "community's endowments" in order to creatively promote community to be self reliant and to have higher standard of living. Community's endowments in this sense not only cover monetary issues but also include natural and human resources, knowledge, culture, and social heritage. Unlike small and medium enterprises (SMEs) or cooperatives in which entrepreneurs are quite familiar with business environment, grass-roots community enterprises have been facing problems drawn from a lack of establishment legislation and related government agents directly responsible for promoting this enterprise. Moreover, the government's support could not appropriately serve the needs of community because of unclear targets and needs.

89. Therefore, the government formulated the new Act of Legislation in Promoting Community Enterprise (2003). This new act aims at promoting and supporting community economy or community enterprise based on sufficiency economy development. A number of community enterprises, which are not ready to enter into business environment and trade competition, can gain access to government supports on promoting local-based knowledge and global technology in order to create higher income, production and business management skill development including community capacity building, ultimately leading to higher level of business organization in the future. Furthermore, Ministry of Agriculture and Cooperatives (MOAC) has been appointed to be directly responsible for promoting community enterprise as well as "the Community Enterprise Promotion Institute Foundation". The latter has been founded under cooperation among Bank for Agriculture and Agricultural Cooperatives (BAAC), National Science and Technology Development Agency (NSTDA), Petroleum Authority of Thailand (PTT), Village Foundation, Ministry of Education, and other related agencies.

90. In an extension to community enterprise promotion, Biodiversity-based Economy Development Office (Public Organization) or BEDO has been established under the Royal Decree since 2007. BEDO undertakes integration among community-centered development, creative (entrepreneurial) economy; biodiversity-based economy, environmentally-friendly business, social enterprise, and sustainable use of natural resources. These also include previous established programs: the One Tambon One Product (OTOP) and the Royal Decree on small-medium community enterprise (SMCE). Hence, BEDO represents the frontier of a new economy combining a number of different elements in an approach to community-based, sustainable economic development built on entrepreneurial enterprise that uses the value of intact, biodiversity resources of Thailand – in summary, the "BEDO concept". BEDO appears to be well-positioned to play a facilitating and coordinating role with relevant government agencies in aligning goals and objectives to achieve success of the BEDO Concept. Also, local governments can play an essential role in collaboration with communities in their efforts to implement the BEDO Concept. [18]

Markets and Supply Chains for Community-based Social Enterprises

91. The markets for biodiversity business are substantial (an example as seen in Table 1), in particular in the OECD countries. The total market value for certified organic agriculture and forest products has been estimate to 45 billion USD in 2008, and it is expected to reach 225 billion by 2020. The major market opportunities have been found in agriculture and organic foods, sustainable fisheries, FSC products[19], natural body care products, traditional herbal medicines, organic garments, unique handicrafts and tourism. High-value product markets for biodiversity-based products are found in North America, Europe and Japan. Scandinavia is an acknowledged first-mover and trend-setter in these markets.

92. Table 1. Market Potential on Ecosystem Commodities

Biodiversity and ecosystem service market opportunities	**Market size** (US$ per annum)		
	2008 (actual)	**2020** (est.)	**2050** (est.)
Certified agricultural products (e.g., organic, fair-trade)	$40billion (2.5% of global food and beverage market)	$210 billion	$900 billion
Certified forest products	$5 billion of FSC-certified products	$15 billion	$50 billion

Source: UNEP/TEEB (2010) TEEB Report for Business

[18] The Consultation Workshop on 'Strategic Framework on Green Creative Economy', organized by BEDO, October 27, 2010

[19] FSC stands for certification by Forest Sustainability Council

93. Thailand as a country with a large rural population, the production and sales of bio-diversity-based products is not new in Thailand, but it is yet to be fully harnessed in terms of value creation. Also, Thailand's business scene is highly entrepreneurial and innovative, based on a long tradition. As a baseline, there are a multitude of Thai models that may serve as inspiration for a biodiversity business sector in Thailand.

94. Thai rural and coastal producers have a long and acknowledged tradition for making the biodiversity-based products in described above. But – with the exception of ecotourism – most efforts have been directed towards local markets with limited value creation and high competition. For example, the gate price of black crab in the local area costs only THB 200 per kilogram while the retail price is raised up to THB 800 per kilogram.

95. The market analysis and the supply chain analysis of the hi-value niche markets in Scandinavia has demonstrated a promising potential for increasing the value added of Thai biodiversity based product and to increase incentives for biodiversity conservation. Product price to be collected by the producer at gate rice equals consumer price (excluding taxes such as VAT) minus retail costs and wholesale costs. An optimal strategy for poverty alleviation and biodiversity incentives at the community level therefore try to:

a. Maximize consumer prices via branding and design and
b. Reduce retail and wholesale costs via innovative supply chain development and niche marketing.

96. It is apparent from market studies that the returns at community level are highly dependent on the product. In the organic food sector, potential returns are in the order of THB 300-700 per kg, but specialties like mushrooms and candies provide potential returns of more than THB 1,000 per kg. In the furniture market, returns may be about THB 700 apiece, with much higher return for hi-quality product of superior finish. In the body-care sector, return may reach more than THB 5,000 per liter, but highly dependent on an effective branding. Natural medicines may collect returns of THB 500-1,500 per liter.

97. It is clear that the gate returns are very sensitive to the consumer sales price (as well as the degree of profit taking in the wholesale and retail chains). Therefore, consumer price incentives via branding and design are important considerations. But even in conservative estimates, it is highly probable that selection of appropriate locally based products will be able to provide substantial funds for both poverty alleviation and biodiversity conservation and rehabilitation. Specific and reliable figures for the potential value added are difficult to establish, as they often are confidential company information, and highly dependent on company visions and branding strategies, product characteristics, as well as contract negotiations. But a rough estimate, based on present sales price level for potential biodiversity-based product in Denmark illustrated substantial potential increases in gate prices. The estimates for the value-added chain can serve as basis for establishing the strategic framework for the marketing of biodiversity-based products:

- Harvesting and on-site processing
    - Harvesting volume and approach shall not exceed the assessment of sustainable vulnerabilities.
    - On site processing shall bring product as far as possible into the final condition. Local tooling and training shall ensure high and reliable quality specifications
    - When needed, products may need special processing outside the producer community. Such options shall only be applied if there are strong economic or quality reasons for doing so.
    - Decisions to store products locally shall be based on consideration of cost minimization.

- Gate Sale, transport and storage at wholesaler (initial estimate 100% of gate price)
    - The identification of a trustworthy and committed wholesaler is crucial, and may initially require involvement of outside support.
    - Transportation costs may be minimized via CSR agreements and coordination with transportation of other product.

- Retailing outlets (initial estimate 30% of sales price)
    - Product lines in department stores, supermarkets, etc.
    - Spot markets in department stores and supermarkets
    - Niche-market retailing via newspapers and magazines
    - Niche-markets in hi-value boutiques,

- Niche markets run by environmental and social NGO's
- Internet shops
    - Subsidiaries of large retailers
    - Specialty retailers
    - Media platforms
    - NGO's
    - Private SME's and Social Enterprises

98. A biodiversity business chain begins with ecological and biological regulation of natural resources, followed by the human harvesting of raw material, and includes several production links (e.g., component construction, assembly, and merging) before moving on to several layers of storage facilities of ever-decreasing size and ever more remote geographical locations, and finally reaching the consumer. Many of the exchanges encountered in the supply chain will therefore be between different companies that will seek to maximize their revenue within their sphere of interest, but may have little or no knowledge or interest in the remaining players in the supply chain.

99. Accordingly, the market and value-chain analysis can conclude, that the optimal payment for ecosystem services (PES) strategy shall take point of departure in the final products, and not in the endangered species. Their recovery and sustainability may best be established by establishing conservation and rehabilitation funds from the income of hi-value products.

100. One of the key objectives of supply chain management in the project will be to focus on efforts to reduce transaction costs and to maximize local community producer prices, as well as providing incentives and funding of biodiversity conservation and rehabilitation. It is apparent that the full potential of a market based approach to biodiversity conservation will only be realized, if the entire supply chain is clearly optimized for creation of appropriate incentives and benefit at the local community level. The economic objective is NOT to maximize profit to the seller, but to maximize profit at the producer level. This implies a controversial approach of maximizing sales price and minimizing transaction costs.

101. Therefore, the biodiversity based supply chain should comprise the following 4 categories:

1. Product development focused on consumer needs and preferences,
2. Harvesting and on-site processing and storage,
3. Logistics of purchase, transport and storage by wholesalers, and
4. Consumer retailing**.**

Part II: Strategy

2.1 Project Rationale and Policy Conformity

2.1.1 Project Rationale

102. The rationale from this project stems from the growing realisation that traditional biodiversity management approaches via government policies, rules, and regulations are not effective in reducing ecosystem degradation. What is needed is to increase self-interest and motivation for conservation at the community level by mainstreaming sustainable ecosystem management into the general income generation efforts of families.

103. To achieve this, the project focuses on increasing socio-economic incentives for community-based ecosystem conservation and rehabilitation. The overall strategy is to improve:

a. community awareness of the potential values in commodities available by sustainable harvesting of ecosystem goods and services;
b. market-based opportunities for local communities to increase family incomes and to protect ecosystem through sale of high value biodiversity-based products;
c. cost-effective wholesale and retail logistics to maximise returns of value added at the producer level.
d. community incentives for conservation and rehabilitation of the local ecosystem assets.

104. The project aims at demonstrating the potentials of the strategy by making demonstration projects in target areas of global environmental importance, for subsequent replication through private market forces. The structure of the project is divided into three components:

i. Strengthening of the national support services for incubation and facilitation of community-based social enterprises;
ii. Demonstrating establishment and operation of community-based social enterprises with joint objectives of income generation and biodiversity conservation;
iii. Improving innovation, flexibility and cost-effeciency in market development, as well as in the wholesale and retail supply chains.

2.1.2 Policy Conformity

105. The project is in line with the Thailand's National Policy, Strategies and Action Plan on the Conservation and Sustainable Use of Biodiversity (NBSAP 2008-2012), especially with Strategy 2: Encouraging the Sustainable Use of Biodiversity, including the action plan on sustainable use of biodiversity, and on access and benefit sharing.[20] This vision is also anchored in the environmental strategies of the 10th National Economic and Social Development Plan (2007-2011), which give particular emphases on:

- Promoting the utilization of BD to foster and stimulate the grass root economy e.g. utilize BD for local food and health security, incubate community enterprises through training and capability building on production and marketing, promote the application of Thai herbs and traditional medicines;
- Raising the capability to apply and create innovation based on Thai BD e.g. innovation to increase the productivity of organic farming and herbal health food, upgrade safety standards for food, herbal, and natural products to increase consumer confidence, clustering and networking of community enterprises.[21]

106. The project conforms with the direction of the upcoming 11th National Economic and Social Development Plan (2012-2016) in "enhancing agricultural productivity and value creation by supporting research and development in flora and fauna species which can grow efficiently, enhancing regional collaboration in potential agro-products, and improving the management of natural resources affected by climate change. The application of knowledge and technology related to an eco-friendly concept and non-genetically modified operation has to be promoted. The agricultural products which are high in value-added and market potential will be developed to meet safety standards including the development of supportive logistics systems and the promotion of farming which is non chemical. The collaboration between the private sector and the community on agricultural commodity management is based on cluster approach encouraging the community to create the value-added production." [22]

107. The project is in line with the development results identified in the UN Partnership Framework with the Royal Thai Government (UNPAF 2007-2011) which aims to improve sustainable utilizations and management of natural resources and the environment at national and community levels through demonstration of sustainable financing and ecosystem valuation for conservation. The success will be replicated as a means to achieve MDG # 7 - ensure environmental sustainability.

108. The project's expected outcomes are also in line with the UNDP Country Programme Action Plan (CPAP) 2007 – 2011 on increased capacity of national focal points in removal of barriers in pursuing local sustainable management of natural resources and environment and promotion of area-based environmental management. The aligned outcomes are:

a. Efficient community work in sustainable use of local natural resources with engagement in policy and decision making processes;
b. Alternative knowledge management for community learning based on indigenous livelihoods and evidence-based empirical studies in enhancing support of pro-poor policy.

[20] Thailand's National Policy, Strategies and Action Plan on the Conservation and Sustainable Use of Biodiversity (NBSAP 2008-2012). www.cbd.int.

[21] Thailand: Environmental Policy in the 10th National Economic and Social Development Plan. Surachai Koomsin, Natural Resources, Environment, Science, and Technology Planning Office, Office of National Economic and Social Development Board.

[22] Summary of the Direction of the 11th National Economic and Social Development Plan. Office of the National Economic and Social Development Board. October 2010.

109. It also forms a basis to the direction of the UNDP's Country Programme Document (2012-2016) in enhancing environmental security through mainstreaming of biodiversity conservation into development plans.

110. The project will build on UNDP's successful record of partnership with Thai counterparts in a number of key development areas. Specifically, UNDP has long worked in Thailand to promote policy linkages and community participation in natural resources and environmental management. UNDP will work closely with BEDO and other relevant agencies on biodiversity conservation and sustainable development, as well as with the provincial and local authorities in establishing the necessary policies, capacity strengthening in both technical and managerial skills, which are considered critical for the success and sustainability of the project. In particular, the project will work in complementarity with two other projects under implementation in the UNDP Thailand Environment Portfolio. The first is another GEF-supported project under implementation (2010-2014) on "Catalyzing Sustainability of Thailand's Protected Area System" by working with communities living in buffer-zones of PAs to reduce pressures on the PAs. The second is the UNDP/UNEP Poverty Environment Initiatives (2010-2012), which emphasizes the linkages between income generation and environmental conservation, by providing information on the value of biodiversity and its contribution to national development within the framework of the Millennium Ecosystem Assessment. The project would also work in collaboration with the Mangroves for the Future (MFF) Programme in Thailand, for which UNDP is an implementing partner together with IUCN. One of the geographical focal areas of the Thailand MFF is the Andaman Coast, to rehabilitate mangrove stretches damaged by the 2004 Asian Tsunami compounded by the impact of human activities, such as the replacement of the mangroves by shrimp farms and other natural forests by rubber and oil palm plantations.

2.2 Country ownership: Country eligibility and country drivenness

111. Eligibility: Thailand ratified the CBD in 2003, to become a full member on January 29, 2004, and is therefore is eligible for GEF grants.

112. Country Drivenness: This project is Country Driven as it is in line with national policies and priorities identified under section 2.1 above. The project was identified as a high priority project and has been endorsed by the GEF Operational Focal Point in his letter to UNDP/GEF in 2007. The formulation of the project through extensive involvement of, and discussions with different multi-sectoral stakeholders and others has also ensured that the proposed project activities, outputs and outcomes have high national ownership. The large co-funding committed by the Royal Thai Government to this project is an added testament to the importance attached to this project by the government.

2.3 Design Principles and strategic considerations

113. The overall principle is to pilot and disseminate emerging innovative approaches for biodiversity conservation and rehabilitation in production landscapes. The approaches shall apply to the biodiversity of the products by themselves (e.g. gene conservation of indigenous crops and livestock) as well as to the overall biodiversity of the production land- and sea-scapes.

114. Ecosystem approaches: During the initial phase of CBD implementation, focus was directed towards conversation of "species". But the complexity of the biological as well as the management issues demonstrated the need to consider an "ecosystem approach" as the basis for sustainable management. The CBD COP5 endorsed this as a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way.

115. Ecosystem Goods and Services: The concept of ecosystem services[23] has become widely accepted in ecosystem management during the last decade. Ecosystem services are the benefits people obtain from ecosystems. These include provisioning services such as food, water, timber and fiber: regulating services that affect climate, flood, disease, wastes, and water quality; cultural services that provide recreational, aesthetic, and spiritual benefits; and supporting services such as soil formation, photosynthesis and nutrient cycling. The human species, while buffered against environmental changes by culture and technology, is fundamentally dependent on the flow of ecosystem services.

[23] See Millennium Ecosystem Assessment (2005) Ecosystems and Human Wellbeing . http://www.maweb.org/en/index.aspx

116. Interaction with ecosystem of global importance. The project is designed to focus on ecosystems of global importance, both directly by targeting the important Andaman coast mangroves and intact bamboo forest landscapes, and indirectly by strengthening the sustainability of production activities in buffer zones and corridors which link the Khaoyai-Tap Lan Cambodia forest complex and the Huai Kha Kaeng-Tenasserim forest complex.

117. Compliance with the Nagoya Strategy plan and the Aichi targets of the CBD. The CBD COP10 established a new international strategy for global biodiversity conservation. It also defined a number of targets to be achieved by 2010. With respect to the present project, these include the following:

- Strategic goal B: To reduce the direct pressures on biodiversity and promote sustainable use, including
  - Target 6: By 2020 all first and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches.
  - Target 7: By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.
- Strategic goal C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity, including
  - Target 13: By 2020, the genetic diversity f cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimising genetic erosion and safeguarding their genetic diversity.
- Strategic goal D: Enhance the benefits to all from biodiversity and ecosystem services, including
  - Target 14: By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.

118. Community mobilisation and participation. Local communities are the primary managers of the biodiversity of production lands. Without their active motivation and participation, it is not possible to conserve biodiversity, even if legal systems and government plans tell them to do so. Only by providing clear economic and social incentives can communities be expected to cooperate. Therefore, the project will develop such incentives in selected pilot communities and subsequently promote the outcomes for replication throughout the target regions.

