

Pha Tad Ke Botanical Garden

Newsletter Nr. 12 - February 2014

Even in poetry and art does nature have its place, do flowers blossom in unexpected places and do trees reach up to the sky. Not everything is pure science and what would garden design be without a palette of color, a sense for composition and structure, a play full line between nature and culture. RIK GADELLA, PHA TAD KE BOTANICAL GARDEN

Content

1-4	Friends of Pha Tad Ke Botanical Garden
5-13	News from Pha Tad Ke
14-22	BOTANICA DU LAOS PAR ELISABETH VILAYLEO Plants in Traditional Lao Literature
23-35	Flowering of Convolvulaceae in January
36	Some Books & Other Affairs we Love
37	Project Space • Luang Prabang

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Big thanks to our volunteer collaborators, and if anyone is interested to writing articles or help us with occasional translations please let us know.© Pha Tad Ke & the authors, 2014. Subscription at www.pha-tad-ke.com





Friends of Pha Tad Ke Botanical Garden

In January 2010 the Friends of Pha Tad Ke Association was created in France followed in July 2011 in the Netherlands and September 2011 in Laos. Each of these non-profit associations helps the creation of the Pha Tad Ke Botanical Garden with scientific support, fund raising efforts and educational projects. In addition the Luang Prabang Fund for Culture and Conservation that was created in 2011 in the USA accepts donations that are tax-deductible for the benefit of Pha Tad Ke Botanical Garden or other cultural and conservation projects in the Lao PDR.

Helping the Friends of Pha Tad Ke will allow you to follow the day-to-day evolution of the garden, look behind the scenes of its operations and participate in the Pha Tad Ke adventure!

Information: www.friends-pha-tad-ke.com

When you become a member for the creation phase, your 5-year (2010-2014) membership will entitle you to:

Member - € 100:

• Our newsletter (3 times a year, english/french) contains news about the garden, on-going work and actions, and articles about the flora, arts and culture of Laos.

Friend Member - € 300:

- Private visit to PTK, including boat trip and picnic (for 2 pax, booking required)
- A 30% reduction on the garden's publications and products (except Folies)
- Access to our favoured travel agent in Laos, reductions on hotels and restaurants etc.
 (see list of the partners of the Friends)
- Mention of your name on our website
- An invitation for two people to the official opening.

Support Member - Institutions & Companies - € 2,000:

- Mention of your name on our website with your logo
- Discount of 10% on one of our editions « Folies »
- A private reception at the pre-opening for a group from your institution/company.

Donor Member - € 5,000 €, or more:

- Discount of 10% on two of our editions « Folies »
- Inclusion of your name on the donor plaque at the entrance to the garden.

Members can increase their involvement in the creation of Pha Tad Ke by supporting one or more of our individual projects:

• Adopt a tree: from € 50 to € 2,000

Buying and planting a tree is only a beginning. It must then be fed, cared for and pruned. This takes time, money and care. Love your tree and adopt a seedling or a mature tree.

• Sponsor a Bookparty: € 400

Guided visits to the gardens for groups of children or students, who will spend a day learning about Pha Tad Ke's work and plants. The package includes transport to the garden and lunch. At the end of the day, every participant will receive a copy of our specially published books.

• Sponsor a student: € 4,400 for 4 years

In conjunction with three institutions, PTK has set up a grant for the best first-year student. At the end of the first year of study, the winning student will be offered a scholarship that will allow him or her to continue his or her studies. In exchange, the recipient will be required to do a two-month work placement at the garden during summer recesses and to work at the garden for one year at the end of his/her studies.

• Sponsor a research post: € 1,800 for one year

Given the heavy workload at the university and the very low salaries in Laos, there is little time left for building research projects. With this grant PTK will enable a post doc to do a year's research on a topic chosen in consultation with PTK.

• Sponsor a field trip: € 10,000

In conjunction with the Royal Botanic Garden Edinburgh, we have set up a three-year partnership to train our horticultural team and to carry out an ambitious program of monthly field trips to gather specimens for a collection of living plants that will be unique in Laos. At the same time we will collect specimens for a herbarium. Each trip will require a substantial investment in time and money but this work is imperative as it will form the very foundations of our garden and its collections.

• Sponsor a building: from € 15,000

Several buildings will be required to house our collections and staff, and provide facilities for visitors.

These buildings will include: Nurseries (€ 15,000), Orchid House (€ 27,000), Butterfly Farm (€ 32,000), Reception area (€95,000), Restaurant (€ 95,000), offices for research staff (€ 130,000), Traditional Medicines House (€ 135,000) and Library or Herbarium (€ 190,000).

