

Thailand component of the Emerald Triangle TBCA Project

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ABSTRACT

Emerald Triangle Trans-boundary Project Forest Complex (ETPFC) was started in 2001 to 2015, it was shown successful story with good collaboration with Cambodia and Lao PDR supported from International Tropical Timber Organization (ITTO). The uniqueness of Indochina sub-region and various habitat heterogeneity of large Trans-boundary Protected Area covers with 6,536.95 km² in lower Greater Mekong sub-region. Its location at tri-countries are hotspot of conservation with large range enough to guarantee for the high biodiversity and long-term survival for 10 critical endangered and endangered species and 50 threatened wildlife species. From 15 years of the project through Technical meeting, staff training and sharing information data between three countries are benefit from collaboration and working close together. In addition, there have been implementations for improving livelihoods of local residents who live surround Protected Areas with activities of meeting and supporting for nursery, handicraft, and nature painting contest for school students. Local people participation showed good signs for new hope for future conservation of nature and biodiversity for our next generations. Lesson learns and experience from ETPFC Project will be helpful for other new trans-boundary sites.

ETPFC Project

The Emerald triangle Protected Forest Complex had contained 3 Phases of collaboration in working with helpful program and activities between Thailand, Cambodia and Lao PDR:

Phase I (year 2001 to 2003) Thailand alone run the first Phase for Phataem Protected Forest Complex (PPFC). PPFC is located in the remote border area and lack of present-day existing data of both flora and fauna. Thus, survey and research on Forest cover, Forest Ecology, Wildlife Ecology, Socio-economics were carried out. The highlight was to create Long-term Management Plan (10 years) for PPFC which was the first plan for protected forest complex in Thailand. During the first Phase, Cambodia was interested to collaborate while Lao PDR Laos was reluctant. The project was run with financial from International Tropical Timber Organization (ITTO), budget was supported from Japan, U.S., Switzerland and partial from Thailand's Royal Forest Department (RFD).

Phase II (from 2008 to 2010) the project was directed to strengthening tri-national cooperation in trans-boundary and improvement of livelihoods of local resident living close to protected forest. Thailand & Cambodia submitted one proposal for this phase which was change from PPFC to cover trans-boundary issue of the Emerald Triangle Protected Forest Complex (ETPFC) to promote cooperation for Trans-boundary Biodiversity Conservation between Thailand, Cambodia and Laos. The project was run by Thailand component and Cambodia component and it was supported from Japan Government, U.S., Switzerland with partial from RFD. New researches (GIS-map, Dendrology, Entomology & Wildlife) in parallel with reducing the conflicts of forest minor

products uses by Thai local residents who live surround the PPFC Protected Areas in Thailand were done.

Phase III (from 2012 to 2015) It was the first time that tri-nations working close together when Laos (Champasak University) was added to the project. The project was supported from Japan Government. Technical meeting and training in GIS courses and wildlife course for Lao PDR were processed. Wildlife diversity and Landscape species were carrying out in 5 PPFC reserves in Thailand and direct surveyed in Dong Khanthung Protected Forest in Lao PDR.