119. Privatisation and commercialization via social enterprises. One of the key principles of the project is a mainstreaming of biodiversity into commercial markets through Biodiversity Business based on ecosystem commodities. It is expected that conservation will become a private commercial interest and basically independent of Government funding, except for facilitation and extension services. It will also be able to benefit for the emerging issue of Corporate Social Responsibility (CSR), which is becoming a major branding and promotion tool in major export markets.

120. Value added. The project will increase present gate prices by exploiting the value-added in the high value lifestyle markets of health and sustainability. These markets are already established in major export markets and they are also emerging based on Thai middle class consumers.

121. Capacity development. The projects primary emphasis will be on capacity development of BEDO and its partners as a national biodiversity business facility[24]. Such a facility can function as: (i) a think-tank, to address and influence the enabling environment and develop biodiversity business metrics; and (ii) a business incubator, to build capacity and provide technical assistance to support community-based social enetrprises. At the same time, the project will initiate capacity development in the pilot communities and their marketing partners, as basis for a futuer avtivity in BEDO.

[24] See IUCN (2008) IUCN: Building biodiversity business.
http://cmsdata.iucn.org/downloads/a_gateway_to_pes_d_huberman.pdf

122. Partnerships. BEDO cannot be expected to cover all functions of a biodiversity business facility. Therefore, an important part of the capacity development component of project is to establish partnerships, in particular among National and foreign actors (e.g. private sector enterprises, research institutes, training institutes, extension services, NGOs and etc.) as well as international biodiversity conservation programmes (e.g. UNEP/TEEP, relevant biodiversity conservation initiatives by NGOs – WWF/BWI, IUCN/MFF-, Certification schemes – IFOAM, FSC, MSC, Fairtrade, and etc.).

2.3.1 Strategic Considerations

123. The following strategic considerations were used to guide the design of the project

124. Building national capacity to support community-based social enterprises for poverty alleviation and ecosystem conservation. Through its mandates in the Royal Decree, BEDO has a clear potential to become a fully fledged national Biodiversity Business Facility. However, BEDO needs to enhance and expand its present capacities, in order to be able to implement the task of such an institution, in particular in relation to innovation issues like efficient approaches for linking biodiversity-based business with biodiversity conservation and rehabilitation, high value market development including LOHAS[25] export markets, and innovative product development based on a demand-driven assessments of all potential ecosystem goods and services.

125. Piloting Community-based Social Enterprises in valuable eco-regions through a two-tiered approach for combined income generation and biodiversity conservation. First, merging Thailand's established OTOP approach for poverty alleviation with biodiversity incentives through PES by establishment of community-based social enterprises for sale of products based on goods and services from healthy ecosystems by increasing market opportunities, gate prices and local skills in enterprise management. Secondly, conservation and rehabilitation of the ecosystems of the community lands by allocation of part of profits for development of low-impact harvesting and production approaches and conservation and rehabilitation priority ecosystems. The project aims to develop the existing 'community enterprises' into 'community-based social enterprises' with explicit biodiversity conservation and sustainable use goals.

126. Mainstreaming biodiversity business into the supply chains of high-value. The key to successful business is to provide the customers what they want (not necessarily the same as what they need). Next it is necessary to maximise sales prices at the community level. Accordingly, the project will emphasise activities to identify high value niche markets of LOHAS consumers in Thailand and abroad, maximising of sales prices through branding and reliable certification, and minimisation of transaction costs via innovative wholesale and retail logistics.

2.4 Project objective, outcomes and outputs/activities

127. The project's long term objective is built on the need to find new and innovative approaches to conserve the ecosystem health and biodiversity of production lands. Thailand is fortunate to have established most of the national policy and institutional framework required for sustainable production and biodiversity conservation in production landscapes. But the impact of these policies so far has been limited, in particular outside protected areas. Here, illegal land use, excessive pesticide use and pollution of fresh and coastal waters have still not been brought under control.

128. The project is targeted at strengthening national efforts to increase community involvement in biodiversity conservation. The long-term solution for biodiversity conservation in and around production landscapes is to change production practices to mitigate threats to biodiversity from unsustainable harvesting and land conversion, particularly in areas of high ecological significance. Efforts in this area must be in balance with the need to enhance opportunities for local livelihoods. By creating local awareness of ecosystem goods and services as valuable and marketable commodity assets, and by producing and selling high-value products based on these commodities, communities may recognize their long-term economic interests in conservation of their ecosystems. In the long term, it is envisaged to achieve this by establishing community-based social enterprises with a double objective: (i) poverty alleviation through increased income opportunities and (ii) community-based biodiversity conservation and rehabilitation initiatives. Unless the first objective is reached, it is unlikely that there will be sufficient motivation for sustainability concerns in the second objective.

[25] LOHAS = Lifestyles of Health and Sustainability

129. The project will address this approach through a concerted effort to achieve a Project Objective 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.***

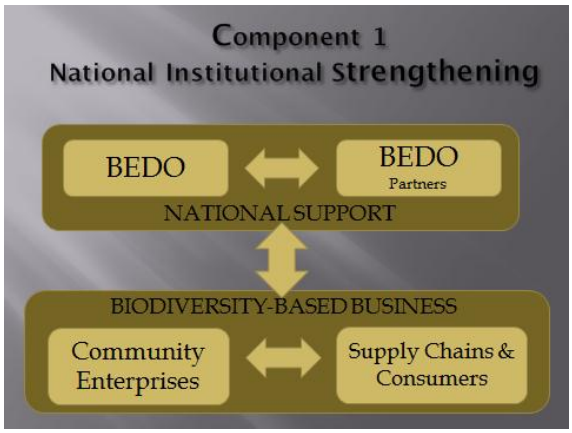
130. The project will provide technical assistance for capacity development to key actors in the national framework for promoting biodiversity conservation and sustainable production. In particular it aims at capacitating BEDO and partners during their vulnerable start up stages to assume the prescribed mandate and roles for biodiversity conservation and income generation. Equally important, the project will focus on capacitating local communities in valuable ecoregions. They are the primary commodity producers in the targeted land- and seascapes, and their appropriate behavior in relation to sustainable production is imperative for biodiversity conservation. And finally, the project will focus on the need to transform the supply chain to consumer markets, so that farm-gates prices can be increased and economic incentives provided.

131. Accordingly, the project has been structured into three components with particular sub-objectives, as described below:

Component 1: Building national capacity for support of Biodiversity Business

132. This component address barrier 1. It focus on the national level and has as a specific objective to strengthen the institutional capacity and staff competences of the national framework for incubation and facilitation of Community-based Social Enterprises for biodiversity business in important eco-regions. Primary focus will be on strengthening BEDO as a Biodiversity Business Facility, but activities will also address appropriate BEDO partners. The component will provide two outcomes: (i) Improved institutional capacity and staff competences of BEDO 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.

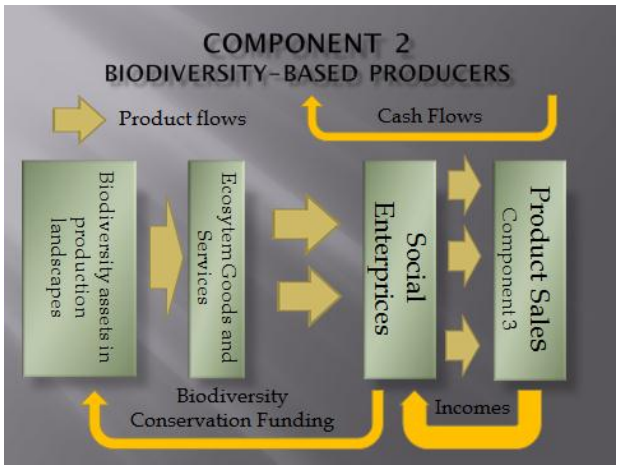
133. The main actor groups and their primary interactions are demonstrated in Figure 1.



Component 2: Piloting Community-based Social Enterprises in Valuable Eco-regions

134. This component addresses barrier 2. It focus on the community level and has as a specific objective to facilitate and support development of pilot demonstrations of sustainable production and biodiversity conservation through income generated from community-based social enterprises**.** It is directly linked to the scope of the long-term solution by creating social and economic community incentives for sustainable production and biodiversity conservation and rehabilitation. It will comprise three outcomes: (i) strengthened community capacities to assess and maintain the benefits of sustainable management of ecosystem goods and services, (ii) pilot examples of appropriate and documented models for establishment biodiversity-based social enterprises, and (iii) strengthened community skills and technologies for sustainable production and biodiversity conservation.

135. The conceptual framework of Component 2 is illustrated in Figure 2. The fundamental idea is to consider the biodiversity of the ecosystems of the community (farmland, fishing grounds, social forests, wetlands, etc) as providers of "free commodities" in the form of ecosystem goods and services. The value added of these commodities can be raised by sales of high value products, produced by local social enterprises. Part of the revenue in the enterprises shall be allocated back to underwrite the costs of sustainable production and biodiversity conservation. It will be the key challenge to the project to develop a business model which ensures adequate and sustainable allocations for the environmental objectives of the social enterprises, while maintaining the profitability and income generation potential of the enterprises. A model of the supply chain showing resource flows and countervailing cash flows is given below:

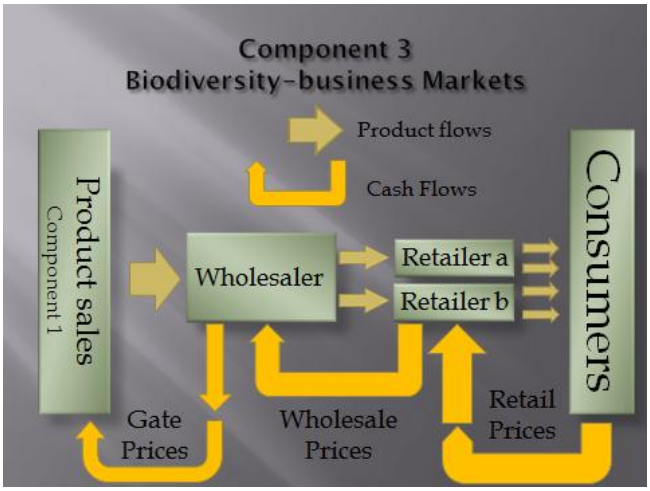


Component 3: Mainstreaming Biodiversity Business into the Supply Chains of High-value Consumer Markets

136. The third component is related to barrier 3. It focuses on commercial markets and has as a specific objective to maximize community revenue at the gate level by transformation of the supply and marketing chains to maximize consumer prices and minimizing transaction costs. This component reaches beyond traditional biodiversity conservation projects, as it is directed towards the private commercial sectors where Government regulation in relation to biodiversity is minimal, and where awareness is limited.

137. The component comprises four outcomes: (i) Demand-driven design, branding and quality assurance of biodiversity-based products to meet the standards of high-end and high-margin consumer markets, (2) Appropriate mechanism to reduce transaction costs in the supply chain, (iii) Improved low-cost investments and subsidy incentives for establishment and operation of Community-based Social Enterprises, and (iv) Increased awareness among commercial market actors about products from community-based social enterprises.

138. The conceptual framework of flows of products and cash in Component 3 is illustrated in Figure 3 below. This framework follows on from the framework outlined in Component 2. The simplified supply chain illustrates the flow of products from gate sales to wholesalers and further on to a number of retailers. The consumer prices are collected by the retailers, where a margin is withheld. At the wholesale link, a further margin is withheld. What remains can be collected at the gate. Transaction costs comprise both direct costs for labor and infrastructure, and a negotiable margin or profit. One key issue for the success of the project is to minimize these direct costs and margins for the benefit of community producers or to apply innovative approaches to minimize the links in the supply chain to maximize efficiency.



Project target regions and pilot communities

139. Activities will be focused on target regions of high biodiversity importance, where production lands serve as buffer zones and biodiversity corridors for globally important protected areas. However, it is expected that the results and lessons learned can also be applicable in ordinarily protection lands with less global significance. Appropriate pilot communities have been selected to develop approaches and demonstrate results. Based on the results in the pilot communities, replication campaigns and documents will implemented to promote wider application among all communities in the target regions, as well as by BEDO and its partners.

140. Terrestrial target regions will be the buffer zones and bio-corridors in the provinces of two globally important forest complexes: the Khao Yai/Tap Lan forest complex in Prachinburi and the Huai Khae Kaeng, Tenasserim and Kaeng Krachan forest complex in Kanchanaburi.

141. The forest complexes and buffer zones of the Khao Yai and Tap Lan are a globally-important biodiversity hotspot with important elephant populations and directly linked to forests in West Cambodia. The project target area in Prachinburi province connects to major national parks including Dong Phayayen-Khao Yai National Park which is a UNESCO Natural World Heritage site. According to the Royal Forest Department, this site is home to more than 800 species of fauna, including 112 mammal species (among them two species of gibbon), 392 bird species and 200 reptile and amphibian species that are recognized as being of outstanding universal value. It is internationally important for the conservation of globally threatened and endangered mammal, bird, and reptile species. These include 1 critically endangered, 4 endangered and 19 vulnerable species. The area contains substantial and important tropical forest ecosystems, which can provide a viable habitat for the long-term survival of these species including tiger, elephant, and leopard cat. In addition to the resident species, some parts of Prachinburi serve as an important sanctuary for migratory species, including the endangered Spot-billed Pelican and critically endangered Greater Adjutant. This great diversity offers potential economic benefits to the region and the country (Mackinnon *et a1*. 1986). Most of the forest areas in Prachinburi are classified as moist evergreen and dry evergreen forests in which many species of bamboo are commonly found.

142. The background studies have identified the communities in Ban Dong Bang district as appropriate for initial pilot sites because

a. Ban Dong Bang contains diverse natural resources especially natural and planted bamboos,

b. Ban Dong Bang's villagers have been involved with BEDO's programs for the last 3 years and credible partnerships have been created,

c. local communities have a strong knowledge base in producing famous herbal and home products which may form the basis for marketable high-value products,

d. Ban Dong Bang has established a herbal learning center, community forests, and natural conservation training center for youth which are important precursors for the work to be undertaken,

e. the village organization is strong and has good decision-making capacity.

f. there is willingness to participate in the project as long as economic incentives are high enough since they have already equipped with local knowledge, labor and strong leadership and organization.

143. The forest complexes and the buffer zones of Huai Khae Kaeng, Tenasserim and Kaeng Krachan in Kanchanaburi province provide the biodiversity link between the semi-dry Himalayan ecozone and the tropical rainforest of the Malayan peninsula. The area has large and globally important populations of tigers and Asian elephants. The province includes the Thungyai - Huai Kha Khaeng Wildlife Sanctuaries, a UNESCO Natural World Heritage. Kanchanaburi contains examples of almost all the forest types of continental South-East Asia. It is home to a very diverse array of animals, including 77 percent of the large mammals (especially elephants and tigers), 50 percent of the large birds and 33 percent of the land vertebrates to be found in this country. It includes significant variations in topography, altitude, rainfall, soil types and aquatic environments which have created a mosaic of many habitats and an ecosystem that is both intricate and fragile. It constitutes the most complete and most secure example of South - East - Asia's dry tropical forest ecosystem - an ecosystem that is more critically endangered than the region's equatorial rain forest. It incorporates two intact river systems whose watersheds are largely encompassed by its boundaries. It supports the wide forms of many domestic plants and animals and may, in future, provide the genetic stock for hardier breeds.

144. In terms of flora and fauna diversity, species diversity in Kanchanburi is high because, in addition to its high habitat diversity, it occupies a unique position at the junction of the various bio-geographic zones. For animal diversity, there are large mammals, large birds, including rare riparian and wetland species. Altogether, 28 species are internationally threatened; fifteen mammals, nine birds and four reptiles.

145. ***Ban Nong Khon*** was identified as an appropriate initial pilot site because:

a. Ban Nong Khon is surrounded by natural bamboo and other natural resources which have traditionally been harvested for sustainable use,
b. the communities of Ban Nong Khon have a long tradition of producing bamboo-based products such as baskets, bags, etc. and
c. the village leadership has shown strong interest and leadership in engaging community groups with efforts to improve sustainability and improve incomes.

146. Marine ecoregions will be targeted at the globally important biodiversity hot spots of Andaman mangroves in the provinces of Ranong, Phang Nga and Krabi. The region includes several protected areas, and hosts an important natural resource base which is the focus of considerable socio-economic activity, with tourism and fisheries contributing significantly to provincial and national economic development. The Andaman Sea coast is characterized by deep oceanic waters and a narrow, rocky and coral-reef- associated continental shelf, with a thick mangrove belt protecting the coastline. The project will initially focus on Ranong province, which is prolific in both marine/ mangrove and inland natural resources.

147. The Ranong Biosphere Reserve in the north of Amphoe Kapoe covering 303.09 square kilometers was declared in 1997. It is the fourth biosphere reserve of Thailand, but the only one located at the coast to protect the mangrove

forests. According to the UNESCO, it covers about 30,000 hectares, of which 40 percent is a marine area. It consists of a narrow coastal plain characterized by many waterways and mangrove forests, reaching out to the sea towards seagrass beds at a depth of 10 meters. The Njao and Laem Son National Parks are contiguous to Ranong and hence there is a continuum of protected habitats going from the mountain ecosystem down to the coast and sea. More than 300 animal species have been identified, including the dugong, and no less than 24 species of mangroves.

