



**GEF**

**PROJECT IDENTIFICATION FORM (PIF)**  
**PROJECT TYPE: FULL SIZED PROJECT**  
**THE GEF TRUST FUND**

**Submission Date:** March 30, 2009  
**Re: submission Date:** January 28, 2010

Indicative Calendar	
Milestones	Expected Dates
Work Program (for FSP)	March 2010
CEO Endorsement/Approval	February 2011
GEF Agency Approval	June 2011
Implementation Start	July 2011
Mid-term Review (if planned)	August 2013
Implementation Completion	June 2015

**PART I: PROJECT IDENTIFICATION**

**GEFSEC PROJECT ID:** 3940 **PROJECT DURATION:** 48 months

**GEF AGENCY PROJECT ID:** 3642

**COUNTRY(IES):** Thailand

**PROJECT TITLE:** Sustainable management of biodiversity in Thailand's production landscape

**AGENCY(IES):** UNDP

**OTHER EXECUTING PARTNER(S):** Biodiversity-based Economy Development Office (BEDO), and the Thailand Environment Institute (TEI).

**GEF FOCAL AREA (S):**Biodiversity,

**GEF-4 STRATEGIC PROGRAM(S):** Biodiversity SO-2: SP 5

**NAME OF PARENT PROGRAM/UMBRELLA PROJECT:** N/A

**A. PROJECT FRAMEWORK**

**Project Objective:** To strengthen national capacity for mainstreaming biodiversity into the management of ecologically important production landscapes by transforming the supply and market chain of biodiversity based products.

Project Components	Type	Expected Outcomes	Expected Outputs	Indicative GEF Financing		Indicative Co-financing		Total (\$)
				(\$)	%	(\$)	%	
<i>IMPROVING PRODUCTION PRACTICES:</i> Sustainable production of selected native species* using environmentally friendly practices, at the community level**	T A	<p><i>“Wild” Shrimp:</i> Total potential harvest area 420,000 km<sup>2</sup>, Actual harvest area 13,000 km<sup>2</sup>. Project will develop Production Landscapes Under Sustainable Management (PLUSM) in the province/areas; Ranong (est.250 km<sup>2</sup>), Phang-nga (est.250 km<sup>2</sup>) and Samut Sakhon (est.210km<sup>2</sup>)</p> <p><i>Bamboo:</i> Total harvest area of 1,700 km<sup>2</sup>. Project will develop PLUSM in Chiangmai 200 km<sup>2</sup> and within Kanjanaburi 733 km<sup>2</sup></p> <p>Minimize threats to mangroves ecosystems and stop destructive harvesting methods and by-catch.</p> <p>Stop unsustainable harvests of natural bamboo stands and the expansion of bamboo plantations into biodiversity hotspots such as wetland ecosystems.</p>	<p>Sustainable harvest thresholds and nondestructive harvesting practices defined and established for bamboo and “wild” shrimp harvests.</p> <p>Strategic management plans with defined management objects, rules and procedures in harvest areas.</p> <p>Monitoring and enforcement activities structured and established within local communities and business value chains.</p> <p>Community co-management systems developed for monitoring and enforcement including the implementation of adaptive management practices.</p>	970,000	39	1,500,000	61	2,470,000
<i>STRENGTHENING INSTITUTIONAL CAPACITY:</i> Mainstreaming biodiversity conservation	T A	<p>BEDO developed into an effective body for integrating conservation into plans and management systems for the harvest of wild resources in production landscapes (measured by % increase from baseline in BEDO score using UNDP Capacity Development Scorecard**).</p> <p>Timely monitoring of</p>	<p>Strategic plan sets out rules and procedures within the Biodiversity-based Economy Development Office (BEDO) for adaptive management of natural resources harvested from the wild, conservation planning, enforcement, monitoring, and dispute management.</p> <p>An independent organization working in collaboration with BEDO has a tracking system to monitor and enforce product</p>	120,000	10	1,100,000	90	1,220,000