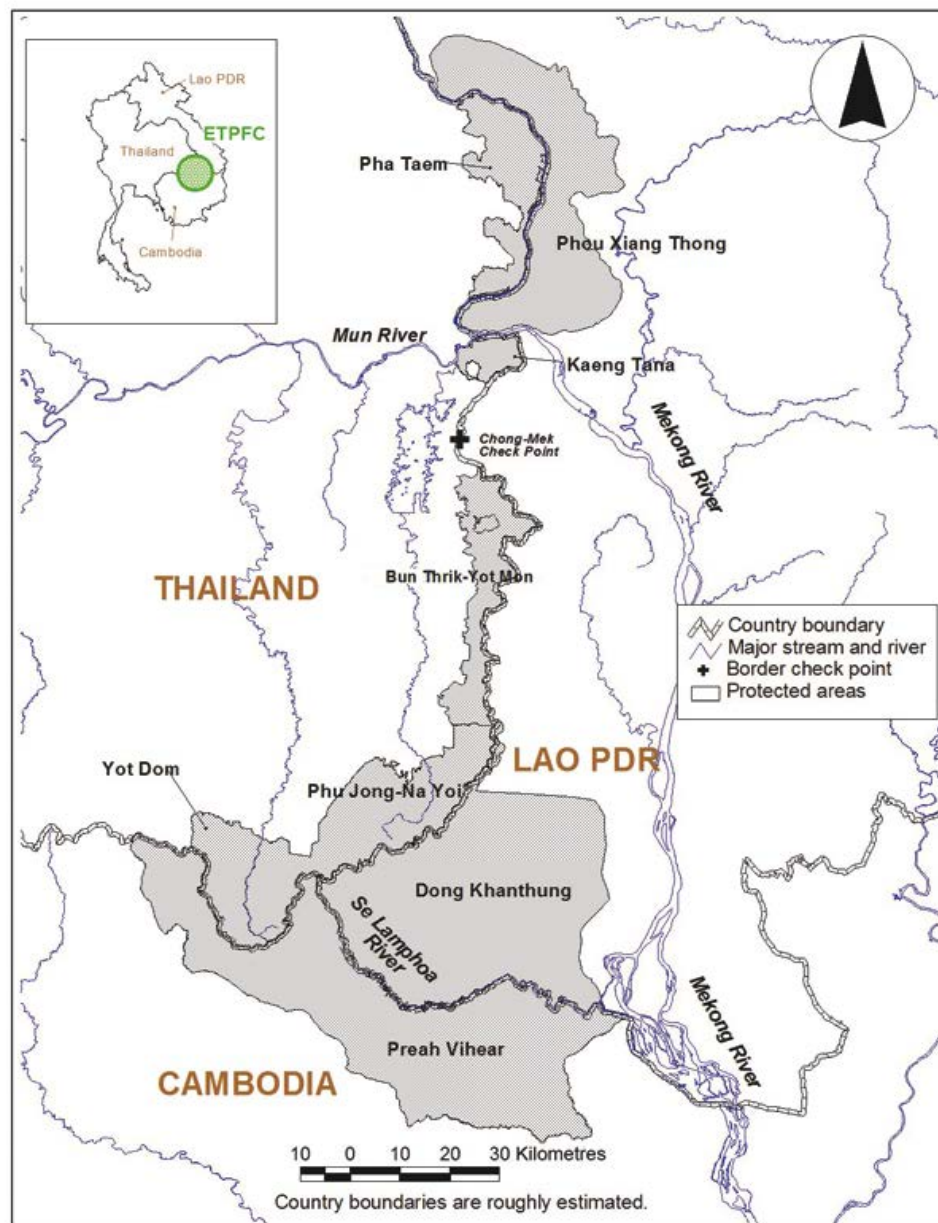


Figure 1 Emerald Triangle Protected Forest Complex with 5 reserves in Thailand, 2 reserves in Lao PDR and 1 large reserve in Cambodia.

Source: Trisurat (2015)

During Phase III, the highlight from Tri-nations meeting of the ETPFC Project in Cambodia had a nice common vision stated that *"By 2020, Cambodia, Laos and Thailand will have established a common cooperative framework for the conservation and sustainable management of the ETFC of the GMS in order to strengthen the protection of the trans-boundary habitats of wide-ranging wildlife species and will endeavor to maintain the viability and ecological integrity of the forest ecosystems and increase its land use and climate change adaptation capability to transform the ETFC into an International symbol of TBCAs."*



Figure 2. Landscape, forest cover and Mekong River between Thailand and Laos.



Figure 3. Local residents depend on river and forest resources of ETPFC.

New propose for Phase IV, The meeting between Thailand component from the Royal Forest Department and Cambodia component from Forestry Administration were carried out at Kasetsart University's Faculty of Forestry on the 26th September 2015 in order to draft the new proposal of Phase IV. The new activities planning for Phase IV from only Thailand and Cambodia including designed activity for Lao PDR collaboration due to Laos has not yet been the member of ITTO.

Landuse and Land cover

Landuse changed in/surrounding ETPFC in Thailand and Laos from 10 years between 2003 and 2013 showed high demand of land for Para-rubber plantation (Figure 2). Trisurat (2015) applied Conversion of Land Use & its Effects (CLUE model) in order to predict land-use change in ETPFC by using GIS with different four scenario conditions for the next 2030. His study results provide some facts for the next planning for ETPFC in regarding wildlife conservation and working for resident people communities.