148. There are some 4,000 people living in the biosphere reserve, who live mainly from fishing and a shrimp farm. Tourism is little developed yet, but there is a good potential. The Ranong Mangrove Research Center has a long history of scientific research in this area, covering topics such as mangrove reforestation and rehabilitation, as well as human health and sanitation. Major ecosystem types are tropical humid forests combining with mangrove forests, coastal hill forests, sea grass beds, agricultural cropland, shrimp farming; cashew-nut and rubber plantations.

149. In the south of the province is the Khlong Nakha Wildlife Sanctuary. Khlong Nakha Wildlife Sanctuary is located in Kapoe District, Suksamran Sub-District. According to the study done by Ruht Suphavilai in 2001, the northern and western sides of the Sanctuary are in Ranong Province while the eastern border is in the Province of Suratthani. The south side, however, is next to the political boundary of Phangnga Province. It covers the forest and mountain ranges in Ranong and Suratthani Provinces with the total area of 530 square kilometers. In the buffer zone on the west side of the sanctuary, patches of mangrove scatter along the Andaman sea shore from Kapoe canal to Kamphuan canal covering an area of 49 square kilometers.

150. In Ranong, ***Ban Sam Nak*** will be the initial pilot site because:

a. The head and the villagers of Ban Sam Nak have demonstrated a sustained commitment to coastal environment and marine/mangrove resource conservation over long period of time including launching a program to conserve black stone crabs, by creating a community protection zone in the local mangroves,
b. The village has a strong administrative organization,
c. Natural resources such as mangrove forests and marine animals are plentiful in the area,
d. The villagers have have a strong local knowledge base in coastal fisheries, and have also demonstrated their ability to undertake new forms of livelihood generation by embarking on crab farming,
e. There are a number of non-profit organizations working in the area which will form a strong base for a partner network to undertake extension and capacity-building services.

151. In Phang Nga, the pilot site will be ***Ban Bang Tib*** because:
a. The village leadership has a strong track record in conservation, including establishing a number of local conservation initiatives,
b. there is a promising set of baseline development activities to build upon, including youth development programs and conservation knowledge documentation, and
c. existing value-added product development programs for marine products, including processing of spotted Babylon snails (*Babylonia areolata).*

152. The projects outcomes and outputs are described below:

Component 1: Building National Capacity for Support for Biodiversity Business

153. Under Component 1 the project will help to ensure that the national framework for support of biodiversity-based business can provide adequate services for establishment and operation of economically viable community-based social enterprises, as well as associated efforts for sustainable production and biodiversity conservation. This implies activities to review the existing policy and legal framework for possible deficiencies and gaps which may jeopardize the success of efforts to mainstream biodiversity and sustainable production principles into the commercial markets. It will focus on assisting and capacitating BEDO in assuming its intended role as the national Biodiversity Business Facility. This involves appropriate adjustments to BEDO strategies and action, as well as to the organization structures. It will also assist BEDO in developing a branding and certification system to ensure proper quality criteria for the biodiversity-based products. Support will be provided for establishment of a national monitoring and evaluation system of the performance of BEDO-supported enterprises. The overall skills and capacities of BEDO staff will also be strengthened.

154. Component 1 will also strengthen the coordination and collaboration of the national BEDO partners in their particular roles to provide support biodiversity-based social enterprises in rural and coastal communities. Partnerships will be strengthened with Government and academic institutions involved in research and solutions development in areas such as community enterprise development, sustainable production approaches and community-based biodiversity conservation. Also it will strengthen the BEDO collaboration with existing extension services in Department of Agricultural Extension, Department of Fisheries, Royal Forest Department and the OTOP program.

155. **Outcome 1.1 Institutional capacity and staff competences for national support to biodiversity business established.** The project outcome will strengthen BEDO's capacity to implement the objectives of its Royal Decree. Through this it will establish BEDO as the national Biodiversity Business Facility, in accordance with its established mandate in Government. Biodiversity business is defined here as: *'commercial community-based social enterprises that generates profits via activities which conserve biodiversity, use biological resources sustainably, and share the benefits arising from this use equitably to alleviate poverty'.* A Biodiversity Business Facility is defined as a national institution, which will function as: (i) a policy research and advocacy institution, to address and influence the enabling environment for development of biodiversity business enterprises; (ii) a business incubator, to build capacity and provide technical assistance to support new biodiversity business ventures; and (iii) a market access facilitator, to assist community-based enterprises in maximizing revenue from the value added in high-value consumer markets.

156. *Output 1.1.1 Proposals for appropriate revisions of national policies, laws and regulations.* This output will assist BEDO to perform reviews and assessments of relevant legal, regulatory and institutional frameworks related to community-based biodiversity business. Several legal barriers and constraints exist in the present policies and laws, including in areas such as local administrative regulations for community enterprises, product quality standards and certifications and access and benefit-sharing regimes. The project may also address issues related to land use rights, regulation of community-based biodiversity conservation and rehabilitation, registration and regulation of biodiversity-based social enterprises, enterprise taxation, economic incentives for sustainable production and biodiversity conservation if required. Also, policies and regulations for provision of extension may be reviewed, where appropriate. The project will assist in the development of policy proposals and suggested legal and regulatory revisions for consideration by the relevant Government ministries and departments.

157. *Output 1.1.2 National Biodiversity Business Facility established.* This output will also support BEDO in developing the organizational structure appropriate for a national Biodiversity Business Facility. Specific outputs will focus on (i) re-assessment of BEDO's strategic vision, mission and long-term performance targets, particularly in relation to marketing of biodiversity-based products and to initiatives in relation to sustainable production and biodiversity conservation; (ii) Developing annual action plans in accordance with the strategic targets and in close cooperation with partners and local communities. The institutional setup and staffing will be reviewed, and proposals will be presented to the BEDO board in order to address potential weaknesses.

158. *Output 1.1.3 Thai high-value branding and certification for biodiversity-based products established.* This output will support the development and promotion of a dedicated BEDO brand, which encapsulates the principles and standards inherent in biodiversity-friendly products. The brand will capture and market the image of BEDO supported products which emphasize sustainability, biodiversity conservation and poverty alleviation. Access to the BEDO brand and its leverage in high-value markets (including dedicated marketing support by relevant Thai Government agencies) shall be one of the key incentives for local communities to become involved in biodiversity businesses. The brand will be underwritten by a dedicated certification scheme to ensure quality assurance and control. The certification shall confirm to defined criteria for sustainable production, biodiversity conservation impacts as well as social impacts like poverty alleviation. It will supplement existing certifications like FCS, MSC, IFOAM, Fairtrade, etc. by providing a specific, locally-adapted market image focused on biodiversity-friendly locally-produced and locally-owned Thai products.

159. *Output 1.1.4: National monitoring of biodiversity-based business performance.* This output will support development of a national system for monitoring and evaluation of biodiversity-based business performance in selected ecoregions. The system shall be based on community-based collection of information via standardized surveys and questionnaires, in simple formats that are appropriate to local community capacities. It will serve as the basis for supporting the branding, proposing revised policies and strategies, and for developing new approaches to enterprise management, poverty alleviation and biodiversity conservation.

160. *Output 1.1.5: BEDO staff skills development.* This output will strengthen BEDO staff skills and competencies to perform the triple objectives of a biodiversity business facility. Capacity development will focus on institutional and technical capacities in relation to issues such as (i) development of policies and strategies, (ii) assessment and management of ecosystem goods and services, (iii) sustainable harvesting, production and quality assurance, (iv) enterprise management, (v) market surveys, (vi) product design, branding and certification, (vii) supply chain management and (viii) financing. The project will help to improve the capacities of BEDO staff in areas such as the assessment of ecosystem goods and services, sustainable harvest of ecosystem commodities, incubation of Biodiversity-based social enterprises, market assessments, as well as capability to establish development and management plans for product design and branding, production development, certification and quality assurance, fund raising, and supply chain management.

161. **Outcome 1.2: Collaboration with and capacities in Partner Networks of the Biodiversity Business Facility are strengthened**

162. The issue of biodiversity business is so complex and multidisciplinary that no single institution will be qualified to cover all aspects. As a national biodiversity business facility, BEDO will have to establish a network of external partners as a cost-efficient way of expanding its capacity through existing organizations and expertise. Under this output, the project will strengthen BEDO's collaborators to provide appropriate applied research and solutions development support, as well as extension services by Government departments, NGO's and the private sector.

163. *Output 1.2.1: Strengthened capacity for applied research & solutions development for biodiversity business.* This output will focus on strengthening coordination and collaboration amongst partners for undertaking integrated and multidisciplinary research and solutions development to support innovation and sustainability in biodiversity business. Partners may undertake research on issues like (i) sustainable management of ecosystem goods and products, (i) gene conservation of crops and livestock, (iii) sustainable harvesting and production techniques, (iv) community-based social enterprises, (v) consumer demand, (vi) product development, (vii) supply chain development, (viii) finance options and (ix) trade via modern commercial platforms e.g. internet and mobile phones. Research activities will be largely financed by partner institutions and external support, with the BEDO network providing coordination and partnership-building facilitation.

164. *Output 1.2.2: Strengthened capacities for extension services for biodiversity business.* This output will focus on strengthening existing extension services in Government departments and programs like DOAE, RFD, DOF and OTOP. It will also include appropriate NGO programs on biodiversity based production. Under this output, various activities with different modalities are necessary to ensure that the partners are able to provide extension services for organic agriculture and livestock, sustainable forestry, fisheries and aquaculture, non-timber forest products, production techniques, enterprise management and marketing, etc.

Component 2: Piloting Community-based Social Enterprises in Key Eco-regions

165. In Component 2, the project will focus on the communities at local level and the critical element in the long-term solution: "establishment of community-based social enterprises with a double objective: (i) to mobilize local resources for biodiversity conservation and rehabilitation and (ii) to increase family incomes for poverty alleviation". Accordingly, the main objective of component 2 is to demonstrate the feasibility of applying biodiversity business as an instrument to (i) raise community awareness and appreciation about the social and economic benefits of biodiversity conservation and rehabilitation and (ii) demonstrate the potential of pilot models for establishing biodiversity-based social enterprises with sufficient revenue for both family income and economic incentives for sustainable production and biodiversity conservation. Accordingly, the component comprises three outcomes: (i) demonstrate community approaches for implementation of sustainable production and biodiversity conservation in surrounding ecosystems, (ii) demonstrate community approaches to establish and manage social enterprises for sustainable production of biodiversity-based products and (iii) strengthen human and technological capacities to apply sustainable production, conserve biodiversity and to develop and produce high-value biodiversity-based products. The component will emphasize the need to establish viable and sustainable checks and balances to improve community incomes without depleting the ecosystems.

166. **Outcome 2.1: Community-based sustainable production and in-situ biodiversity conservation and rehabilitation is strengthened.** This outcome is the key to achieve the primary element of the long-term solution: '*Sustainable production and biodiversity conservation in Thai production land- and seascapes'.* Without creating community commitment to implement actual initiatives for sustainable production and biodiversity conservation, the project will become one more ordinary rural development project. To achieve this critical outcome, the project focuses on strengthening community capacities to assess the inherent values of biodiversity and healthy ecosystems, identify threats and vulnerabilities, and incorporate ecosystem services and values into economic decision-making. The outcome also promotes innovations and action on sustainable production techniques, as well as biodiversity conservation and rehabilitation projects.

167. *Output 2.1.1: Field assessments of biodiversity status, their threats and vulnerabilities.* This output provides pilot models on baseline studies of the character and potential of the ecosystem goods and services available to the pilot communities. The studies will identify presence of endangered species and take an ecosystem approach to identify an appropriate long-list of possible commercially valuable commodities like e.g. (i) organic crops, (ii) indigenous crops and livestock), (ii) timber and fiber, (iii) plants, mushrooms, etc. (iv) game (v) fish), etc. Ecosystems to be considered include e.g. (i) Cultivated lands. (ii) Plantations and social forests, (iii) Streams, lakes and wetlands, (iv) Coastal waters, including estuaries and lagoons and (v) Mangroves, coral reefs and sea grass beds, as appropriate. Pressures from existing and potential future harvesting, pollution, intrusion of invasive species will be identified and quantified, if possible. Finally, the commodities' vulnerability will be assessed in qualitative terms. The study approach will accommodate community participation and establishment of a community-based monitoring system.

168. *Output 2.1.2: Planning and implementation of priority projects on biodiversity conservation and rehabilitation:* This output will establish specific projects on ecosystem conservation and rehabilitation. The output will be directed towards priority efforts identified through the field assessments of output 2.1.1. They will be initiated, planned and implemented by the communities with technical support of the project and funded by allocations from the revenue of the biodiversity businesses. Conservation initiatives will target key biodiversity objectives, including e.g. enhancing connectivity between protected areas, strengthening buffers and reducing encroachment pressures, increasing ecosystem resilience and improving on-farm conservation of crop diversity and landraces.

169. **Outcome 2.2: Pilot Models for Community-based Social Enterprises with Combined Objectives of Income generation, Sustainable Production and Biodiversity Conservation are established.** This outcome is at the very core of the project. It is here it must be shown that it is possible to balance market forces with the need for sustainable production and biodiversity conservation. The outcome comprises three specific outputs: (i) pilot development and application of sustainable harvesting and production techniques, (ii) pilot establishment of community-based social enterprises and (iii) economic incentives for biodiversity conservation and rehabilitation.

170. *Output 2.2.1: Pilot development and application of sustainable harvesting and production techniques:* This output will focus on demonstrating pilot approaches for innovative and cost-effective sustainable harvesting and production techniques. The approaches shall be applied in the pilot enterprises to demonstrate their practical and economic feasibility and be developed by the local community, supported by technical advice and facilitation by the project. An important issue is the establishment of product quality controls to satisfy specific market and certification criteria. Themes for sustainable harvesting may be e.g. (i) sustainable logging of coastal mangrove timber, (ii) harvesting or cultivation of bamboo and other NTFP's, (iii) game farming, (iv) organic farming, (v) reduction of pesticide and fertilizer use, (vi) sustainable fisheries, and (vii) sustainable and non-polluting aquaculture. Themes for sustainable production of high-value products may be e.g. (i) clean technologies, (ii) energy efficiency, (iii) waste treatment, etc. Special attention will be paid to assurance of high and stable quality of the products to satisfy consumer expectations.

171. *Output 2.2.2: Pilot Establishment of Community-based Social Enterprises:* This output will focus on incubation of efficient and economically viable community enterprises, in accordance with standard commercial practices. However in addition to agreed payments for family income, part of the revenue shall be allocated for specific environmental purposes or placed in an environmental community fund to support activities in outcome 2.1. The project will support the community with technical assistance as appropriate within key issues like e.g. (i) product development and design based on market surveys, (ii) branding, certification and legal compliances for market entry, (iii) legal issues

related to registration, taxes, customs, trade regulations, etc., (iv) Partner agreements on revenue sharing (including allocation for producer incomes and incentives for environmental purposes), (v) Management framework (incl. boards, executives, roles and responsibilities, etc.), (vi) Investment funding (banks, micro finance, Corporate Social Responsibility and donor funding, etc.), (vii) establishment of production facilities and logistics (Production facilities, harvest machines, vehicles, buildings, tools, storage facilities), (viii) Administrative facilities (accounting, quality control, product improvement) and (ix) Marketing frameworks (wholesale, retail, customer relations)

172. *Output 2.2.3: Economic Incentives for Biodiversity Conservation and Rehabilitation:* This output will address the issue of generation of funds for the implementation costs of output 2.1.2 on biodiversity conservation and 2.2.1 on sustainable production. This output will be established by the pilot communities in collaboration with the community-based social enterprises. The project will provide support and facilitation for application of options like e.g (i) Establishment of community conservation and rehabilitation funds to cover labor and construction costs of priority projects. (ii) Establishment of community-based subsidies for sustainable production approaches and (iii) involvement of national subsidy sources in cash and kind (e.g. OTOP, poverty alleviation programs, corporate social responsibility funding, etc.)

173. **Outcome 2.3: Human and technological capacities in producer communities are strengthened.** This outcome focuses on capacitating communities in the target regions to promote replication and increase self-reliance and sustainability after project completion. The specific output comprises development of information and training materials, as well as tested curricula for a sequence of training courses. The potentials of enterprise and social networks and of innovative application of information technology via internet and mobile phones will be fully exploited. The community capacity output will be classified into the five themes below:

174. *Output 2.3.1: Community-based assessment and development of ecosystem-based goods and service.* This output will address the capacity development needs for implementation and replication of Output 2.1.1. It will strengthen community capacities to identify, develop and market biodiversity-based products that conform to sustainability and market demand criteria e.g. organic crops, vegetables, poultry and livestock, products from social forestry and multi-species plantations, or sustainably-harvested products from rivers, lakes, wetlands and coastal and marine regions.

175. *Output 2.3.2: Sustainable Production and Biodiversity conservation and rehabilitation:* This output will address the capacity development needs for replication of Outputs 2.1.2 and 2.2.1. It will address capacities required to implement and replicate approaches such as: (i) Community-based monitoring and assessment, (ii) Ecosystem conservation and rehabilitation, (iii) Crop and livestock gene conservation, (iv) Sustainable harvesting and (v) Low-impact production practices.

176. *Output 2.3.3: Product options of biodiversity-based products of high value and quality.* This output will address the capacity development needs for implementation and replication of Outputs 2.2.2 and Outcome 3.1 with respect to identifying production opportunities. It will focus on market and product options, including capacities needed to develop products such as organic foods, marine products, sustainably-produced furniture and home decoration and organic body care, cosmetics and herbal medicines.