Project Components	Type	Expected Outcomes	Expected Outputs	Indicative GEF Financing		Indicative Co-financing		Total (\$)
				(\$)	%	(\$)	%	
		pressure/state changes derived from sustainable use of biological resources in ecologically sensitive areas.	<p>Codes of Conduct.</p> <p>BEDO is a multi-sector coordinator between the different government agencies i.e. Dept of Agriculture Extension, National Parks and Fisheries.</p> <p>BEDO recognized as the Government clearing house mechanism providing up-to-date information on current and pending legislation and policies, and general support for the management of biodiversity based product harvests.</p>					
<i>TRANSFORMING THE SUPPLY AND MARKET CHAIN:</i> Improving market opportunities for sustainable biodiversity based products	T A	<p>Marketing practices for biodiversity products strengthened to provide improved and sustainable economic opportunities for community members and community level organizations.</p> <p>Mitigation of adverse environmental impacts from inappropriate harvesting practices of bamboo and shrimps.</p> <p>In the short to medium term all natural bamboo and “wild” shrimp products will abide by product Codes of Conducts and will be successful certified and marketed as biodiversity friendly products.</p>	<p>In conjunction with stakeholders, develop a Code of Conduct for ecologically sustainable production of target species.</p> <p>BEDO certification program established to recognize and promote communities and businesses complying with the Code of conduct for the related biodiversity based products, based on global, regional and national best practices.</p> <p>Certification scheme enforced through an independent verification team functioning as a coordinating mechanism while using various monitoring systems for verification requirements.</p> <p>Social marketing used to increase community and public awareness of the importance of biodiversity conservation and the purpose of the BEDO certification program.</p> <p>Formal farmer groups or cooperatives established in target areas to improve farmer market presence and maximize the sale of certified products.</p> <p>Partnership formed with finance institutions to provide source of credit for development of community biodiversity based businesses.</p>	660,000	31	1,500,000	69	2,160,000
<b>Project management</b>				190,000	30	450,000	70	640,000
<b>Total project costs</b>				1,940,000	30	4,550,000	70	6,490,000

\*Naturally occurring estuarine shrimps and bamboo will be engineered for sustainable use. \*\*Baseline values and target areas will be determined during the PP Phase of the project.

**B. INDICATIVE CO-FINANCING FOR THE PROJECT BY SOURCE and by NAME (in parenthesis) if available, (\$)**

Sources of Co-financing	Type of Co-financing	Project
Project Government Contribution	In-kind	3,150,000
Private Sector	In kind	800,000
NGO	In kind	500,000
Others	Grant and in kind	100,000
<b>Total Co-financing</b>		4,550,000

### C. INDICATIVE FINANCING PLAN SUMMARY FOR THE PROJECT (\$)

	Previous Project Preparation Amount (a) <sup>1</sup>	Project (b)	Total c = a + b	Agency Fee
GEF financing	0	1,940,000	1,940,000	194,000
Co-financing	0	4,550,000	4,550,000	
<b>Total</b>	0	6,490,000	6,490,000	194,000

### D. GEF RESOURCES REQUESTED BY FOCAL AREA(S), AGENCY (IES) SHARE AND COUNTRY(IES)\* : N/A

#### PART II: PROJECT JUSTIFICATION

##### **A: STATE THE ISSUE, HOW THE PROJECT SEEKS TO ADDRESS IT, AND THE EXPECTED GLOBAL ENVIRONMENTAL BENEFITS TO BE DELIVERED:**

1. Thailand lies in the hot and humid climatic zone and has a diversity of marine, coastal, freshwater, mountain and other terrestrial ecosystems. Parts of six globally important WWF 200 Ecoregions<sup>2</sup> fall in Thailand. The country hosts at least 457 critically endangered, endangered and vulnerable species<sup>3</sup>. Thailand's 15,000 plant species constitutes 8% of plant species found globally. At least 292 mammal species, including six endemic species, have also been recorded in the country. The Kingdom has recorded 938 bird species, 318 reptile species and 122 amphibian species. Significant numbers of such species occur in Thailand's diverse forest ecosystems. About 29% of its total land area of 513,115 km<sup>2</sup> is covered with different forest types including rainforest, evergreen, deciduous, mangrove, shrub and savannah forests. These forests harbor some globally threatened species such as the tiger (*Panthera tigris*). Thailand's freshwater ecosystems, covering rivers, reservoirs, swamps and ponds, contain about 7% of the world's species<sup>4</sup> including 143 endemic species, 606 freshwater fish species and an array of globally-threatened species such as the Irrawaddy Dolphin, the Siamese Crocodile, and the Giant Catfish. Coastal ecosystems extend over more than 2,000 km and include coral reefs, sandy beaches, muddy beaches, seagrass beds and over two hundred islands. Thailand's recorded 2,000 marine fish species account for 10% of total marine fish species estimated worldwide, and approximately 2,000 marine mollusk species. Over 11,900 species of marine invertebrates have also been recorded. Finally, agriculture ecosystems, which cover about one fifth of the country, also support a range of biodiversity, including agro-biodiversity – such as a diversity of rice species.