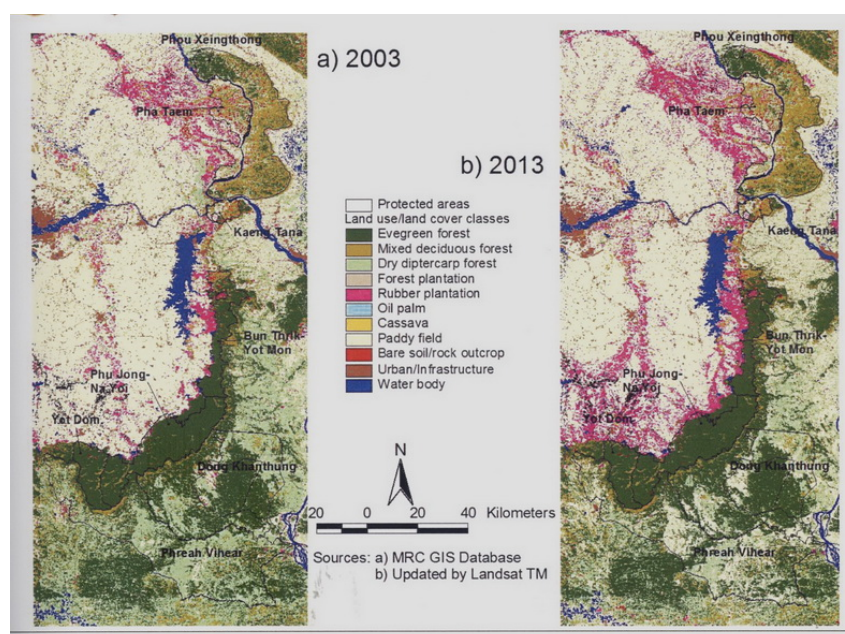


Figure 4. Land use and Land cover of ETPFC between 2003 and 2013.

Trans-boundary Park for peace& collaboration

Biodiversity conservation beyond political frontier will be the goal. Collaboration between Thailand, Cambodia and Lao PDR provide good chances of protection for critical endangered, endangered and threatened species of wild plant and wildlife. Seasonal movement of wild cattle – gaur and banteng (also Kouprey, *Bos sauveli* in the past) from lower areas from Dong Khanthung & Prea Vihear Protected Forests to PPFC plateau in the wet season are recorded from Thailand side.

Better understanding the unique of peaceful park for Emerald Triangle Protected Forest complex by meeting, discussion, sharing information, solving things and minimizing problems of

Illegal wildlife trade, namely Javan pangolin (*Manis javanicus*), snakes, turtles and others, illegal logged cutting of Rosewood (*Dalbergia cochinchinensis*) along the tri-border of Thailand, Cambodia and Lao PDR, drug, dark market from poached wildlife, animal diseases, landscape and migratory species across International border. Emerald Triangle Protected Forest Complex Project was also served for better understanding as a part to minimize these hot issues as well. Collaboration in patrolling and protection biodiversity and especially wildlife beyond political trans-boundary improving the recovery of existing wildlife population as classical case of wild elephant were extirpation from PPFC reserves but they have already returned to Thailand.



Figure 5. Technical Meeting between ITTO & Tri-countries of ETPFC.

ETPFC activities

Build up capacity for ETPFC staff

Training programs for staff of ETPFC from Thailand's PPFC and Champasak University staff in two wildlife course and three Geographic Information System (GIS) courses for three countries staff were implemented during Phase III.

In addition, from existing data of landscape wildlife GPS-locations shared by three countries, Yongyut applied GIS to create distribution habitats used by landscape species of the three countries. These maps provide good views to provide more reasonable for planning and conservation for those 12 landscape wildlife species of the trans-boundary ETPFC, namely elephant (*Elephas maximus*), gaur (*Bos gaurus*), banteng (*Bos. javanicus*), Siamese Eld's deer (*Panolia eldii siamensis*), sambar deer (*Rusa unicolor*), Pileated gibbon (*Hylobates pileatus*) and so on. Detailed results were shown from report of Trisurat (2015).

Working with local communities

More than 80 villages are situated within 3 km of the boundaries of the PPFC in Thailand, with a total estimated population of about 89,000. The livelihood choices of local people often have an impact on biodiversity conservation through forest encroachment for unsustainable agricultural practices, gathering for forest minor products, raising livestock in protected areas, and wildlife poaching. Agriculture is the primary occupation of the majority of local households (70%),

followed by fishing (10% of households). The average annual household income of local communities is US\$1070, which is only about one-third that in Ubon Ratchathani City.

Network has been established between protected areas and local peoples. Local communities involved in buffer-zone management had increased their understanding of alternative income-generating opportunities; resource managers had been provided with more reliable information for decision-making; park rangers had increased their understanding of conservation management planning and role of patrolling the parks.



Figure 6. Training for GIS & ground verification / Setting camera trap in wildlife survey.

Awareness raising to local residents

Awareness raising to local residents and school students in buffer zone area of PPFC reserves were implemented via visiting and meeting. Nature campaigns were promoted as painting contest for school students.

Improving local people livelihoods

In addition, there were improving livelihoods of local residents who live surround 5 PPFC's Protected Areas in Thailand by reducing forest resource uses, eg. Fuel wood, bamboo shoot, mushroom, edible and medicinal plants with meeting providing activities of food bank, nursery techniques, home stay, and handicraft and find local market for them. Training and demonstration to locals are implementation. The economics of local people have been improved.