177. *Output 2.3.4: Management of economically viable Community-based Social Enterprises*. This output will address the capacity development needs for implementation and replication of Output 2.2.2. This will include aspects such as product development, financing and investment, legal and contractual management, quality assurance and contract negotiation.

178. *Output 2.3.5: Replication and promotion campaigns to other communities.* This output will focus on dissemination of the results of the project for further replication via (i) Information and training documents, (ii) Local and national media and (iii) Websites on the internet. If appropriate, it may support establishment of networks of like-minded enterprises and facilitate site visits for inspiration and exchange of experiences.

Component 3: Mainstreaming Biodiversity Business into the Supply Chains of High-value Consumer Markets

179. In component 3, the project will focus on expanding market opportunities for biodiversity-based products from target locations, while increasing the proportion of total market revenue which accrues to producers at the community level. By expanding the total potential market while simultaneously ensuring that a higher proportion of end-buyer prices accrues to local producers, this component will help to maximize the total receipts obtained by community-based social enterprises. These receipts will enhance CbSEs' ability to reinvest in conservation and sustainable use of their production landscapes while simultaneously providing viable and sustainable revenue streams to participating households.

180. In Component 2, economic incentives are increased at the community level by maximizing prices to the biodiversity-based enterprises by selling quality products to high-value niche markets, instead of low-priced bulk commodities to middlemen. In component 3 the focus is on market beyond the community gate. The component will capacitate BEDO and its partners to support community enterprises in their dealings with the private sector, however the project will not enter directly into the market. It is the enterprises themselves that are responsible for identifying and developing optimal revenue maximization strategies. The role of the project (and BEDO) will be to provide CbSEs with the tools, capacities and market access required. This implies focus on four outcomes: (i) demand-driven product development to increase value through improved design and branding; (ii) reduction of transaction costs along the supply chain from producers to consumers, (iii) improved investment and financing options and (iv) awareness and promotion of biodiversity business in the private sector.

181. **Outcome 3.1: Demand-driven design and branding of high-value products.** In many of the markets being targeted by the project (particularly for bamboo), the difference between a high-priced, high-margin product and a low-margin, mass-produced product is seldom due to differences in the quality or quantity of raw materials used. Instead, the perceived value-added of high-margin 'niche' products rests on intangibles such as cutting-edge design, packaging, marketing and perceived originality or exclusivity. As one example, a bamboo chair can cost less than USD10 for a generic, mass-produced chair being sold in a rural market, versus USD1,799 for a high-end, designer-produced unit sold through a high-end retailer[26].

182. Outcome 3.1 will take a demand-side approach to further increase community income by 'climbing the value chain'. This will be accomplished by focusing on high-value markets through enhanced product design and market positioning, supported by market surveys and active promotion efforts via branding, certification and promotion campaigns. Three key outputs to achieve this outcome are described below:

183. *Output 3.1.1: Market surveys on high-value biodiversity-based products.* This output will support BEDO and its partners in developing capacity to undertake targeted market surveys for product options in the target regions and the pilot communities. The market surveys will focus on emerging high-value niche markets in both Thai and export markets. The output will provide both a general market survey with respect to products from the target regions, as well as focused surveys on behalf of the pilot enterprises. The surveys will initially focus on potential market opportunities for bamboo products and marine products, but the scope will be extended to cover the full scale of potential options, e.g. (i) organic and "natural" food (e.g. crabs), (ii) furniture and home decoration (e.g. baskets), (iii) Garments of natural fibers (e.g. bamboo), (iv) Natural body care and cosmetics (e.g. soap), (v) herbal medicine and concoctions (e.g. bamboo vinegar) etc.

184. *Output 3.1.2: Product design for high-value lifestyle markets*. This output will be based on the consumer surveys and emphasize designs that are appropriately targeted at specific consumer markets. The project will work through BEDO and its partners to help the pilot enterprises to identify designers and production experts to develop options for (i) utility and appearance, (ii) Sustainable harvesting methods, (iii) Low-impact production systems. Product design will utilize local or domestic Thai design talent and skills where possible, building on local knowledge and skills to craft products with a specific Thai identity for market differentiation and exclusivity. At the same time, the designs will emphasize economic viability and maximization of revenue vs costs.

[26] E.g. see Guildmaster- Bamboo Wing Back Chair for USD1,799.00 on http://www.csnsofas.com/asp/show_detail.asp?sku=DCZ1185, last accessed 20/02/2011.

185. *Output 3.1.3: Product promotion through branding and certification.* The output will focus on working through BEDO and its partners in helping the pilot enterprises to promote their products to the consumers. The output will focus on raising market awareness through product branding and certification. Where appropriate, cooperation with internationally recognized 'conservation friendly' brands will be explored. Product credibility and quality is also an important promotion factor, and the BEDO certificate shall be applied to guarantee the biodiversity conservation aspect of the branding. Similarly, established certifications like FSC, MSC or IFOAM shall be applied.

186. **Outcome 3.2: Reduction of transaction costs through transformation in the supply chains.** Outcome 3.2 will assess options to reduce transaction costs in marketing and transporting products from community-based biodiversity business in Thailand to foreign markets. A variety of options will be explored, ranging from direct marketing to internet sales and strategic partnerships.

187. *Output 3.2.1: Options for Minimization of transaction costs.* This output comprises studies on how transaction costs may be reduced through innovative adaptation to emerging market trends. The project will explore means to more strategically and systematically utilize corporate partnerships (CSR or similar) to reduce overheads and transaction costs. Similarly, the internet is presently creating a wide variety of options for effective marketing by facilitation direct contact between producers and consumers. This can provide important opportunities for niche-market products from biodiversity business.

188. *Output 3.2.2: Piloting of low-cost wholesale and retail options.* This output will be based on the results of output 3.2.1 and test specific options in commercial markets for the pilot enterprises. The output will capacitate BEDO and partners to support the pilot enterprises in their negotiations with actors in the supply chain, such as e.g. (i) global corporations (e.g. supermarket chains), (ii) niche market enterprises (e.g. cosmetics), NGO's (e.g. FairTrade), and (iii) internet traders. If appropriate, the project will provide support to supply chain actors for piloting innovative initiatives.

189. **Outcome 3.3: Increased investment and subsidy options for Community-based Social Enterprises.** Due to the novelty and infancy of biodiversity business, the sector is small, risky and vulnerable and therefore not a primary target for investment by commercial banks and financiers. This outcome will assess existing barriers in the investment framework, and identify methods to improve producer access to appropriate funding sources at reasonable cost. It will focus on (i) existing facilities in the banking and investment sectors focused on agriculture, sustainability or triple bottom line markets, (ii) options for microfinance and (iii) options for receiving subsidies from Government programs, international development assistance, private enterprises and private foundations. The outcome will help to develop BEDO's capacity to design and implement financial support packages for specific sectors, markets or products. It will also develop the capacity of pilot CbSEs to identify and leverage the most efficient and cost-effective financing options to underwrite their operations.

190. *Output 3.3.1 Improved investment and banking facilities for community-based social enterprises.* This output will assess existing financial facilities Thailand, and identify banking facilities, products and services which can be leveraged to support community-based social enterprises engaged in biodiversity-based businesses. Commercial banking systems generally consider community-based conservation and development enterprises to be high-risk/ low-return investments, and therefore comprehensive financial support is not easily provided. At the same time, dedicated investment institutions such as the Bank of Agriculture and Agricultural Cooperatives (BAAC) and the SME Bank are mandated to provide support for agriculture, rural development and the promotion of small-scale enterprise. Through engagement with such institutions, the project will identify and promote specific financing packages, structured investment vehicles or risk underwriting mechanisms which may help address the financing needs of CbSEs.

191. *Output 3.3.2: Micro-investment for biodiversity business.* This output will focus on the options and opportunities of microfinance approaches to support elements of biodiversity-based business. Approaches such as community savings groups, government- or donor-supported microfinance programmes and internet-based micro-investment vehicles will be assessed, and where appropriate these may be incorporated into the financial architecture for CbSEs or household participants.

192. *Output 3.3.3: Subsidies for promotion of sustainable production and biodiversity conservation.* This output will explore options for access to subsidies via international and national Government facilities. It will also investigate potential subsidy mobilization via corporate social responsibility and through international environmental NGO's.

Subsidies may range from donor grants (e.g. small grants mechanisms from bilateral donors and corporate sponsors) to opportunities to participate in sponsored training, technical education programmes or marketing and promotion activities. Opportunities to participate in and benefit from the Government's extensive overseas promotion and market development initiatives will also be explored, and where necessary CbSEs will be provided with training and facilitation to enable them to leverage such opportunities.

193. **Outcome 3.4: Strengthened awareness about commercial potentials in biodiversity business.** This outcome will address private supply chain actors and raise awareness of the commercial and promotional potentials of biodiversity business. It will also be an instrument to promote replication and further commercial exploration of the experiences from the pilot enterprises. It will develop a toolbox of brochures, pamphlets and other materials to be used by BEDO and partners in e.g. seminars for chambers of commerce, consumer organizations, commercial sections at embassies, product exhibitions, etc. It will also develop a state-of-the art website on Thai biodiversity business.

194. *Output 3.4.1: Information campaigns.* This output will focus on general awareness about biodiversity business in Thailand, with emphasis on trends in consumer preferences (such as social and environmental sensitivity). Links will also be forged with broader social and commercial trends in the country, e.g. the growing interest in environmental sustainability in the context of climate change, and the broad national philosophy of the Sufficiency Economy.

195. *Output 3.4.2: Replication campaigns.* This output will be focused on the target regions to promote dissemination and replication of the results of pilot enterprises to other communities. Dissemination activities will be implemented by the CbSEs themselves as part of their broad social mandate, with support provided directly from BEDO as well as through extension partners.

2.5 Key indicators, risks and assumptions

196. The project indicators are detailed in the Logical Framework (attached in Section II of this document).

Table 5: Project Indicators

Objective / Outcomes	Indicators:	Target
Objective: 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.	1. The national governance system provides positive incentives and effective business facilitation and marketing support for biodiversity business development through BEDO and its partner network, demonstrated by: a. No. of enterprises for community-based biodiversity business assisted b. No and turnover from of commercial supply chain actors from project sites involved in marketing of sustainable biodiversity-based products in target markets	At least 10 pilot products of community-based social enterprises (CbSE) supported in making high-value a)bamboo and other NTFP products, b) agricultural and horticultural products, c) marine products, d) tourism and recreation services successfully mainstreamed into the commercial markets - at least 5 of the pilot products successfully selling into national and export markets
	2. Community-based social enterprises and commercial supply chains for biodiversity-based products increases family income, biodiversity conservation incentives and market share of certified sustainable production in target areas, demonstrated by a. Percentage of certified sustainable bamboo, marine- and other biodiversity-based products produced from project sites (percentage of total product output) b. Percentage of CbSE revenue allocated for biodiversity conservation and rehabilitation.	a) At end-project at least 30% of total product output from target sites is certified sustainable. b) At end-project, percentage of household incomes derived from certified products averages at least 25%. c) At end-project at least 10% of net annual CbSE revenue allocated to conservation and rehabilitation activities, supporting conservation initiatives across at least 100,000ha of critical landscape including coastal mangrove areas.
	3. Increase in percentage of target landscapes and seascapes under community-based sustainable management or co-management.	By end-project at least 5% of land and sea-scape managed by target communities is under sustainable management.
Outcome 1.1 Institutional capacity and staff competences for national support to biodiversity business established.	1. Enabling national policies, laws and regulations introduced by appropriate government departments with respect to: a) land use rights for biodiversity business b) Community based Social Enterprise establishment and operation c) incentives for community-based biodiversity conservation	A comprehensive policy and regulatory framework for CbSEs is developed, and submitted to the relevant Government authorities.
	2. BEDO has the institutional capacities, organizational structure and resources required to act as national biodiversity business facility to facilitate development of CbSEs, as measured by the Capacity Scorecard.	The institutional capacity scores for business facilitation are raised 50% relation to baseline at end of project

Objective / Outcomes	Indicators:	Target
	3. BEDO staff have the technical capacities (skills, technical qualifications and experience) needed by a biodiversity business facility, as measured by the Capacity Scorecard	The staff Capacity Scores are raised 50% relation to baseline at end of project
Outcome 1.2: Collaboration with and capacities in Partner Networks of the Biodiversity Business Facility are strengthened	1. Through the Partner Network, BEDO has the capacity to assess market needs and demands, and to develop targeted solutions to issues such as sustainable harvesting, waste minimization and reuse, low-impact packaging, etc. 2. Through the Partner Network, local communities and CbSEs have increased access to extension and business development services, as measured by: a. Number of community enterprises receiving support on sustainable harvesting and production b. Number of community enterprises receiving support for biodiversity business development and management c. Number of communities receiving support on biodiversity conservation and rehabilitation.	By project mid-point, the Partner Network clearly demonstrates the capacity and willingness to partner with BEDO in identifying, analyzing and resolving sustainable production and market development issues identified in the development of CbSEs. Comprehensive and systematic collaboration mechanism with BEDO partners established to provide the extension services of biodiversity business development for CbSE
Outcome 2.1: Community-based sustainable production and in-situ biodiversity conservation and rehabilitation is strengthened.	1. Appropriate methods for community-based monitoring of biodiversity status for data collection. 2. Number and coverage of biodiversity conservation and rehabilitation projects planned and implemented by communities using revenues derived from CbSEs.	Appropriate system developed for community monitoring of biodiversity status by the end of second year. At least, 4 communities actively applied by the end of year 3. At end-project at least four CbSE-financed conservation and/ or rehabilitation projects under way, strengthening biodiversity conservation across at least 100,000ha of critical landscapes including coastal mangroves.
Outcome 2.2 Pilot Models for Community-based Social Enterprises (CbSE) with Combined Objectives of Income generation, Sustainable Production and Biodiversity conservation are established.	1. a.CbSEs are using maximum sustainable yield as a benchmark to set production levels. 1.b.Change in marginal revenue per unit of resource use. 2. CbSE business plans and management strategies include explicit objectives to allocate net revenues for conservation and rehabilitation.	1. CbSE business plans incorporate maximum sustainable yield as a variable in setting production levels. 2. Marginal revenue per unit of resource use increases by at least 10% on average across all product lines. Every CbSE supported by the project has explicit objectives to allocate net revenues for conservation and rehabilitation.

Objective / Outcomes	Indicators:	Target
Outcome 2.3: Human and technological capacities in producer communities are strengthened	1. CbSEs have the necessary skills and tools to produce products which meet the requirement for certification. 2. CbSEs have a transparent and participatory governance mechanism.	CbSE in 4 communities are producing products which meet relevant certification standard. Set governance mechanism which clearly includes participation, inclusiveness and gender parity.
Outcome 3.1: Demand-driven design and branding of high-value products	1. Mainstreaming of high-value products from biodiversity businesses is increased through development of appropriate products designs, focused on niche-markets of lifestyle consumers in Thailand and selected export markets, as demonstrated by number of CbSE products successfully designed, branded for introduction into target markets. 2. Quality and value of CbSE products have been increased and meet BEDO certification standard for selected markets	a. At least 50% of CbSE products are designed for high-value consumer markets b. 25% of the products from pilot communities are successfully introduced into high-value markets. 80% of BEDO certified products recognised by and 20% endorsed by other relevant certifications e.g. FDA, Community Product Industrial standard
Outcome 3.2: Reduction of transaction costs through transformation in the supply chains	Transformation of supply chains have been demonstrated in relation to products from the target regions, as demonstrated by optimum of alternative supply chains provided.	a. At least 50% of the pilot cases have introduced optimum alternative supply chains to increase gate revenue; b. Transaction costs are reduced in comparison to the existing transaction costs
Outcome 3.3: Increased investment and subsidy options for Community-based Social Enterprises	1. Appropriate investment options for pilot CbSE's have been identified, as demonstrated by a) No. of dedicated investment windows in public and private sector b) No. of non-profit social and environmental investment funds. 2. Subsidies raised for pilot CbSE's in relation to:. • Government subsidies • Corporate Social Responsibility • NGO support	80% of finance needs for pilot CbSE's are being met 10% of costs for biodiversity conservation activities are supported via Government and NGO subsidy programs At least 4 projects from CSR collaboration in the target areas
Outcome 3.4: Strengthened awareness about commercial potentials in biodiversity business.	Types of IEC[27] Materials on the potential of CbSE for biodiversity business for general public	IEC Materials developed in the form of print, audio-visual, internet At least 0.5% of the total communities across the country have contacted BEDO for support for possible replication

[27] IEC = Information, Education, and Communication

Table 6. Risks facing the project and the risk mitigation strategy

Risks	Rating	Risk Mitigation Measures
Changes in relative prices for bamboo and marine product relative to other land uses leading to product switching	Low	Since these products are natural products, conversion of such land use to other uses are illegal and with the project's (and continued by project partners post-project) continuous supervision and monitoring will ensure that this will not occur.
Promoting market and supply-chain for biodiversity-based products could be self-defeating or create perverse effects if the market drive overrides the conservation values of the community-based social enterprise.	Medium	Emphases are put on the monitoring and evaluation mechanism in the project components (Outcome 2) to ensure that the increased revenues will be linked back to biodiversity conservation. In addition, a specific output on established good governance structure of social enterprise is added under Outcome 2.2 to ensure the business and conservation/ social balance.
Failure to secure necessary institutional coordination arrangements	Low	A component of the project will focus on institutional arrangements and the financial sustainability of institutional operations. Steps have already been made by the Thailand government to create BEDO to promote the conservation of biodiversity and improving local community knowledge of best practices for environmentally friendly biodiversity based economic development.
Political instability: Thailand is in a period of political transition, with occasional mass demonstrations and the shifts of ruling political parties – which may result in the changes in policy direction.	Low	The project is anchored in a specific policy body, whose mandates and status are endorsed in the direction of five-year the 11th National Economic and Social Development Plan (2012-2016). In addition, the project is designed to involve multi-sectoral stakeholders in the Project Board and Key Task Forces, which will ensure the continuity of policy coordination and implementation.
Non compliance with certification	Medium	Risk of regulatory non-compliance can be significantly reduced by having a well-educated and informed workforce. The project will help to institute mechanisms for monitoring and penalization for non-compliance from community to national level. The creation of training materials, design of personalized learning tracks, and delivery of interactive training classes, group certification training and reporting will generally enhance certification compliance.
Climate related risks	Low	The project is unlikely to be affected significantly by climate change during its implementation. The project's work on conservation of the protection of bamboo and coastal estuarine mangrove forests will have a significant positive effect on carbon sinks within Thailand. Bamboo alone has carbon sequestration potentials of 18 t ha^{-1} yr^{-1}.