2. The establishment of Protected Areas (PAs), Buffer Zones (BZs) and biodiversity corridors has 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. 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.*, *Hopea 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<sup>5</sup>. The total economic values of NTFPs and wetland products in Thailand are unknown – partly as collection, use and sale of some species are done illegally or are harvested for local use only. (A recent analysis of NTFP uses in two Thai villages alone suggested that NTFP collection and local sale constituted up to 50% of household incomes and the total sale exceeds US\$25,000 per year<sup>6</sup>). 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. 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 IUNC red listed greater bamboo bat (*Tylonycteris robustula*). Many of these forests are currently being heavily

<sup>1</sup> Include project preparation funds that were previously approved but exclude PPGs that are awaiting for approval.

<sup>2</sup> Northern Indochina Subtropical Moist Forests, Kayah-Karen/Tenasserim Moist Forests, Peninsular Malaysian Lowland and Mountain Forests, Cardamom Mountains Moist Forests and the Krabi Mangrove Forests

<sup>3</sup> IUCN 2008. 2008 IUCN Red List of Threatened Species. <[www.iucnredlist.org](http://www.iucnredlist.org)>.

<sup>4</sup> Science Society of Thailand and Scientific Research Society of Thailand, 199126 November 2008

<sup>5</sup> <http://www.fao.org/docrep/x5336e/x5336e0p.htm>

<sup>6</sup> [http://www.mm.helsinki.fi/mmeko/vitri/FORRSA/RE\\_2\\_Course%20and%20workshop%20proceedings/report/Group5\\_Report.pdf](http://www.mm.helsinki.fi/mmeko/vitri/FORRSA/RE_2_Course%20and%20workshop%20proceedings/report/Group5_Report.pdf)

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, 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.

3. 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. The key challenge to this is orchestrating a paradigm shift from unsustainable to sustainable use, and thus ensuring the conservation compatibility of production. One option is to engineer product supply chains from harvest through to distribution to the retailer and consumer to ensure that they support biodiversity friendly production systems. 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. It is also recognized that unless responsive markets exists to reward good management practice, it is unlikely that biodiversity friendly practices can be sustained financially.

4. The Royal Government of Thailand established the Biodiversity-based Economy Development Office (BEDO) in July 2007 to implement solutions to major issues facing biodiversity conservation described in the previous paragraph. 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. BEDO's operational strategy has yet to be fully developed and implemented. This project has been designed to develop and implement sound management practices and establish effective policies within BEDO. A number of barriers must be overcome to achieve the long term solution, that are tabulated below:

Barrier	Elaboration
<u>Production Systems:</u> Current harvesting systems for shrimp and bamboo are unsustainable and there is a high probability that these resources will be depleted significantly over time if sustainable techniques are not applied.	Many communities, private businesses and government agencies (for example local government under the "One Tambon One Product" banner) have been promoting the use of native biological resource-based products for business development in Thailand. Although there have been a number of demonstrations in Thailand linking native biological resources and economic development, the total extent, efficacy, and sustainability have not been systematically assessed and recorded. The impact on biodiversity is currently unknown. Some of the "One Tambon One Product" demonstrations have been extremely successful in providing best practices for others to learn. However, these initiatives have not been widely replicated due to the lack of an appropriate policy framework, reliable and strategic investment support and institutionalized systems that ensure standards for the sustainable management of biological resources.
<u>Planning and Regulation:</u> Mainstreaming biodiversity conservation into local economic decision making, planning and regulation is weak.	The Royal Government of Thailand established the Biodiversity-based Economy Development Office (BEDO) in July 2007. BEDO currently lacks the capacity to make appropriate decisions regarding the planning and regulation of businesses working within biodiversity hotspots. The failure to capacitate BEDO during this critical start up stage could limit their ability to assume their role for biodiversity conservation through their sustainable utilization in Thailand. In order to facilitate this process only bamboo and naturally occurring estuarine shrimp will be targeted in the FSP. These products will function as stepping stones for the sustainable development of other production landscape resources.
<u>Markets:</u> Many potential native biological resource based products have not been fully explored or developed to their full market potential.	Marketing of sustainable "biodiversity products" of species that are currently not used for widely or not used at all will have significant benefits for biodiversity conservation, while also increasing farmers' incomes. Biodiversity based products often sell well and can become far more than mere niche products. However, products need to be fully explored to understand how marketing chains operate, how the actors are involved (including community participation). The market aspect of biodiversity based products is a crucial element if programs are to create a truly sustainable management system.