Food Bank
& Nursery



Painting Competition
& Home Stay



Bamboo Plants
& Handicrafts



Figure 7. Awareness raising & Livelihood improvement in buffer zone of PPFC.

Human-elephant conflict Meeting workshop

Wild elephant (*Elephas maximus*) is one of the conservation target landscape wildlife for the ETPFC. Past record in Thailand's PPFC, during military conflict at tri-boarder wild elephant were doomed to be extirpated from PPFC area. Since 1986, the last herd moved to Dong Khanthung Protected Forest in Lao PDR. In early of 2004, few elephant return to Bun Thrik – Yot Mon Wildlife Sanctuary (WS) and later on the others emigrated to add more population. At present, good and abundance of agriculture crops unintentionally induce wild elephant population to increase to 50+ individuals. They cause problem of human-elephant conflicts (HEC) with crop raids, property loss and people deaths as in many as 10 villages in Thailand side throughout the year. Also some elephant across to Lao PDR, they cause problem to few Laotian villages in Muang Sukuma during rice harvesting period (October to November) and return to maintain stay in Bun Thrik - Yot Mon WS.

One workshop was organized from ITTO's Phataem Field Office and Bun Thrik - Yot Mon WS in 2015. Due to HEC in area surround Bun Thrik - Yot Mon WS have been more frequency and lost more agriculture crops. Locals from many villages were joined and shared information with experience in working against elephant in crop raids (rice, cassava, corn, sugar cane, mango, coconut, young para-rubber tree). Fire, Electric fence, trench, watch tower and HEC working team are suggested to design. In addition, to pay for compensation from "Thailand's Elephant Food Fund" to locals who lost their crop and property.

Note that there are 2 meta-populations, one large population is in Bun Thrik - Yot Mon WS while small population with few elephant existing in Dong Khanthung Protected Forest in Lao PDR and 5 individuals are in Prea Vihear Protected Forest in Cambodia. A question now is how to conserve and to manage fragmented elephant population with supporting their dispersal to add population and genetic in Dong Khanthung Protected Forest and Prea Vihear Protected Forest?



Figure 8. Local residents who are facing HEC problems joined the meeting workshop.

Report & Publication

Many reports were from ITTO-ETPFC Trans-boundary Project from Thailand by Trisurat (2003a, b, 2007, 2010, 2015) and Bhumpakphan (2004, 2015); and from Cambodia's Forest Administration. Recently, Technical Series 46, the Bright Green and Hotspot by CBD/ITTO which related with ETPCF has been published in November 2017.

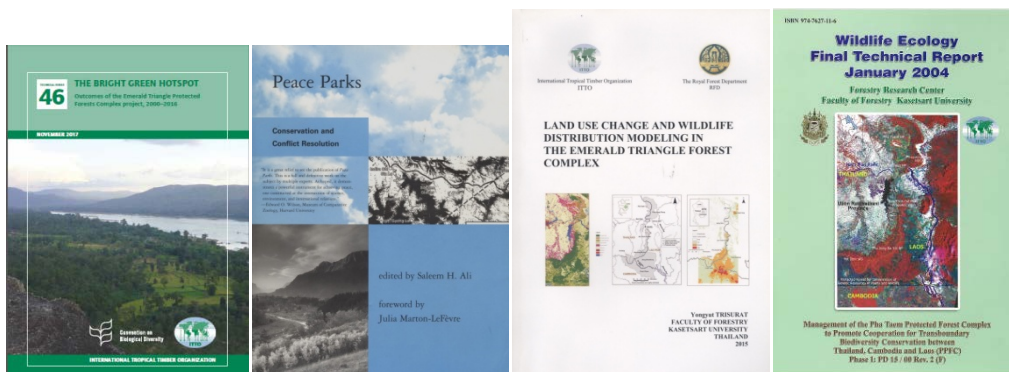


Figure 9. Some publications from ETPFC Project of Thailand component.

Lesson learn & Future for new Trans-boundary Areas

Lesson learn and fruitful results from ITTO's Emerald Triangle Protected Forest Complex Project between Thailand, Cambodia and Lao PDR will be helpful for Department of National Park, Wildlife and Plant Conservation (DNP) to collaboration with neighbouring countries. Right now, DNP has planned for other three potential Trans-boundary sites, namely 1) Dong Phrayayen – Khao Yai Forest Complex with Bantaey Chhamay Protected Landscape of Cambodia; 2) Khaeng Krachan Forest Complex with Tanintharyi National Park of Myanmar; and 3) Western Forest Complex (EFCOM) with Tanintharyi Nature Reserve of Myanmar. Bilateral meeting between countries were organized and waiting for future support, collaboration and implementation. Note that the potential trans-boundary reserves shown in no. 2) is interested by ITTO and other agency.