2.6 Financial Modality

197. The project will address the identified constraints primarily through the delivery of technical assistance. This financial modality is considered the most appropriate means by which to strengthen the systemic and institutional capacities of the national system for biodiversity-based business, and to catalyze community and commercial capacities to establish community-based social enterprises. The barriers identified in the project relate to gaps in capacities, and barriers to mainstreaming biodiversity conservation into business-based production sectors. These will be addressed through the development of tools and models, and targeted capacity assistance to overcome capacity barriers.

2.7 Cost-Effectiveness

198. The cost-effectiveness of this investment has been assessed against the alternative of attempting to achieve the same impact through existing conservation-mandated institutions and agencies (i.e. by 'not mainstreaming'). Ensuring comparable conservation outcomes across the range of landscapes covered by the project would require significant additional investment in monitoring and enforcement capacities, i.e. EIA systems and regulatory structures across a vast number of local government units and regions. Achieving comparable conservation impact through the expansion of

protected area systems would require a significant enlargement of the terrestrial and marine PA estate in the country. Even if this were feasible, the long-term sustainability of such a vast PA estate in the face of significant population growth and demand for land would be highly questionable.

199. The catalytic nature of support under the GEF intervention strengthens the cost-effectiveness of the project. By developing a business model for integrating conservation, sustainable use and income generation, the project uses an approach with high replication potential. As successful CbSEs are established in target areas, and as the economic and ecological benefits of these enterprises become clear, nearby communities and entrepreneurs will be motivated to adopt such an approach. The enabling policies and capacities to be established at the national level will facilitate accelerated replication nationally, while ensuring adherence to the conservation and sustainability norms and standards required to maintain conservation impact.

2.8 Sustainability

200. Environmental sustainability: The project is considered environmentally sustainable as it is strengthening better management of biodiversity-based economy products through overall systemic capacity building at the national level. The work done at four demonstration sites, in particular, will ensure environmental sustainability of those sites.

201. Financial sustainability: One of the key aspects of this project is to create a mechanism in linking the income generated by the value-added biodiversity-based products back to sustainable conservation of the natural resources base. It will do so by making use of revolving funds structure existing at the community level – but introduce a specific management and mechanism for the fund allocation to conservation. It is expected that with such mechanism, the communities will have sustainable sources of incomes which will then be systematically put back to conservation, without having to rely on external or ad-hoc funding from projects or outside agencies.

202. Social sustainability: A key aspect of the project is on strengthening local stakeholders' to become more entrepreneurial and better-managed their natural resources. Their involvement at demonstration sites and subsequent replication of approaches developed by this project nationally is expected to strengthen social sustainability of Thailand's production landscapes. The project will give strong emphasis on promoting gender equity in its actions, especially in the set-up of community-social enterprises.

203. Institutional sustainability: The project is largely designed to be based on existing institutional arrangements, with the particular entry point in strengthening BEDO institutional capacity, as biodiversity-based business facilitator. It will also enable coordination among key national agencies in order to improve the policy framework and regulations in support of sustainable utilisation and conservation of biodiversity. Efforts to raise BEDO's staff and institutional capacities will help to ensure that follow-up efforts are undertaken professionally and cost effectively. In order to ensure that it will strive to fulfil its mandates in promoting community-based biodiversity economy, BEDO is committed to this project as means to help it to innovate and improve.

2.9 Replicability

204. The project's approach to mainstreaming biodiversity conservation in production landscapes/ seascapes through supporting community-based social enterprises and supply-chain development will be replicable to other products and geographical areas in Thailand. Within the project, many activities will focus on testing and demonstrating specific approaches in four demonstration sites. The project has built in mechanisms so that lessons from the demonstration sites are learnt and disseminated in the adjacent areas. Lessons from this project will be available to other nations through websites, publications and lessons sharing through the government, the GEF and UNDP. UNDP and GEF are supporting similar projects in other countries in the region including Cambodia, the Philippines and Malaysia and replication of successful approaches in Thailand could be of interest to these countries.

SECTION III: PROJECT RESULTS FRAMEWORK:

Part I: Project Result Framework

This project will contribute to the following Country Program outcomes: Energy and Environment for Sustainable Development 205. Primary: 206. **Outcome 2:** Increased capacity of national focal points in addressing policy barriers to local sustainable management of natural resources and environment in selected ecosystems; 207. **Outcome 1:** Efficient community network in sustainable use of local natural resources and energy with engagement in policy and decision-making processes; 208. Secondary: **Outcome 2:** Alternative knowledge management for community learning based on indigenous livelihoods and evidence-based empirical studies that strengthen case for pro-poor policies.
Country program outcome indicators • Achievement of national target set for improving natural resources conservation, state of the environment, and sustainable production and consumption; • Public recognition and leading role of community-based organization networks in local natural resources management and value-added; • Widely used of knowledge production and alternative learning methodology.
Primary applicable Key environment and sustainable development key result area: Promoting innovative and multi-sectoral means for natural resources management and conservation
Applicable GEF-4 Strategic Objective and Program: **Strategic Objective 2**: Mainstreaming Biodiversity in Production Landscapes/Seascapes and Sectors **Strategic Programme 4**: Strengthening the policy and regulatory framework for mainstreaming biodiversity and Strategic Programme 5 Fostering markets for biodiversity goods and services
Applicable GEF-4 Expected Outcome(s): Conservation and sustainable use of biodiversity incorporated in the productive landscape and seascape
Applicable GEF-4 Outcome indicators: • Number of hectares in production landscapes/seascapes under sustainable management but not yet certified; • Number of hectares/production systems under certified production practices that meet sustainability and biodiversity standards.

Project Strategy	Objectively verifiable indicators	Baseline	Target	Source of verification	Risks and assumptions
Objective: To strengthen national and local capacity for mainstreaming biodiversity into the	1. The national governance system provides positive incentives and effective business facilitation and marketing support for	a. National framework for establishment of community enterprises based on local products in	At least 10 pilot products of community-based social enterprises (CbSE) supported in making high-value	Surveys of target sites	The private sector will see commercial advantages in supporting biodiversity business The producers will be able to produce high quality products in

Project Strategy	Objectively verifiable indicators	Baseline	Target	Source of verification	Risks and assumptions
management of ecologically important production landscapes by transforming the supply and market chain of biodiversity based products.	biodiversity business development through BEDO and its partner network, demonstrated by: a. No. of enterprises for community-based biodiversity business assisted b. No and turnover from of commercial supply chain actors from project sites involved in marketing of sustainable biodiversity-based products in target markets	place via OTOP program b. BEDO has provided targeted support approx. 35 community enterprises, but with limited focus on mainstreaming c. Very few cases of systematic and comprehensive mainstreaming of biodiversity d. Limited focus on export markets for biodiversity business	a)bamboo and other NTFP products, b) agricultural and horticultural products, c) marine products, d) tourism and recreation services successfully mainstreamed into the commercial markets - at least 5 of the pilot products successfully selling into national and export markets		sufficient amount to attract interest from major actors in the market
	2. Community-based social enterprises and commercial supply chains for biodiversity-based products increases family income, biodiversity conservation incentives and market share of certified sustainable production in target areas, demonstrated by a. Percentage of certified sustainable bamboo, marine- and other biodiversity-based products produced from project sites (percentage of total product output) b. Percentage of CbSE revenue allocated for biodiversity conservation and rehabilitation	a. No certification schemes are currently in use in target sites. b. Interviews at target sites indicate Bt 5,000-10,000 per household/month derived from existing biodiversity-based products. c. No systematic community funding specifically allocated for biodiversity conservation.	a) At end-project at least 30% of total product output from target sites is certified sustainable. b) At end-project, percentage of household incomes derived from certified products averages at least 25%. c) At end-project at least 10% of net annual CbSE revenue allocated to conservation and rehabilitation activities.	Surveys of target sites	Success of the CbSE model does not result in purely commercial competitors attempting to hijack the markets created. (Free-rider risk) CbSEs are able to generate net profits within the project period.

Project Strategy	Objectively verifiable indicators	Baseline	Target	Source of verification	Risks and assumptions
	3. Increase in percentage of target landscapes and seascapes under community-based sustainable management or co-management.	Less than 2.5% land- and sea-scapes managed by target communities is under sustainable management.	By end-project at least 5% of land and sea-scape managed by target communities is under sustainable management.	Community-based monitoring reports from their production landscapes	External economic forces do not alter significantly to induce communities to convert or sell their land.
Component 1: Building National Capacity for Support of Biodiversity Business					
Outcome 1.1 Institutional capacity and staff competences for national support to biodiversity business established.	1. Enabling national policies, laws and regulations introduced by appropriate government departments with respect to: a) land use rights for biodiversity business b) Community based Social Enterprise establishment and operation c) incentives for community-based biodiversity conservation	a. Overall policies, laws and regulations for biodiversity conservation and for mainstreaming of biodiversity business largely in place b. several unsolved conflicts about community land use rights not settled c. No regulation directly targeted to promote and facilitate CbSEs.	A comprehensive policy and regulatory framework for CbSEs is developed, and submitted to the relevant Government authorities.	Documentation of submissions to relevant Government authorities.	Departments and – subsequently – the parliament will agree to pass the proposed policy and regulatory framework.
	2. BEDO has the institutional capacities, organizational structure and resources required to act as national biodiversity business facility to facilitate development of CbSEs, as measured by the Capacity Scorecard.	BEDO has been mandated in law and established, however institutional capacities for business facilitation are at the average level, as indicated in the Capacity Scorecard assessment.	The institutional capacity scores for business facilitation are raised 50% relation to baseline at end of project	Survey reports From evaluations	BEDO board is strongly motivated to create a biodiversity business facility.
	3. BEDO staff have the technical capacities (skills, technical qualifications and experience) needed by a biodiversity business facility, as measured by the Capacity Scorecard	Baseline technical capacities assessed as low to medium, as indicated in the Capacity Scorecard.	The staff Capacity Scores are raised 50% relation to baseline at end of project	Survey reports From evaluations	BEDO staff is both motivated and professionable equipped to perform the tasks of a biodiversity business facility

Project Strategy	Objectively verifiable indicators	Baseline	Target	Source of verification	Risks and assumptions
Outcome 1.2: Collaboration with and capacities in Partner Networks of the Biodiversity Business Facility are strengthened	1. Through the Partner Network, BEDO has the capacity to assess market needs and demands, and to develop targeted solutions to issues such as sustainable harvesting, waste minimization and reuse, low-impact packaging, etc.	Individual and ad-hoc analysis of various aspects of biodiversity business have been undertaken by partners, however no systematic and comprehensive analytical capacity.	By project mid-point, the Partner Network clearly demonstrates the capacity and willingness to partner with BEDO in identifying, analyzing and resolving sustainable production and market development issues identified in the development of CbSEs.	Mid-term evaluation assessment	Research institutions and other partners are willing to support BEDO and CbSE needs and to cooperate constructively in multi-disciplinary studies.
	2. Through the Partner Network, local communities and CbSEs have increased access to extension and business development services, as measured by: a. Number of community enterprises receiving support on sustainable harvesting and production b. Number of community enterprises receiving support for biodiversity business development and management c. Number of communities receiving support on biodiversity conservation and rehabilitation	Limited collaboration mechanism among BEDO partners for providing extension services of biodiversity business development for CbSE	Comprehensive and systematic collaboration mechanism with BEDO partners established to provide the extension services of biodiversity business development for CbSE	Collaboration guidelines and minutes of meetings	Commitment of BEDO partners to strengthen collaboration on extension services
Component 2: Piloting Community-based Social Enterprises in Valuable Eco-regions					
Outcome 2.1: Community-based sustainable production and *in-*	1. Appropriate methods for community-based monitoring of biodiversity status for data collection.	Inadequate system of biodiversity status collection of data conducted by community.	Appropriate system developed for community monitoring of biodiversity status by	Mid-term Review	Community engages in the development and implement of monitoring system.

Project Strategy	Objectively verifiable indicators	Baseline	Target	Source of verification	Risks and assumptions
situ biodiversity conservation and rehabilitation is strengthened.			the end of second year. At least, 4 communities actively applied by the end of year 3.		
	2. Number of biodiversity conservation and rehabilitation projects planned and implemented by communities using revenues derived from CbSEs.	No community-initiated conservation projects financed by CbSEs.	At end-project at least four conservation and/ or rehabilitation projects under way, financed by revenues from CbSEs.	Project monitoring reports.	CbSEs generate sufficient profits to finance conservation/ rehabilitation projects during project lifetime.
Outcome 2.2 : Pilot Models for Community-based Social Enterprises (CbSE) with Combined Objectives of Income generation, Sustainable Production and Biodiversity conservation are established.	1.a.CbSEs are using maximum sustainable yield as a benchmark to set production levels. 1.b.Change in marginal revenue per unit of resource use.	1. Existing community enterprises do not have capacity to assess maximum sustainable yield. 2. Marginal revenue per unit of resource use varies depending on product.	1. CbSE business plans incorporate maximum sustainable yield as a variable in setting production levels. 2. Marginal revenue per unit of resource use increases by at least 10% on average across all product lines.	Business plans and reports of CbSEs.	Maximum sustainable yield levels can be easily approximated for all major products.
	2. CbSE business plans and management strategies include explicit objectives to allocate net revenues for conservation and rehabilitation.	Existing community enterprises do not have specific objectives to allocate revenues for conservation or rehabilitation.	Every CbSE supported by the project has explicit objectives to allocate net revenues for conservation and rehabilitation.	CbSE business plans and marketing strategies.	CbSEs have transparent governance and accountability mechanisms.
Outcome 2.3: Human and technological capacities in producer communities are strengthened	1. CbSEs have the necessary skills and tools to produce products which meet the requirement for certification.	Community has basic skill in product development and productions.	CbSE in 4 communities are producing products which meet relevant certification standard	Data collected by BEDO (e.g. technical reports)	Community members have motivation and willingness to develop sufficient skill.

Project Strategy	Objectively verifiable indicators	Baseline	Target	Source of verification	Risks and assumptions
	2. CbSEs have a transparent and participatory governance mechanism.	Community enterprises have basic rule and regulation for governance.	Set governance mechanism which clearly includes participation, inclusiveness and gender parity.	CbSE rule and regulation.	Communities are aware of governance issue and willing to participate in the development of CbSE governance.
Component 3: Mainstreaming Biodiversity Business into the Supply Chains of High-value Consumer Markets					
Outcome 3.1: Demand-driven design and branding of high-value products	1. Mainstreaming of high-value products from biodiversity businesses is increased through development of appropriate products designs, focused on niche-markets of lifestyle consumers in Thailand and selected export markets, as demonstrated by number of CbSE products successfully designed, branded for introduction into target markets	Present community-based products are designed for local markets with little coherence with high-value consumer demand	a. At least 50% of CbSE products are designed for high-value consumer markets b. 25% of the products from pilot communities are successfully introduced into high-value markets	Data collected by BEDO (e.g. technical reports)	The CbSE products' design are protected by Intellectual Property (Copy Right) to prevent plagiarism.
	2. Quality and value of CbSE products have been increased and meet BEDO certification standard for selected markets	No certified CbSE products in the pilot sites	80% of BEDO certified products recognised by and 20% endorsed by other relevant certifications e.g. FDA, Community Product Industrial standard (มผช)	Data collected by BEDO (e.g. technical reports)	Risks of pollution and contamination can be monitored and mitigated.
Outcome 3.2: Reduction of transaction costs through transformation in the supply chains	Transformation of supply chains have been demonstrated in relation to products from the target regions, as demonstrated by optimum of alternative supply chains provided.	No data on optimum alternative supply chains available for project sites The wholesale and retail actors keep the majority of value	a. At least 50% of the pilot cases have introduced optimum alternative supply chains to increase gate revenue; b. Transaction costs	Reports from project evaluations	Private Sector is positive to collaborate to provide optimum alternative supply chains

Project Strategy	Objectively verifiable indicators	Baseline	Target	Source of verification	Risks and assumptions
		added	are reduced in comparison to the existing transaction costs		
Outcome 3.3: Increased investment and subsidy options for Community-based Social Enterprises	1. Appropriate investment options for pilot CbSE's have been identified, as demonstrated by a) No. of dedicated investment windows in public and private sector b) No. of non-profit social and environmental investment funds	Numerous public and private investment facilities available but not dedicated to small-scaled investment for CbSE's	80% of finance needs for pilot CbSE's are being met	Data collected by BEDO (e.g. technical reports)	Sufficient community capacity for investment management Communities are willing to make investment for CbSE
	1.Amount of Subsidies raised for pilot CbSE's in relation to: • National Government subsidies; • Local Government Organisations; • Private Sector (CSR); • Not-for-Profit organisations/ Foundations 2.No. Of projects from increased CSR collaborations on CbSE and biodiversity conservation in the target areas	There are several national and local subsidy schemes provided by government and not-for-profit organisations There is limited collaboration with CSR on CbSE and biodiversity conservation and rehabilitation in the target areas	10% of costs for biodiversity conservation activities are supported via Government and NGO subsidy programs At least 4 projects from CSR collaboration in the target areas	Data collected by BEDO (e.g. technical reports)	Sources of fund from different agencies are available and accessible Private Sector is willing to engage CbSE and biodiversity conservation into their CSR agenda
Outcome 3.4: Strengthened awareness about commercial potentials in	Types of IEC[28] Materials on the potential of CbSE for biodiversity business for general public	There is limited awareness, campaigns, advocacy, on the potential of CbSE for biodiversity	IEC Materials developed in the form of print, audio-visual, internet	IEC Materials	Project partners and stakeholders are willing to disseminate IEC Materials.