5. The project will address the above-mentioned barriers to support biological conservation in the target areas with particular regard paid to establishing and maintaining sustainable biological resource based development and the generation of new income earning opportunities at the community level. Given the need for demonstration, and to keep activities focused, the project will focus on two products, where changes in production will yield major conservation gains and lessons for wider replication of approaches developed. One forest and one wetland product—

bamboo and shrimp respectively- have been selected<sup>7</sup>. these are described in more detail below and project activities on demonstration are further detailed under components 1 and 3.

- **Bamboo:** In Thailand, natural bamboo forests comprise of approximately 5.5% of the total forest areas<sup>8</sup>, with natural stands occurring in Erawan, Chalerm Rattana Kosin and Sai Yok national parks. Bamboo plantations also exist in six provinces- Kanchanaburi, Phetchaboon, Prachinburi, Ratchaburi, Chiang Mai and Phitsanulok. Natural bamboo forests are habitats for many important species including Long tailed macaques (*Macaca fascicularis*), greater bamboo bats (*Tylonycteris robustula*), and the bamboo pit-viper (*Trimeresurus stejnegeri*). 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<sup>9</sup> and are also an important economic resource for many rural communities. In 2007 bamboo exports from Thailand totaled approx. 11 million dollars in revenue<sup>10</sup>. Bamboo and its products' global market are estimated to be worth 12 billion dollars per year and this is expected to double by 2015. In fact, Thailand cannot even meet local market demand and has become a net importer of bamboo. Due to the increasingly high value of bamboo, illegal harvesting from Thailand's natural bamboo forests is accelerating. Furthermore, the establishment of bamboo plantations is beginning to encroach on other ecosystems, such as wetlands, causing further biodiversity losses.
- **Estuarine shrimp:** Estuarine ecosystems host important biodiversity and are critical habitats for terrestrial, estuarine and marine species. In 2002 Thailand's Department of Fisheries listed 75 threatened species that inhabit estuarine ecosystems (8 endangered; 67 vulnerable and near threatened)<sup>11</sup>. Estuarine shrimp provide a major source of income for many coastal communities in Thailand. "Wild" shrimp harvests occur along approximately 2,600 km of mangrove estuary coastline in 23 coastal provinces in-country. The total production of estuarine shrimp is difficult to accurately assess since production figures are limited and do not account for significant consumption at a community level. Published data indicates that in 2006 approximately 7000 tonnes of naturally occurring estuarine shrimp were harvested equating to approximate value of US\$3.5 million. There is a widespread market for shrimp derived products such as shrimp paste and dried and frozen shrimps in the S.E. Asia region. Such products are also receiving traction in markets beyond the region, such as in the USA. With the increase in demand for shrimp products, it is vital that more sustainable methods of harvest are established. The unregulated netting of estuarine shrimp also impacts other species dependent on shrimps for food as well as on species that are unintentionally captured and harmed during shrimp harvest. To assist in the management of both estuarine shrimp and other biodiversity found in estuarine ecosystems it is vital that 1) effective harvesting techniques be clearly stipulated and followed; 2) seasonal harvest data on quality and quantity are continually monitored through community, government and private sector activities and; 3) community development plans are established to conserve and protect estuarine environments.

6. Demonstration will constitute a key component of this project. Component 1 – Production Systems: The project will establish a total of six pilot areas that will be used to demonstrate the economic advantages of biodiversity friendly production practices. An inventory will be undertaken and limits for sustainable harvesting will be established for each pilot area for the two target species. Spatial and stress indicators will be established and processes established to measure and report on changes in both the target species and their related ecosystems. The following steps will be followed for estuarine shrimp and bamboo: (1) Identify target species and pilot sites on the bases of biological, economic and social criteria; (2) assess the density (and size class structure for bamboo) through biological surveys; (3) carry out yield studies, regeneration surveys and harvest assessments for determining sustainable harvests; and (4) continually adjust harvest techniques according to results. For *shrimp*, the project will establish partnerships with research groups, farmer groups, co-operatives and communities as a whole to determine optimal yields and management techniques within designated pilot sites. Methodology approaches will be based on sound ecological processes for harvesting targeted products while using rapid assessment methodologies to assess the sustainability of yields and to provide elements for adjusting extraction strategies. For *bamboo*, Community groups, small holder farmers and plantation owners will be engaged in jointly developing management plans for the sustainable extraction/production of both natural and plantation bamboo stands. An important element of this process will be to sensitise producers and other relevant parties on appropriate harvest and production techniques, methods,