[28] IEC = Information, Education, and Communication

Project Strategy	Objectively verifiable indicators	Baseline	Target	Source of verification	Risks and assumptions
biodiversity business.		business	At least 0.5% of the total communities across the country have contacted BEDO for support for possible replication		

Part II: Incremental Cost Matrix

Cost/Benefit	Baseline (B)	Alternative (A)	Incremental costs (A-B)
Global Benefits			
Local/National Benefits			
<u>Outcome 1.1:</u> Institutional capacity and staff competences for national support to biodiversity business established.	GOT-BEDO: 2,100,000	GOT-BEDO: 2,233,000 GEF: 84,000 Sub-total:2,317,000	GOT-BEDO: 133,000 GEF: 84,000 Sub-total: 217,000
<u>Outcome 1.2:</u> Collaboration with and capacities in Partner Networks of the Biodiversity Business Facility are strengthened	GOT-BEDO: 400,000	GOT-BEDO: 800,000 GEF: 36,000 Sub-total:836,000	GOT-BEDO: 400,000 GEF: 36,000 Sub-total: 436,000
<u>Outcome 2.1:</u> Community-based sustainable production and in-situ biodiversity conservation and rehabilitation is strengthened.	GOT-BEDO: 100,000	GOT-BEDO: 340,000 GEF: 194,000 Sub-total: 534,000	GOT-BEDO: 240,000 GEF: 194,000 Sub-total: 434,000
<u>Outcome 2.2:</u> Pilot Models for Community-based Social Enterprises (CbSE) with Combined Objectives of Income generation, Sustainable Production and Biodiversity conservation are established.	GOT-BEDO: 300,000	GOT-BEDO: 2,400,000 GEF: 485,000 Sub-total: 2,885,000	GOT-BEDO: 1,700,000 GEF: 485,000 Sub-total: 2,185,000
<u>Outcome 2.3:</u> Strengthened human and technological capacities in producer communities.	GOT-BEDO: 200,000	GOT-BEDO: 860,000 GEF: 291,000 Sub-total: 1,151,000	GOT-BEDO: 660,000 GEF: 291,000 Sub-total: 951,000
<u>Outcome 3.1:</u> Demand-driven design and branding of high-value products**.**	GOT-BEDO: 50,000	GOT-BEDO: 583,000 GEF:198,000 Sub-total: 781,000	GOT-BEDO: 533,000 GEF: 198,000 Sub-total: 731,000
<u>Outcome 3.2:</u> Reduced transaction and transportation costs in	GOT-BEDO: 0	GOT-BEDO: 266,000 GEF: 198,000 Sub-total:464,000	GOT-BEDO: 266,000 GEF: 198,000 Sub-total: 464,000

Cost/Benefit	Baseline (B)	Alternative (A)	Incremental costs (A-B)
the supply chain.			
<u>Outcome 3.3:</u> Increased investment and subsidy options for Biodiversity-based Social Enterprises	GOT-BEDO: 50,000	GOT-BEDO:316,000 GEF: 131,500 Sub-total: 447,500	GOT-BEDO: 266,000 GEF: 131,500 Sub-total: 397,500
<u>Outcome 3.4:</u> Strengthened awareness about commercial potentials in biodiversity business.	GOT-BEDO: 600,000	GOT-BEDO: 1,260,000 GEF: 132,500 Sub-total: 1,392,500	GOT-BEDO: 660,000 GEF: 132,500 Sub-total: 792,500
Project Management, M&E and Audit	GOT-BEDO: 2,000,000	GOT-BEDO: 2,660,000 GEF: 190,000 Sub-total: 2,850,000	GOT-BEDO: 660,000 GEF: 190,000 Sub-total: 850,000
Cost Totals	5,800,000	GOT-BEDO: 11,718,000 GEF: 1,940,000 Total: 13,658,000	GOT-BEDO: 5,518,000 GEF: 1,940,000 Total: 7,458,000

PARTII: TOTAL BUDGET AND WORKPLAN

Total Budget and Work Plan

Award ID:	00061370	**Project ID:**	00077720
Award Title:	GEF 3642 BD FSP: Sustainable Management of BD in Thailand's Production Landscape		
Business Unit:	THA10		
Project Title:	Sustainable Management of Biodiversity in Thailand's Production Landscapes		
PIMS no.:	3642		
Implementing Partner (Executing Agency):	Government of Thailand Biodiversity-Based Economy Development Office (BEDO)		

GEF Outcome/Atlas Activity	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Total (USD)
OUTCOME 1.1: Institutional capacity and staff competences for national support to biodiversity business established	**BEDO**	**62000**	**GEF**	71200	International Consultants	0	0	0	0	0
				71300	Local Consultants	2,720	6,800	6,800	2,720	19,040
				75700	Contractual services	9,430	15,700	12,200	9,430	46,760
				71600	Travel	1,200	3,000	3,000	1,200	8,400
				72500	Supplies	2,000	2,000	2,000	2,000	8,000
				74500	Miscellaneous	400	500	500	400	1,800
					Total Outcome 1.1	**15,750**	**28,000**	**24,500**	**15,750**	**84,000**
OUTCOME 1.2: Collaboration with and capacities in Partner Networks of the Biodiversity Business Facility are strengthened	**BEDO**	**62000**	**GEF**	71200	International Consultants	0	0	0	0	0
				71300	Local Consultants	1,360	2,720	2,720	1,360	8,160
				75700	Contractual services	4,190	7,280	5,780	4,190	21,440
				71600	Travel	600	1,200	1,200	600	3,600
				72500	Supplies	400	500	500	400	1,800
				74500	Miscellaneous	200	300	300	200	1,000
					Total Outcome 1.2	**6,750**	**12,000**	**10,500**	**6,750**	**36,000**
OUTCOME 2.1: Community-based sustainable production and in-situ biodiversity conservation and	**BEDO**	**62000**	**GEF**	71200	International Consultants	5,100	7,650	7,650	5,100	25,500
				71300	Local Consultants	8,970	14,960	12,240	8,970	45,140
				75700	Contractual services	10,505	25,257	19,893	10,505	66,160
				71600	Travel	6,800	12,300	12,300	6,800	38,200

rehabilitation is strengthened.				72500	Supplies	4,000	2,500	2,500	4,000	13,000
				74500	Miscellaneous	1,000	2,000	2,000	1,000	6,000
					Total Outcome 2.1	**36,375**	**64,667**	**56,583**	**36,375**	**194,000**
OUTCOME 2.2: Pilot Models for Community-based Social Enterprises (CbSE) with Combined Objectives of Income generation, Sustainable Production and Biodiversity conservation are established.	**BEDO**	**62000**	**GEF**	71200	International Consultants	7,650	17,850	17,850	7,650	51,000
				71300	Local Consultants	14,960	23,120	25,840	20,400	84,320
				75700	Contractual services	36,528	78,997	58,568	42,087	216,180
				71600	Travel	9,300	21,700	21,700	9,300	62,000
				72500	Supplies	20,000	16,000	14,000	9,000	59,000
				74500	Miscellaneous	2,500	4,000	3,500	2,500	12,500
					Total Outcome 2.2	**90,938**	**161,667**	**141,458**	**90,937**	**485,000**
OUTCOME 2.3: Strengthened human and technological capacities in producer communities	**BEDO**	**62000**	**GEF**	71200	International Consultants	5,100	7,650	7,650	5,100	25,500
				71300	Local Consultants	8,160	10,880	10,880	10,880	40,800
				75700	Contractual services	25,703	56,670	45,545	24,982	152,900
				71600	Travel	5,600	9,300	9,300	5,600	29,800
				72500	Supplies	7,500	9,500	8,500	5,500	31,000
				74500	Miscellaneous	2,500	3,000	3,000	2,500	11,000
					Total Outcome 2.3	**54,563**	**97,000**	**84,875**	**54,562**	**291,000**
OUTCOME 3.1: Demand-driven design and branding of high-value productss	**BEDO**	**62000**	**GEF**	71200	International Consultants	7,650	17,850	17,850	7,650	51,000
				71300	Local Consultants	6,800	10,800	8,160	6,800	32,560
				75700	Contractual services	4,675	2,550	3,640	6,675	17,540
				71600	Travel	10,500	22,300	21,100	10,500	64,400
				72500	Supplies	4,000	6,000	4,000	3,500	17,500
				74500	Miscellaneous	3,500	6,500	3,000	2,000	15,000
					Total Outcome 3.1	**37,125**	**66,000**	**57,750**	**37,125**	**198,000**
OUTCOME 3.2: Reduced transaction and transportation costs in the supply chain	**BEDO**	**62000**	**GEF**	71200	International Consultants	7,650	17,850	15,300	10,200	51,000
				71300	Local Consultants	2,720	13,600	9,520	6,800	32,640
				75700	Contractual services	9,555	4,050	5,230	0	18,835
				71600	Travel	8,700	21,000	19,200	13,000	61,900
				72500	Supplies	5,000	6,500	5,500	3,625	20,625
				74500	Miscellaneous	3,500	3,000	3,000	3,500	13,000

					Total Outcome 3.2	**37,125**	**66,000**	**57,750**	**37,125**	**198,000**
OUTCOME 3.3: Increased investment and subsidy options for Community-based Social Enterprises.	**BEDO**	**62000**	**GEF**	71200	International Consultants	0	0	0	0	0
				71300	Local Consultants	4,080	10,880	9,520	4,080	28,560
				75700	Contractual services	11,870	21,820	18,780	14,370	66,840
				71600	Travel	1,800	4,800	4,200	1,800	12,600
				72500	Supplies	5,000	4,500	4,000	2,500	16,000
				74500	Miscellaneous	2.000	2,000	2,000	1,500	7,500
					Total Outcome 3.3	**24,750**	**44,000**	**38,500**	**24,250**	**131,500**
OUTCOME 3.4: Strengthened awareness about commercial potentials in biodiversity business.	**BEDO**	**62000**	**GEF**	71200	International Consultants	0	0	0	0	0
				71300	Local Consultants	1,360	2,720	2,720	1,360	8,160
				75700	Contractual services	17,290	33,580	28,780	18,290	97,940
				71600	Travel	600	1,200	1,200	600	3,600
				72500	Supplies	4,000	4,500	3,800	2,500	14,800
				74500	Miscellaneous	2,000	2,000	2,000	2,000	8,000
					Total Outcome 3.4	**25,250**	**44,000**	**38,500**	**24,750**	**132,500**
PROJECT MANAGEMENT	**BEDO**	**62000**	**GEF**	71200	International Consultants	0	0	0	0	0
				71300	Local Consultants	29,945	29,945	29,945	29,945	119,780
				75700	Contractual services	0	0	0	0	0
				71600	Travel	2,000	2,000	2,000	1,000	7,000
				72500	Supplies	5,000	2,000	2,000	0	9,000
				74500	Miscellaneous	1,055	1,055	1,055	415	3,580
					Total	**38,000**	**35,000**	**35,000**	**31,360**	**139,360**
MONITORING & EVALUATION	**BEDO**	**62000**	**GEF**	71200	International Consultants	0	7,650	0	7,650	15,300
				71300	Local Consultants	0	4,080	0	4,080	8,160
				75700	Contractual services	0	0	0	0	0
				71600	Travel	0	9,300	0	9,300	18,600
				72500	Supplies	0	0	0	0	0
				74500	Miscellaneous	0	970	0	970	1,940
					Total	**0**	**22,000**	**0**	**22,000**	**44,000**

MICRO ASSESSMENT AND AUDIT	**BEDO**	**62000**	**GEF**	74100	Professional Services	**1,500**	**0**	**5,140**	**0**	**6,640**
				Total Project		**368,126**	**640,334**	**550,556**	**380,984**	**1,940,000**

Summary of Funds[1]:

Responsible Party/ Implementing Agent	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Total (USD)
GEF	**368,126**	**640,334**	**550,556**	**380,984**	**1,940,000**
Biodiversity-Based Economy Development Office (BEDO)	**533,000**	**2,600,000**	**1,725,000**	**660,000**	**5,518,000**
TOTAL	**901,126**	**3,240,334**	**2,275,556**	**1,040,984**	**7,458,000**

[1] Summary table should include all financing of all kinds: GEF financing, co-financing, cash, in-kind, etc.

Part III: Budget Notes

General Cost Factors:

The budget and budget notes reference US dollars. The budget assumes average unit costs for the most common cost items as provided below. Other costs are determined on a case-by-case basis.

International Consultant (per week)	$2,550
Local Consultant (per week)	$1,360
International Travel (per trip)	$2,500
Local Travel (per trip)	$ 600

Outcome 1.1: Institutional capacity and staff competences for national support to biodiversity business established.

1. International Consultant ($0)
2. Local Consultants (total of 10 weeks, or $19,040 over the 4 years)
    - Capacity Development Expert to develop strategy for capacity development of BEDO. This includes conduct Training Needs Assessment, develop curriculum and planning for capacity development. Tasks also include drafting of ToR for outsourceed activities and deliveries in line with the output 1.1, 1.2 and 2.3. Drafting of final Subproject Description and detailed Project Results and Activities Framework on appropriate Project particularly on the output 1.1,1.2 and 2.3.
    - Policy and law experts to be established by Task Force Manager
3. Contractual services ($46,760) has been budgeted to be allocated for the service by organisations and institutions to deliver activities in relation to capacity building of BEDO. This includes training, workshop, site visits, study tours and etc.
4. Travel: 14 local trips ($8,400)
5. Supplies, equipment, printing, communications, mail, etc. ($8,000)
6. Miscellaneous: Training- and development-related costs and unforeseen expenditures related to inflation, raises, foreign exchange, etc. ($1,800)

Outcome 1.2: Collaboration with and capacities in Partner Networks of the Biodiversity Business Facility are strengthened

1. International Consultant ($0)
2. Local Consultant (total of 6 weeks, or $8,160 over the 4 years)
    - Capacity Development Expert to develop strategy for capacity development of BEDO partner network. Tasks include survey and research for partnership collaboration and develop action plan for partnership networking. Tasks also include drafting of ToR for outsourceed activities and deliveries.
3. Contractual services (Total $21,440) has been reserved for the service provided by organisations and institutions to deliver activities in relation to capacity building of BEDO partners network. This includes training, workshop, meetings, site visits, study tours and etc.
4. Travel: 6 local trips ($3,600)
5. Supplies, equipment, printing, communications, mail, etc. ($1,800)
6. Miscellaneous: Unforeseen expenditures related to inflation, raises, foreign exchange, etc. ($1,000)

Outcome 2.1: Community-based sustainable production and in-situ biodiversity conservation and rehabilitation is strengthened.

1. International Consultants (total of 10 weeks or $25,500 over the 4 years)
   - Senior Advisor for Ecosystem Management in Production Areas will provide technical support to PME and the Task Force Manger for Biodiversity Conservation and Rehabiliation in relation to:
     - Community-based assessment of ecosystem goods and services as commodities for biodiversity business, ecosystem impacts, pressures and causes and, sustainable harvesting levels
     - Community-based planning and implemenation of biodiversity conservation and rehabilitation in agriculture and horticulturee, fishing grounds, social forests, mangroves, wetlands and, buffer zones and bio-corridors

2. Local Consultants (total of 20 weeks or $45,140 over the 4 years)
   - Details of job describtion is to be established by the Task Force Manager during the inception period.

3. Contractual services: $66,160 is reserved for contracting out the consultancy service provided by NGOs, academic institutions and other authorities to conduct activities in relation to community-based sustainable production and in-situ biodiversity conservation and rehabilitation. This includes, for instance, training for community on biodiversity monitoring and evaluation, development of database for biodiversity conservation and rehabilitation.

4. Travel: 8 international trips and 20 local trips ($38,200)

5. Supplies, computer, equipment, printing, communications, mail, etc. ($13,000)

6. Miscellaneous: Unforeseen expenditures related to inflation, raises, foreign exchange, etc ($6,000)

Outcome 2.2: Pilot Models for Community-based Social Enterprises (CbSE) with Combined Objectives of Income generation, Sustainable Production and Biodiversity conservation are established.

1. International Consultants (total of 20 weeks or $51,000 over the 4 years)
   - Ad hoc Senior Technical Advisor support for PMU and TAC to be established during Inception period.

2. Local Consultants (total of 62 weeks or $84,320 over the 4 years)

Local consultants will be used to assist with the following activities:

- Drafting of final Subproject Description and detailed Project Results and activities Framework on appropriate Project Outcomes and links to other Outcomes for final approval by Project Director
- Established of detailed AWP and staffing plans
- Drafting TOR's for individual consultants and outsourced activities concerning the CbSE
- Drafting of bidding and recruitment documents
- Overall management of implementation of task force activities and deliveries
- Draft of M&E reports
- Budgeting and accounting

3. Contractual services ($216,180) is reserved for contracting out the consultancy service to NGOs for piloting CbSE. This includes activities for piloting CbSE projecct at site level.

4. Travel: 20 international trips and 20 local trips ($62,000)

5. Supplies, furniture, equipment, computer, printing facilities, communications, mail, etc. ($59,000)

6. Miscellaneous: Pilot activities related costs and unforeseen expenditures related to inflation, raises, foreign exchange, etc: ($12,500)

Output 2.3: Human and technological capacities in producer communities are strengthened.

1. International Consultants (total of 20 weeks or $25,500 over the 4 years)
   - Ad hoc Senior Technical Advisor support for PMU and TAC to be established during Inception period.

2. Local Consultants (total of 30 weeks or $40,800 over the 4 years)

- Details of inputs from local consultant for human and technological capacities in producer communities will be developed during inception phase. However, inputs are related to the capacity development (e.g skills and techniques) and tecchnological capacity (e.g. equipments and facilities) of community for production development.

3. Contractual services ($152,900) is reserved for contracting out the service to organisation, private sector, local technical and vocational college to develop human and technological capacities of targeted communities for production development.
4. Travel: 10 international trips and 8 local trips ($29,800)
5. Supplies, equipment, printing, communications, mail, etc. ($31,000)
6. Miscellaneous: Training related costs and unforeseen expenditures related to inflation, raises, foreign exchange, etc: ($11,000)

Output 3.1: Demand-driven design and branding of high-value products.
1. International Consultants (total of 24 weeks or $51,000 over the 4 years)
- Senior Technical Advisor on market for Thai community-based biodiversity business will prove technical support to the PME and the Task Force Manger for Market Development in relation to Outcome 3.1,3,2 and 3.3
- STA will be used to assist with the following activities
  - Market surveys on demand and export potentials for LOHAS products in export markets
  - Appropriate product design for LOHAS product and export markets
  - Appropirate branding and certification

2. Local Consultants (total of 24 weeks or $32,560 over the 4 years)
Local consultants will be used to assist with the following activities:
- Drafting of final Subprfoject Descriptuon on detailed Project Results and Activities Framework on appropraite Outcomes (3.1) and link to other Outcomes for final approval by Project Direcor
- Establishment of detailed AWP and staff plans
- Drafting TOR's for individual consultants and outsourced activities
- Drafting of bidding and recruitment documents
- Overall management of implementation of task force activities and deliveries
- Drafting of M&E reports and budgeting and accounting

3. Contractual services ($17,540) is reserved for contracting out the consultancy service for the purpose of design and branding of high-value products.
4. Travel: 20 international trips and 24 local trips ($64,400)
5. Supplies, equipment, printing, communications, mail, etc. ($17,500)
6. Miscellaneous: Activities related costs and unforeseen expenditures related to inflation, raises, foreign exchange, etc: ($15,000)

Output 3.2: Reduction of transaction costs through transformation in the supply chains.
1. International Consultants (total of 20 weeks or $51,000 over the 4 years)
- Senior Technical Advisor on market for Thai community-based biodiversity business will prove technical support to the PME and the Task Force Manger for Market Development in relation to Outcome 3.1,3,2 and 3.3
- STA will be used to assist with the following activities
  - Transformation options for minimisation of transaction costs

2. Local Consultants (total of 24 weeks or $32,640 over the 4 years)
- Details of inputs from local consultant for reduction of transaction costs through transformation in the supply chains will be developed during Inception Period.

3. Contractual services ($18,835) is reserved for contracting out the consultancy service for the purpose of reduce cost for transaction through transformation in the supply chains to be developed in details during Inception Period.
4. Travel: 19 international trips and 24 local trips ($61,900)

5. Supplies, equipment, printing, communications, mail, etc. ($20,625)
6. Miscellaneous: Activities related costs and unforeseen expenditures related to inflation, raises, foreign exchange, etc: ($13,000)

Output 3.3: Increased investment and subsidy options for Community-based Social Enterprises.
1. International Consultant ($0)
2. Local Consultants (total of 21 weeks or $28,560 over the 4 years)
- Details of inputs from local consultant for increased investent and subsidy options for CbSE will be developed during Inception Period.

3. Contractual services ($66,840) is reserved for contracting out the consultancy service for the activities to increase investment and subsidy options for CbSE
4. Travel: 21 local trips ($12,600)
5. Supplies, equipment, printing, communications, mail, etc. ($16,000)
6. Miscellaneous: Training related costs and unforeseen expenditures related to inflation, raises, foreign exchange, etc: ($7,500)

Output 3.4: Strengthened awareness about commercial potentials in biodiversity business.
1. International Consultant ($0)
2. Local Consultants (total of 6 weeks or $8,160 over the 4 years)
- Details of inputs from local consultant for conducting activities in relation to strengthened awareness about commercail potential in biodiversity business will be developed during Inception Period. This includes business campagn, public relation, advertisement and etc.

3. Contractual services ($97,940) is reserved for contracting out the consultancy service to company and organisation for the activities to strengthening and awareness raising about commercial potentials in biodiversity business
4. Travel: 6 local trips ($3,600)
5. Supplies, equipment, printing, communications, mail, etc. ($14,800)
6. Miscellaneous: Training related costs and unforeseen expenditures related to inflation, raises, foreign exchange, etc: ($8,000)

Project Management:
1. International Consultants ($0)
2. Local Consultants:
Project Manager will be contracted ($70,000 full time, over 4 years).
Projecct Coordinator 1 ($30,000 full time, over 4 years).
Administrative support staff 1 ($19,780 full time, over 4 years).
3. Contractual services: $0
4. Travel: ($7,000)
5. Supplies, equipment, printing, communications, mail, etc. ($9,000)
6. Miscellaneous: Unforeseen expenditures related to inflation, raises, foreign exchange, etc. ($3,360)

Project M&E:
1. International Consultants (total of 6 weeks or $15,300 over the 4 years)
2. Local Consultants: (total of 6 weeks or $8,160 over the 4 years)
3. Contractual services: $0
4. Travel: 2 international trips and 8 local trips ($18,600)
5. Supplies, equipment, printing, communications, mail, etc. ($0)
6. Miscellaneous: Unforeseen expenditures related to inflation, raises, foreign exchange, etc. ($1,940)

Micro Assessment and Audit:
1. Micro Assessment (total $1,500) at the first year

2. Audit ($5,140) at the end of second year

Section IV: Management Arrangements

209. The principles of partnerships will be adopted in the implementation of the project. The Biodiversity Economic Development Office (BEDO), a public organization under Ministry of Natural Resources and Environment (MONRE) will be the implementing partner. The BEDO will enter into agreements with lead appropriate research and development institutes, other international organizations (e.g. UNEP, FAO, WWF), consultants, NGOs and national government agencies in the implementation of selected outputs and site based activities.

210. At the national level, key related agencies will include the Office of Natural Resources and Environmental Policy and Planning (ONEP), Department of National Parks and Wildlife Conservation (DNP), and Department of Marine and Coastal Resources (DMCR) under MONRE. Other key national agencies will be Ministry of Agriculture, and the Office of National Economic and Social Development Board.

211. The private sector and/or state enterprises such as the Small-Medium Enterprises Bank (SME Bank), the Bank of Agriculture and Agricultural Cooperatives (BAAC), Thai Airways International, and Thai Hotel Association will engage in the project implementation.

212. At the local level, local alliances will be reinforced among Tambon Administrative Organisations (TAO), local NGOs, academic and research organizations, peoples' organizations and farmer/fishers groups. . These will be catalyzed through the development of common vision and goals for conservation and sustainable development of surrounding production landscape in each site, and facilitating the convergence of stakeholder actions towards achievement of these objectives and outcomes.

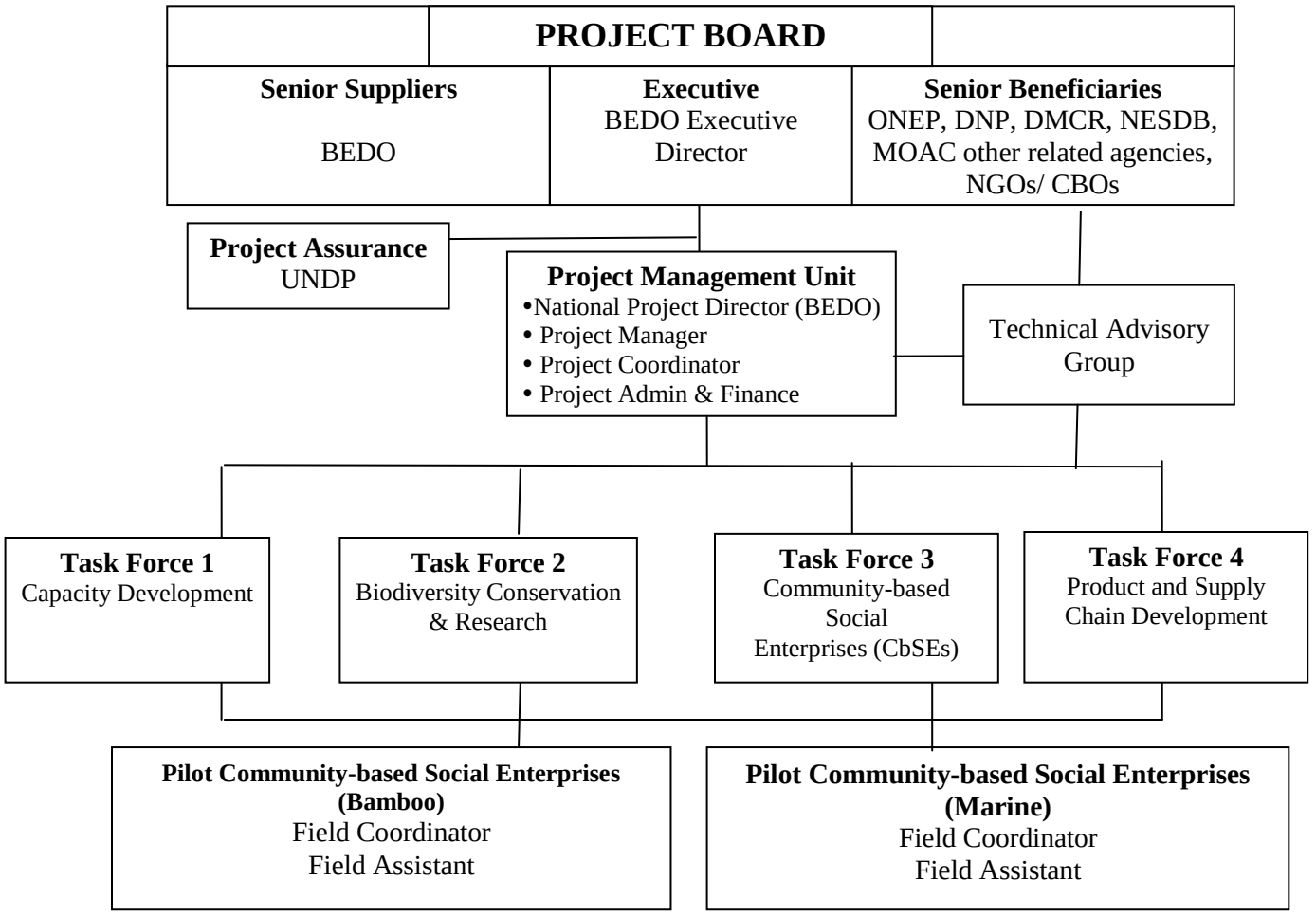
213. At the site level, these responsible partners are the NGOs who are interested in the implementation of social enterprise. In addition, the project preparation process has acquire confirmed commitment from hotels (Marriots Group, Evason, and Krabi Maritime Group) to participate in the pilot approaches of the marine products.

214. Following the programming guidelines for national implementation (NIM) of UNDP supported projects, BEDO, will sign the Project Document with UNDP and will be accountable to UNDP for the disbursement of funds and the achievement of the project objective and outcomes, according to the approved work plan. In particular, the BEDO, 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 GEF/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 impact.

215. At the central level, the project will establish a Project Board (PB), and a Project Management Unit (PMU) within BEDO. 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. The responsible parties (NGOs/partner organizations/agencies) will be responsible for implementing the activities in each site and relevant national level activities based on agreed strategies and work plan. Existing local coordinating bodies will be utilized, enhanced, and/or expanded to ensure there is coordination of activities at the site level, and the participation of important stakeholders are secure.

216. The overall programme management structure of the project is shown below:

Chart 1: Project Management Structure



217. **Project Board (PB)** will be responsible for making management decisions for the project in particular when guidance is required by the Project Management Unit. The Project Board plays a critical role in project monitoring and evaluations by quality assuring these processes and products, and using evaluations for performance improvement, accountability and learning. It ensures that required resources are committed and arbitrates on any conflicts within the project or negotiates a solution to any problems with external bodies. In addition, it approves the responsibilities of the Project Management Unit and any delegation of its Project Assurance responsibilities. Based on the approved Annual Work Plan, the Project Board can also consider and approve the quarterly plans (if applicable) and also approve any essential deviations from the original plans.

218. In order to ensure UNDP's ultimate accountability for the project results, Project Board decisions will be made in accordance to standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition. In case consensus cannot be reached within the Board, the final decision shall rest with the UNDP Environment Project Manager.

219. The Project Board shall be established at project inception. It shall be chaired by BEDO Executive Director. The proposed composition includes representatives from ONEP, DNP, DMCR, MOAC, NESDB and appropriate representatives from research- and development, as well as from private business sector. It shall meet at least twice a year, to improve the annual work plans and annual progress reports. It will provide overall guidance for the project throughout implementation.

220. **Project Management Unit (PMU)** will be in charge of overall project administration and coordination with project sites and relevant organizations, under the overall guidance of the PB. ***The National Project Director*** will be BEDO official assigned as an in-kind contribution to be the focal point to provide overall guidance to the Project Management Unit members who are hired on the project budget. The PMU will consist of a Project Manager, Project Coordinator, and Project Administrative and Finance Assistant, to be hired by the project budget. The PMU shall be based at the BEDO. The PMU is responsible for overall management, monitoring, and coordination of Project implementation according to UNDP rules on managing UNDP/GEF projects. Specifically, its responsibilities include: (i) ensuring professional and timely implementation of the activities and delivery of the reports and other outputs identified in the project document; (ii) coordination and supervision of the activities outlined in the project document; (iii) contracting of and contract administration for qualified local and international experts who meet the formal requirements of the UNDP/GEF; (iv) management and responsibility of all financial administration to realize the targets envisioned ; (v) facilitating communication and networking among key stakeholders at the national level; (vi) organizing the meetings of the PB; (vii) review and approval of work and financial plans of implementing partners; (viii) monitor and support the activities of the implementing partners.

221. **The Project Manager** will be responsible for the administrative, financial and technical coordination of the project and report progress based on reports received from the pilot sites and local responsible partners. S/he shall have the authority to run the project on a day to day basis in support of BEDO National Project Director, within the constraints laid down by the Project Board. The Project Manager's prime responsibility is to ensure that the Project produces the results specified in the project document, to the required standard of quality and within the specified time and cost. The project manager will also coordinate directly with UNDP Environment Unit Manager and responsible programme officer, who will subsequently report to the Regional Coordination Unit of UNDP-GEF office.

222. **Technical Advisory Group (TAG)** will provide technical support to the PMU and comprise a flexible network of national and international experts on sustainable ecosystem management and biodiversity-based business, working on specific ad-hoc assignments, primarily via web based communication. The TAG is chaired by the Project Director. TAG members may be invited from Government departments, United Nations, pilot communities, private sector representatives, national and international consultants, universities and colleges, research and development institutes, environmental NGO's, Thai community NGO's.

223. **Implementation Task Forces**: 4 Task Forces will be established for the implementation of the project activities, linked to particular outcomes of the project. The task force leader instituions are responsible for overall project implementation refer to the PMU. Specific Terms of References, participants and contracts will be established by PMU through negotiations during the inception phase. The taskforces and their scope of work are the following:

1) Biodiversity Conservation and Rehabilitation in Production Landscapes: Outcome2.1: Community-based in-situ biodiversity conservation and rehabilitation
2) Community-based Social Enterprises: Outcome 2.2: Pilot projects on biodiversity-based social enterprises.

3) Marketing of Biodiversity- based Products: Outcome 3.1: Design and branding of biodiversity-based products, Outcome 3.2: Transaction and transportation costs in the supply chain and Outcome 3.3: Investment and subsidies.
4) Capacity Development for Biodiversity-based Business: Outcome 1.1 BEDO as Biodiversity Business Facility, Outcome 1.2: BEDO partner networks, Outcome 2.3: Producer communities, and Outcome 3.4: Commercial market actors.