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<sup>7</sup> Naturally occurring, plantation bamboo and naturally occurring estuarine shrimp were selected on the basis of their ecological importance with respect to globally important ecosystems. Bamboo forests are now considered to be globally threatened with a recent study estimating that as many as half of the world's 1200 woody bamboo species may be in danger of extinction as a result of deforestation. Considering bamboo also acts as faunal corridors their destruction will have a larger overall species impact. Mangrove estuarial environments are widely known to be extremely important nursery grounds for a vast amount of aquatic and land dwelling species. It is therefore vital that sustainable methods of harvest are practiced in these landscapes if resource sustainability is to be truly achieved.

<sup>8</sup> Comparison of forest area and bamboo forest in 1992, Forest Department, Thailand.

<sup>9</sup> Soil erosion control, water conservation, land rehabilitation, and carbon sequestration (18 t ha<sup>-1</sup> yr<sup>-1</sup>). Isagi-Y; Kawahara-T; Kamo-K; Ito-H. (1997).

Net production and carbon cycling in a bamboo. Plant-Ecology. 1997, 130: 1, 41-52

<sup>10</sup> Forest Department, Thailand [www.forest.go.th/stat/stat50/TAB30.htm](http://www.forest.go.th/stat/stat50/TAB30.htm)

<sup>11</sup> VIDTHAYANON Chavalit and PREMCHAROEN Siraprapha (2002) The status of estuarine fish diversity in Thailand. Vol. 53. No.2 pp 471-478, 530.

regulations and the long term financial advantageous of supplying businesses with environmentally and biodiversity friendly bamboo.

7. Component 2 – Strengthening Institutional Capacity will have an impact on overall national conservation practices. As already noted, the Royal Government of Thailand has established the Biodiversity-based Economy Development Office – which is unique in the region for its mandate of promoting biodiversity conservation and improving community knowledge of best practice methods for production of biodiversity based products. The core objective of component 2 is to develop a sound management and policy structure for BEDO to enable the organization to effectively coordinate natural resource extraction using sustainable techniques with the initial focus on bamboo and estuarine shrimp. This will be achieved by building the institutional capacity of BEDO to create long-term business strategies and action plans with particular attention to development of economic opportunities in ecologically friendly production of natural resource based products. BEDO will also be developed to function as a multi-sector coordination mechanism acting as a government clearing house to inform community and business leaders on relevant policies and legislation and assist with arranging funding for new and existing businesses following biodiversity friendly production practices. The project will also assist BEDO to integrate biodiversity conservation into the Government’s One Tambon One Product (OTOP) program.<sup>12</sup>