224. Each task force will comprise (1) Lead institutions (BEDO and/or partner institutions) (2) technical consultants.

225. The main responsibilities of the Task Forces include: (i) preparing detailed annual and quarterly work programs for the sites, in coordination with local partners; (ii) facilitate linkages and secure support and participation of local stakeholders in the project; (iii) project administration of site based activities; (iv) preparation of reports on site based activities; and (v) strengthening of local bodies; (vii) syndicating the support of local organizations and stakeholders in developing and implementing the common management framework and plan for the KBA/PA and/or conservation area.

226. **The Field Coordinators/Facilitators** will ensure the coordination and effective liaising between the PMU and site level, as well as the coordination amongst key stakeholders at site levels;

227. **Pilot Community-based Social Enterprises** shall be considered as independent units, outside the direct management by the project. The project will provide facilitation, advisory services and training, but all business decisions are the sole responsibility of the enterprise management. The enterprise shall be economically independent, but the project may provide investment loans, if appropriate.

228. **The Project Assurance:** The Project Assurance function will be performed by UNDP. 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 CO Thailand 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, the 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; (iv) reviewing and making recommendations for reports produced under the project; and (v) establishing and endorsing the thematic areas, with a view to ensuring linkage to national policy goals, relevance, effectiveness and impartiality of the decision making process.

229. In order to accord proper acknowledgement to GEF for providing funding, a GEF logo should appear on all relevant GEF project publications, including among others, project hardware and vehicles purchased with GEF funds. Any citation on publications regarding projects funded by GEF should also accord proper acknowledgment to GEF.

230. In line with the United Nations reform principles, especially simplification and harmonization, the Annual Work Plan (AWP) will be operated with the harmonized common country programming instruments and tools, i.e. the UNDAF results matrix, M&E and the Harmonized Approach to Cash Transfer (HACT). At the day-to-day operational level, ATLAS will be used for keeping track of timely and efficient delivery of the activities and for effective financial monitoring under the AWP.

Section V: Monitoring Framework and Evaluation

231. The following sections outline the principle components of the Monitoring and Evaluation Plan and indicative cost estimates related to M&E activities. The project's Monitoring and Evaluation Plan will be presented and finalized at the Project's Inception Report following a collective fine-tuning of indicators, means of verification, and the full definition of project staff M&E responsibilities.

232. Project monitoring and evaluation (M&E) will be conducted in accordance with established UNDP and GEF procedures and will be provided by the project team and the UNDP Country Office with support from the UNDP/GEF Regional Coordination Unit. The Logical Framework Matrix (Section II, Part I) provides performance and *impact* indicators for project implementation along with their corresponding *means of verification*. The GEF SO2 Tracking Tool (Annex A.) and Capacity Scorecard (Annex A.) will all be used as instruments to monitor the progress against the outcomes of this project. The following sections outline the principle components of the M&E Plan and indicative cost estimates related to M&E activities.

5.1 Project Inception Phase

233. A Project Inception Workshop (IW) will be conducted with the full project team, relevant government counterparts, and representatives from pilot sites, co-financing partners, the UNDP-Country Office (CO) and representation from the UNDP-GEF Regional Coordinating Unit, as well as UNDP-GEF (HQs) as appropriate. A fundamental objective of this Inception Workshop will be to assist the project team to understand and take ownership of the project's goal and objective, as well as finalize preparation of the project's first annual work plan on the basis of the log frame matrix. This will include reviewing the log frame (indicators, means of verification, assumptions), imparting additional detail as needed, and on the basis of this exercise, finalizing the Annual Work Plan (AWP) with precise and measurable performance indicators, and in a manner consistent with the expected outcomes for the project. Additionally, the purpose and objective of the IW will be to: (i) introduce project staff with the UNDP-GEF team which will support the project during its implementation, namely the CO and responsible Regional Coordinating Unit (RCU) staff; (ii) detail the roles, support services and complementary responsibilities of UNDP-CO and RCU staff vis à vis the project team; (iii) provide a detailed overview of UNDP-GEF reporting and monitoring and evaluation (M&E) requirements, with particular emphasis on the Annual Project Implementation Reviews (PIRs) and related documentation, the Annual Review Report (ARR), as well as mid-term and final evaluations.

234. The IW will provide an opportunity to inform the project team on UNDP project related budgetary planning, budget reviews, and mandatory budget re-phasing. The IW will also highlight the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff and decision-making structures will be discussed again, as needed, in order to clarify for all, each party's responsibilities during the project's implementation phase.

5.2 Monitoring responsibilities and events

235. A detailed schedule of project review meetings will be developed by the project management and incorporated in the Inception Report. Such a schedule will include: (i) tentative time frames for Project Board Meetings and (ii) project related Monitoring and Evaluation activities. Day-to-day monitoring of implementation progress will be the responsibility of the Project Manager based on the project's Annual Work Plan and its indicators. The Project Manager will inform the UNDP-CO of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a

timely and remedial fashion. The Project Manager will fine-tune the progress and performance/impact indicators of the project – both full project and subsets of indicators at the PA demonstration site levels - in consultation with the full project team at the Inception Workshop with support from UNDP-CO and assisted by the UNDP-GEF Regional Coordinating Unit. Specific targets for the first year implementation progress indicators together with their means of verification will be developed at this Workshop. These will be used to assess whether implementation is proceeding at the intended pace and in the right direction and will form part of the Annual Work Plan. Targets and indicators for subsequent years would be defined annually as part of the internal evaluation and planning processes undertaken by the project team.

236. Measurement of impact indicators related to global biodiversity benefits will occur according to the schedules defined in the Inception Workshop, using GEF BD SO2 Tracking Tool. Periodic monitoring of implementation progress will be undertaken by the UNDP-CO through quarterly meetings with the Implementing Partner, or more frequently as deemed necessary. This will allow parties to take stock and to troubleshoot any problems pertaining to the project in a timely fashion to ensure smooth implementation of project activities.

237. Periodic Monitoring of implementation progress will be undertaken by the UNDP-CO through quarterly meetings with the project proponent, or more frequently as deemed necessary. This will allow parties to take stock and to troubleshoot any problems pertaining to the project in a timely fashion to ensure smooth implementation of project activities. UNDP Country Offices and UNDP-GEF RCUs as appropriate, will conduct yearly visits to projects that have field sites, or more often based on an agreed upon scheduled to be detailed in the project's Inception Report / Annual Work Plan to assess first hand project progress. Any other member of the Project Board can also accompany, as decided by the SC. A Field Visit Report will be prepared by the CO and circulated no less than one month after the visit to the project team, all SC members, and UNDP-GEF.

238. Annual Monitoring will occur through the Tripartite Review (TPR). This is the highest policy-level meeting of the parties directly involved in the implementation of a project. The project will be subject to TPR at least once every year. The first such meeting will be held within the first twelve months of the start of full implementation. The project proponent will prepare an Annual Project Report (APR) as described in details in Paragraph 237below; and submit it to UNDP-CO and the UNDP-GEF regional office at least two weeks prior to the TPR for review and comments. The APR will be used as one of the basic documents for discussions in the TPR meeting. The project proponent will present the APR to the TPR, highlighting policy issues and recommendations for the decision of the TPR participants. The project proponent also informs the participants of any agreement reached by stakeholders during the APR preparation on how to resolve operational issues. Separate reviews of each project component may also be conducted if necessary.

5.3 Project Reporting

239. The Project Manager in conjunction with the UNDP-GEF extended team will be responsible for the preparation and submission of the following reports that form part of the monitoring process. The first six reports are mandatory and strictly related to monitoring, while the last two have a broader function and the frequency and nature is project specific to be defined throughout implementation..

240. An Inception Report will be prepared immediately following the Inception Workshop. It will include a detailed First Year/ Annual Work Plan divided in quarterly time-frames detailing the activities and progress indicators that will guide implementation during the first year of the project. This Work Plan will include the dates of specific field visits, support missions from the UNDP-CO or the Regional Coordinating Unit (RCU) or consultants, as well as time-frames for meetings of the project's decision making structures. The Report will also include the detailed project budget for the first full year of

implementation, prepared on the basis of the AWP, and including any monitoring and evaluation requirements to effectively measure project performance during the targeted 12 months time-frame. The Inception Report will include a more detailed narrative on the institutional roles, responsibilities, coordinating actions and feedback mechanisms of project related partners. In addition, a section will be included on progress to date on project establishment and start-up activities and an update of any changed external conditions that may affect project implementation. When finalized, the report will be circulated to project counterparts who will be given a period of one calendar month in which to respond with comments or queries. Prior to this circulation of the IR, the UNDP Country Office and UNDP-GEF's Regional Coordinating Unit will review the document.

241. **Quarterly progress reports:** Short reports outlining main updates in project progress will be provided quarterly to the local UNDP Country Office and the UNDP-GEF RCU by the project team.

242. **Periodic Thematic Reports:** As and when called for by UNDP, UNDP-GEF or the Implementing Partner, the project team will prepare Specific Thematic Reports, focusing on specific issues or areas of activity. The request for a Thematic Report will be provided to the project team in written form by UNDP and will clearly state the issue or activities that need to be reported on. These reports can be used as a form of lessons learnt exercise, specific oversight in key areas, or as troubleshooting exercises to evaluate and overcome obstacles and difficulties encountered. UNDP is requested to minimize its requests for Thematic Reports, and when such are necessary will allow reasonable timeframes for their preparation by the project team.

243. **Technical Reports:** are detailed documents covering specific areas of analysis or scientific specializations within the overall project. As part of the Inception Report, the project team will prepare a draft Reports List, detailing the technical reports that are expected to be prepared on key areas of activity during the course of the Project, and tentative due dates. Where necessary this Reports List will be revised and updated, and included in subsequent APRs. Technical Reports may also be prepared by external consultants and should be comprehensive, specialized analyses of clearly defined areas of research within the framework of the project and its sites. These technical reports will represent, as appropriate, the project's substantive contribution to specific areas, and will be used in efforts to disseminate relevant information and best practices at local, national and international levels.

244. **An Annual Project Report**: shall be prepared by the Project Manager and shared with the Project Board. As a self-assessment by the project management, it does not require a cumbersome preparatory process. As minimum requirement, the APR shall consist of the Atlas standard format covering the whole year with updated information for each element as well as a summary of results achieved against pre-defined annual targets at the project level. As such, it can be readily used to spur dialogue with the Project Board and partners. An APR will be prepared on an annual basis prior to the Project Board meeting to reflect progress achieved in meeting the project's Annual Work Plan and assess performance of the project in contributing to intended outcomes through outputs and partnership work. The APR should consist of the following sections: (i) project risks and issues; (ii) project progress against pre-defined indicators and targets and (iii) outcome performance.

245. **The Project Implementation Review (PIR):** is an annual monitoring process mandated by the GEF. It has become an essential management and monitoring tool for project managers and offers the main vehicle for extracting lessons from ongoing projects. Once the project has been under implementation for a year, a Project Implementation Report must be completed by the CO together with the project team. The PIR should be prepared and discussed with the CO and the UNDP/GEF Regional Coordination Unit with the final submission to the UNDP/GEF Headquarters.

246. **Project Terminal Report:** During the last three months of the project the project team will prepare the Project Terminal Report. This comprehensive report will summarize all activities, achievements and outputs of the Project, lessons learnt, objectives met, or not achieved structures and systems implemented, etc. and will be the definitive statement of the Project's activities during its lifetime. 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 activities. The project proponent is responsible for preparing the Terminal Report and submitting it to UNDP-CO and RBAP-GEF's Regional Coordinating Unit. It shall be prepared in draft at least two months in advance of the TTR in order to allow review, and will serve as the basis for discussions in the TTR. The terminal tripartite review considers the implementation of the project as a whole, paying particular attention to whether the project has achieved its stated objectives and contributed to the broader environmental objective. It decides whether any actions are still necessary, particularly in relation to sustainability of project results, and acts as a vehicle through which lessons learnt can be captured to feed into other projects under implementation of formulation. The TPR has the authority to suspend disbursement if project performance benchmarks are not met. Benchmarks will be developed at the Inception Workshop, based on delivery rates, and qualitative assessments of achievements of outputs.

5.4 Independent evaluations

247. The project will be subjected to at least two independent external evaluations as follows: An independent Mid-Term Evaluation will be undertaken at exactly the mid-point of the project lifetime. The Mid-Term Evaluation will determine progress being made towards the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the mid-term evaluation will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-term evaluation will be prepared by the UNDP CO based on guidance from the UNDP-GEF Regional Coordinating Unit.

248. An independent Final Evaluation will take place three months prior to the terminal Project Board meeting, and will focus on the same issues as the mid-term evaluation. The final evaluation will also look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental goals. The Final Evaluation should also provide recommendations for follow-up activities. The Terms of Reference for this evaluation will be prepared by the UNDP CO based on guidance from the UNDP-GEF Regional Coordinating Unit.

5.5 Audit arrangement

249. The Government will provide the Resident Representative with certified periodic financial statements, and with an annual audit of the financial statements relating to the status of UNDP (including GEF) funds according to the established procedures set out in the Programming and Finance manuals. The Audit will be conducted by a special and certified audit firm.UNDP will be responsible for making audit arrangements for the project in communication with the Project Implementing Partner. UNDP and the project Implementing Partner will provide audit management responses and the Project Manager and project support team will address audit recommendations. As a part of its oversight function, UNDP will conduct audit spot checks at least twotimes a year

5.6 Learning and knowledge sharing

250. Results from the project will be disseminated within and beyond the project intervention zone through a number of existing information sharing networks and forums. In addition, the project will participate, as relevant and appropriate, in UNDP/GEF sponsored networks, organized for Senior Personnel working on projects that share common characteristics. UNDP/GEF Regional Unit has established an electronic platform for sharing lessons between the project coordinators. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation though lessons learned. The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects. Identify and analyzing lessons learned is an on- going process, and the need to communicate such lessons as one of the project's central contributions is a requirement to be delivered not less frequently than once every 12 months. UNDP/GEF shall provide a format and assist the project team in categorizing, documenting and reporting on lessons learned. These lessons will be shared widely throughout BEDO – and MONRE – to help develop and initiate ongoing projects and new initiatives. Such mechanism for sharing will include newsletter, websites, and technical and general publications.

251. Project Publications will form a key method of crystallizing and disseminating the results and achievements of the Project. These publications may be scientific or informational texts on the activities and achievements of the Project, in the form of journal articles, multimedia publications, etc. These publications can be based on Technical Reports, depending upon the relevance, scientific worth, etc. of these Reports, or may be summaries or compilations of a series of Technical Reports and other research. The project team will determine if any of the Technical Reports merit formal publication, and will also (in consultation with UNDP, the government and other relevant stakeholder groups) plan and produce these Publications in a consistent and recognizable format. Project resources will need to be defined and allocated for these activities as appropriate and in a manner commensurate with the project's budget.

252. The M&E plan is described in detail in Part VIII of the Project Document and is summarized in the table below.

Table 7: Indicative Monitoring and Evaluation Work plan and corresponding Budget

Type of M&E activity	**Responsible Parties**	**Budget US$** ***Excluding project team Staff time***	**Time frame**
Inception Workshop	▪ Project Management Unit ▪ UNDP CO ▪ UNDP GEF	None (part of the project activities)	Within first three months of project start up
Inception Report	▪ Project Management Unit ▪ UNDP CO	None	Immediately following IW
Micro-assessment of the implementing partner	▪ Hired third-party assessment	$1,500	During the inception phase
Quarterly progress reports and operational reports	▪ Project Management Unit ▪ UNDP-CO ▪ UNDP-GEF	None	Annually
Annual Progress Report (APR) and Project Implementation	▪ Project Management Unit ▪ UNDP-CO ▪ UNDP-GEF	None	Annually

Report			
Tripartite Review (TPR)	▪ Government Counterparts ▪ UNDP CO ▪ Project Management Unit ▪ UNDP-GEF Regional Coordinating Unit	None	Every year, upon receipt of APR
Project Board Meetings	▪ Project Management Unit ▪ UNDP CO	None	Following Project IW and subsequently at least twice a year
Mid-term Review	▪ Hired third-party assessment	22,000	At the end of the second year
Periodic status reports	▪ Project Management Unit	None	To be determined by Project team and UNDP CO
Technical reports	Project Management Unit ▪ consultants	None (part of project activities)	To be determined by Project Team and UNDP-CO
Audit	▪ UNDP-CO ▪ Project team	$5,140 (average $1000 per year)	Yearly
Final Evaluation	▪ Hired third-party assessment	22,000	3 months before the project ends.
TOTAL INDICATIVE COST ***Excluding project team staff time expenses***		**$ 50,640**	

Section VI: Legal Context

253. 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 Action Plan (CPAP), which was signed between the Government and UNDP Thailand on 10 January 2007.

254. 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.

255. The implementing partner shall:

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

256. 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.

257. The implementing partner agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do

not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999).

258. The list can be accessed via http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm

259. This provision must be included in all sub-contracts or sub-agreements entered into under this Programme Document.

Annexes:

ANNEX A: Baseline information Report and GEF 4 Tracking Tool
ANNEX B: Maps of Pilot Sites
ANNEX C: Stakeholders Engagement Plan
ANNEX D: TORs of key project personnel
ANNEX E: Co-financing Letters