8. Component 3 – Transformation of the Supply and Marketing Chain: A step-by-step analysis of existing shrimp and bamboo supply chains will be carried out to identify items to be included in product specific certification and verification schemes. This will include identification of any partnerships that may be required to ensure that monitoring and enforcement of related policies and regulations are carried out appropriately. In conjunction with stakeholders, Codes of Conduct will be developed for sustainable harvesting of the target species and effective management of the related ecosystems and to ensure stakeholder understanding of monitoring and enforcement processes. A BEDO certification scheme will be established to cover all processes in the value chain (production→harvest→marketing) to allow ready identification of businesses that fully comply with the Codes of Conduct. The certification scheme will be based on global, regional and national best practices. A social marketing campaign will be carried out to make the public aware of the certification program and its use for identifying goods produced under sustainable harvesting conditions. The project will also help build capacity for monitoring and enforcement activities. These activities could not be carried out by BEDO but an independent enforcement agency will ensure certification standards are met and verified through various monitoring procedures. Likely candidate for monitoring and enforcing certification compliance and related management plans will be identified during the PPG and clarification of their roles and responsibilities, as well as capacity development will be done during full project implementation. The project will establish farmers’ groups or cooperatives to improve farmer market presence and to maximize sale of certified products. Practices to assist communities and business interests will also be established to support with deal flow facilitation, structuring financing for eco-enterprise through business plans and matching enterprises to financiers who might otherwise be unwilling to fund biodiversity-friendly initiatives. The project will deliver direct global environmental benefits by developing and engaging biodiversity based business plans for the sustainable management of two key biological resources. This will be achieved by establishing pilot sites in three key locations for sustainable shrimp/bamboo harvests. *Shrimps (Acetes)*: The total potential coastal area for shrimp harvests in Thailand is estimated to be approximately 42 million hectares (ha)<sup>13</sup>. Pilot plots for sustainable shrimp productive landscapes will possibly be located in Ranong province (potential harvest area 30,000 ha), Phang-nga province (potential harvest area 120,000 ha) and the Samut Sakhon province (potential harvest area 21,000 ha)<sup>14</sup>. *Bamboo (Natural & Plantation)*: Bamboo pilot plots will be established in Chiangmai province in the Northern region, and Kanchanaburi province in the Central region of Thailand , covering approximately 5% of the bamboo forests in those regions. Northern region that has expansive natural bamboo stands totaling 20,082 ha, and the Central region of Thailand has natural bamboo stands of approximately 73,000 ha. Globally important biodiversity in these areas will be conserved through sustainable project actions. The results of these pilot plots will be up-scaled to other geographic locations and other products to reduce the adverse impacts to areas of high conservation values, particularly over-exploitation within PA buffer-zones and watersheds, where threats will be mitigated using a sustainable approach to biodiversity conservation through economic development. These will lead to the potential development of other biodiversity based products such as for wild mushrooms, jellyfish and freshwater algae. This is a novel approach to biodiversity conservation; local communities will be empowered to practice sustainable management techniques and given direct economic incentives to conserve natural resources through the medium of market forces. Lessons learned from the project will be analysed, and utilized to other ecological resources, and in

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<sup>12</sup> The OTOP project promotes each Tambon (the administrative unit under the provincial government) to specialize in a selected number of products and establish linkages between local producers and buyers with many communities utilizing local flora/fauna and other biodiversity resources. Unfortunately, many OTOP producers do not consider conservation, biodiversity or sustainability while developing their products and unsustainable exploitation of resources is imminent

<sup>13</sup> [www.fisheries.go.th/it-stat/](http://www.fisheries.go.th/it-stat/)

<sup>14</sup> Areas for pilot plots will be agreed upon during the PPG phase.

other Ecoregions or countries. The indirect global biodiversity conservation benefits will also be significant as the policy framework developed and capacity built of BEDO and its key financial partner will be replicable in-country as well as providing a model for other agencies and countries. Together, these experiences will provide an excellent demonstration of the process of integrating conservation with economic development and poverty alleviation. In addition, the negative impacts of unsustainable management practices on globally vulnerable ecosystems such as mangroves and wetlands will be mitigated, promoting global biodiversity conservation. Lessons learned from Thailand can then be applied more widely as indicated above to support wider conservation efforts globally.

**B. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH NATIONAL PRIORITIES/PLANS:**

9. The project directly supports the implementation of the Royal Decree on the establishment of the biodiversity based Economy Development Office issued by His Majesty King Bhumipol Adulyadej in June 2007. This in accordance with Thailand's 10th Five-Year Plan, which embraces His Majesty's concept of "Sufficiency Economy Approach". The plan promotes financial instruments to protect environmental values, as well as strengthening of the role of local communities. The proposed project is also consistent with the policy framework of the current government (Land, Natural Resources and Environment Policy) with respect to the need to balance the conservation efforts and sustainable utilization of biodiversity based resources. The policy framework also recognizes the need to balance the country's food security needs with the need to create and increase the economic values of natural and biodiversity resources. The present policy framework also stresses the role of community participation as well as involvement of stakeholders in biodiversity conservation. 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.<sup>15</sup> The project is also in line with the environmental strategies of the 10<sup>th</sup> 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 the BD for local food and health security, incubate the community enterprises through trainings and capability building on production and marketing, promote the application of Thai herbs and traditional medicines;
- Raising the capability to apply and create the innovation based on Thai BD e.g. innovation to increase the productivity of organic farming and herbal health food, upgrade the safety standard for food, herbal, and natural products to increase the consumer confidence, clustering and networking community enterprises.<sup>16</sup>

**C. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH GEF STRATEGIES AND STRATEGIC PROGRAMS:**

10. This project's focus on strengthening BEDO's national strategy to promote biodiversity based and biodiversity friendly economic opportunities and tools fits directly with GEF's Strategic Objective 2 "To mainstream biodiversity in production landscapes/seascapes and sectors" by strengthening Government's capacity for conservation in native biological resource production areas. The particularly meets the objectives of SP-5: Fostering Markets for Biodiversity Goods and Service, as the project seeks to strengthen *Supply Chain Initiatives* related to some biological products that will have significant biodiversity benefits. The project also contributes to SP4: Strengthening the Policy and Regulatory Framework for Mainstreaming Biodiversity as it supports BEDO to develop such frameworks for overall mainstreaming into biodiversity based products sectors.

**D. JUSTIFY THE TYPE OF FINANCING SUPPORT PROVIDED WITH THE GEF RESOURCES:**

11. GEF resources are being used as a grant.

**E. OUTLINE THE COORDINATION WITH OTHER RELATED INITIATIVES:**

12. The proposed project idea builds on three studies BEDO has recently commissioned including "Pilot Project on the Promotion of Economic Uses of biodiversity Resources at the Community Level", "Economic Value of biodiversity Resources", "The Legal Framework for the Development of Economic Uses of biodiversity Resources and Traditional Knowledge". As a public organization mandated to coordinate and promote biodiversity based economic development work, BEDO will ensure strong coordination with all relevant government programs such as OTOP, the Small and Medium Enterprise (SME) Bank, under the Ministry of Industry, and the Bank of Agriculture and Agricultural Cooperatives (BAAC), under the Ministry of Agriculture. The project will complementary another GEF-supported project under development in Thailand 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.

**F. DISCUSS THE VALUE-ADDED OF GEF INVOLVEMENT IN THE PROJECT DEMONSTRATED THROUGH INCREMENTAL REASONING :**

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<sup>15</sup> Thailand's National Policy, Strategies and Action Plan on the Conservation and Sustainable Use of Biodiversity (NBSAP 2008-2012). [www.cbd.int](http://www.cbd.int).

<sup>16</sup> Thailand: Environmental Policy in the 10<sup>th</sup> National Economic and Social Development Plan. Surachai Koomsin, Natural Resources, Environment, Science, and Technology Planning Office, Office of National Economic and Social Development Board.

13. In the baseline scenario, without GEF intervention, unsustainable harvesting practices will continue thus severely impeding Thailand's efforts to improve biodiversity conservation in its production landscapes. The current inability to effectively address the barriers described in section A that prevent crucial capacity building, development of economic incentives by mainstreaming biological resources from productive landscapes, and the certification of biodiversity friendly products derived from targeted landscapes will be major factors that will remain unresolved without GEF assistance. Selected communities and locations will also be unable to develop and implement landscape based planning initiatives including 1) facilitating deal flows for biodiversity friendly businesses; 2) the development of business plans for sustainable extraction of products and; 3) the establishment of effective collective cooperative groups that adhere to formulated product Codes of Conduct. The Thailand government's programme of encouraging communities to develop and extract biologically based products from their immediate environments will only serve to exacerbate over-exploitation unless the measures proposed for the project are put in place. Without close regulation and monitoring, native biological resources from productive landscapes will have an exponentially negative effect on biodiversity in Thailand. GEF funds will facilitate the adoption of technical standards and production practices needed to ensure the preservation of productive landscapes and thus providing global biodiversity benefits for Thailand. The alternative to the project will be a continued reduction in target populations that will result in loss of income or subsistence in affected rural areas. It will also result in loss of habitat that will affect not only the target species but many other plants, animals and insects that depend on the ecosystems involved.

**G. INDICATE RISKS, INCLUDING CLIMATE CHANGE RISKS THAT MIGHT PREVENT THE PROJECT OBJECTIVE(S) FROM BEING ACHIEVED, AND IF POSSIBLE INCLUDING RISK MEASURES THAT WILL BE TAKEN:**

<b>Risk</b>	<b>Rating</b>	<b>Risk Mitigation Measure</b>
Global and national economic crises will reduce demands for biodiversity friendly products	Medium	The project has selected products that have had high demands overall. However, the challenge will be that any certification scheme does not add significantly to the prices of the products so that they cannot compete in the market with unsustainable produce or their alternatives. These risks will be considered carefully during project development and implementation phases and options will be explored to absorb the cost of certification without passing this on to retail prices. Furthermore certification will provide a competitive advantage and thus access to markets which will be important even in recessions. Nonetheless it is expected that by the time the certification scheme is in place, the global economic situation will have improved.
Changes in relative prices for bamboo and shrimp 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.
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 the private-public organisation BEDO to promote the conservation of biodiversity and improving local community knowledge of best practices for environmentally friendly biodiversity based economic development.
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.
Civil strife	Medium	Parts of Thailand are undergoing civil strife – particularly in Southern Thailand. UNDP assesses political and security risks to projects and the project will not work in such affected areas. If the security situation does not permit operating in particular areas, activities and offices can be re-located.
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 <sup>-1</sup> yr <sup>-1</sup> .

**H. DESCRIBE, IF POSSIBLE, THE EXPECTED COST-EFFECTIVENESS OF THE PROJECT:**

14. This project is considered cost-effective on a number of grounds. It is more cost effective and sustainable for local communities and their businesses to be environmentally friendly and contribute to biodiversity conservation than for government and external agencies funded "enforcement" programmes. The local economy will be gradually strengthened and become financially sustainable leading to a reduction of cost burden to government and global organizations. The use of a market driven approach, where stakeholders are made aware that they have a vested interest in protecting and conserving the resources they depend on for income, will ensure voluntary participation in the overall planning and resource management process. This will require significantly less resources to monitor and enforce policies and

regulations that may be required in a command and control system which may have substantially less cooperation from those most dependent on the resource for basic income or subsistence. This FSP effectively address these key issues therefore it is considered to be the most cost effective approach to long term conservation of biodiversity and prevailing ecosystems in Thailand.

**I. JUSTIFY THE COMPARATIVE ADVANTAGE OF GEF AGENCY:**

15. The United Nations Development Programme has two signature programmes on biodiversity – one of which deals with mainstreaming biodiversity into development sectors. This project builds on UNDP’s global work on this and on a strong partnership it has with the Royal Government of Thailand and the Thai civil society in their efforts to promote conservation and sustainable use of biodiversity in the country. The present project will benefit from, as well as contribute to, UNDP past and current work in Thailand. UNDP has been supporting projects to build national and local capacities to ensure that supply chains for various commodities are environmentally and socially responsible and that such products have secure market shares. UNDP has played a lead role in developing projects in GEF IV aimed at greening supply chains for major commodities, under SP 5 including initiatives dealing with coffee, game products, non timber forest products, forest products and fish. The project also builds on UNDP’s work with the private sector including policy advice and capacity building support to governments to create a rule-based legal and regulatory climate for private enterprise and non-discriminatory markets. It also helps poor producers access markets that offer realistic prospects for sustainable, employment-intensive growth and mobility to higher paying jobs, through investments in human capital and fostering the entrepreneurial skills of the poor. With larger businesses, UNDP also advocates for new forms of Corporate Social Responsibility (CSR) that leverage ‘core business’ investment to provide sustainable benefits to the poor. Past efforts of UNDP in Thailand relevant to this project have included projects such as post-tsunami coastal planning, biodiversity assessment, livelihoods restoration, capacity building of the Ministry of Natural Resources and the Environment, and a pilot capacity needs assessment. Moreover, UNDP has a large global portfolio and extensive experience in supporting effective environmental governance by developing the national enabling environment including policy, laws, capacity building and partnership development. In Thailand, UNDP has considerable experience working with local communities – particularly on forest management and livelihoods – through its work on the UNDP/GEF Small Grants Funds. It has also been working on an initiative to link environment management and livelihoods through a multi-agency project entitled Mangroves for the Future (MFF). UNDP has also worked extensively with the private sector – particularly for marketing of greenhouse gas reduction technology promotion. These experiences, in addition to UNDP’s work on strengthening of the enabling context for the environmental sector, provide a strong comparative advantage to work on this project.

**PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)**

**A RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):** (Please attach the country endorsement letter(s) or regional endorsement letter(s) with this template).

**PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)**

**A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):**  
(Please attach the country endorsement letter(s) or regional endorsement letter(s) with this template).

<b>NAME</b>	<b>POSITION</b>	<b>MINISTRY</b>	<b>DATE (Month, day, year)</b>
Mr. Saskit Tridech	Permanent Secretary and GEF OFP	Ministry of Natural Resources and Environment	12 October 2007

**B. GEF AGENCY(IES) CERTIFICATION**

This request has been prepared in accordance with GEF policies and procedures and meets the GEF criteria for project identification and preparation.

Agency Coordinator, Agency name	Signature	Date (Month, day, year)	Project Contact Person	Telephone	Email Address
Yannick Glemarec, UNDP/GEF Executive Coordinator	<i>Y. Glemarec</i>	January 28, 2010	Sameer Karki,	+662-288- 2729	Sameer.karki@undp.o rg