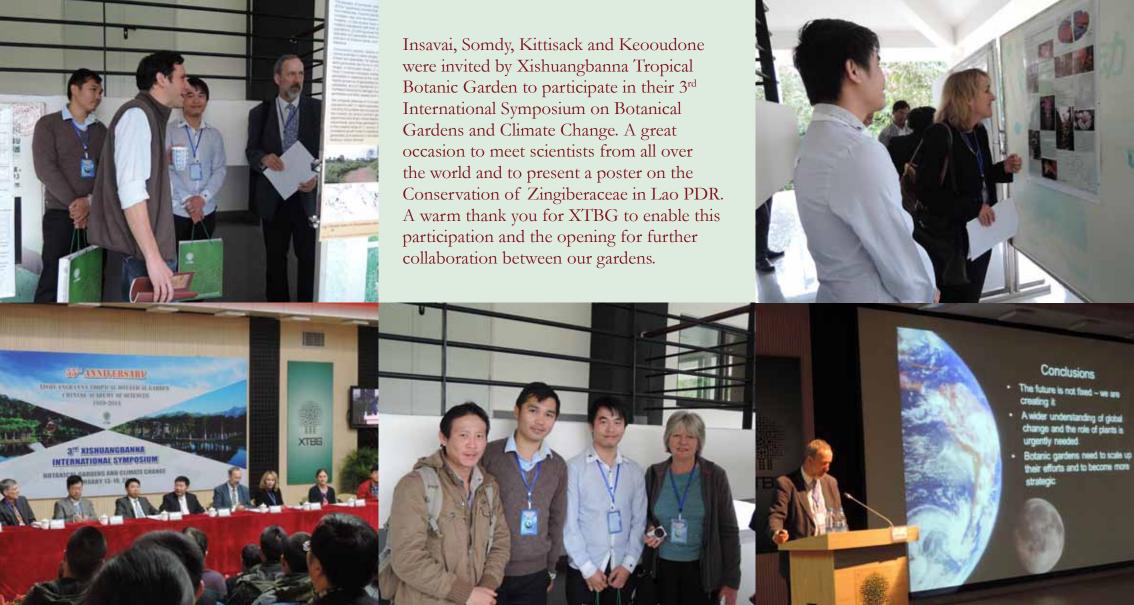


From November 29th to December 14th, Somdy our head gardener, and two PTK horticulturists, Saysamone and Khamphart, were invited by Singapore Botanic Garden for a workshop in Garden Design and Planting Techniques. The trip was sponsored by Singapore Botanic Garden and the honorable Mr. Tan Jiew-Hoe (president of the Singapore Horticultural Society).

















BOTANICA DU LAOS PAR ELISABETH VILAYLECK Plants in Traditional Lao Literature



"If one is blessed with the flowers of the Three Jewels, his body will exude the perfume of sandalwood and his mouth the scent of the lotus."

In a tropical country like Laos where nature is luxuriant and people live closely with flora and fauna, one would think that the traditional literature would reflect that atmosphere and environment. But this kind of literature, whether in the language or the culture it describes, is always rather stereotypical; the same universe has produced text upon text, the same characters in the same settings, far from the everyday reality of life. To unravel these texts is even more difficult because they have been written in another person's language, and in a dead language. I wanted to attempt this survey, not so much to measure the degree of realism in this literature but more particularly from a botanical point of view.

Lao traditional literature can be divided into lay and religious literature, but the distinction is more technical than real as the two types are tightly interwoven. The lay literature includes the stories, the tales in verse and in prose, and epics inspired directly by Indian texts. The religious literature is made up of canonical texts, rituals, treatises on law, and horoscopes. As well, the literature is both oral and written, in both Lao and *Pali*.



The gourd from the myth decorates some of the balustrades of That Luang

In the beginning, there was the gourd: Creation Myths In the beginning, there was the gourd, maak nam or maak nam tao, (Lagenaria vulgaris), one of the many cucurbits which are found in Lao. It has a white flower and a variable shape, sometimes with two uneven rounded swellings, the top end smaller, (pilgrims gourd), and sometimes with a larger, rounded lower end and a long neck (necked gourd). The skin is hard and woody while the pulp is white, spongy and rather insipid in taste. As a result, maak nam is rarely eaten and, once it has been dried, it is used mainly as a receptacle or as a musical instrument (the resonating chamber for a mouth organ).

Descourtilz, 1827







The copper tree which rules the destinies of the town of Luang Prabang



The founding pillar of the town of Luang Prabang is made of may dou

There are many versions of the myth which tells of the origins of the Lao people and they can be summed up as follows: the gods gave a buffalo to the uncivilised and undifferentiated people, which, when it died, let loose a vine bearing three gourds from its nostrils. These became quite huge and when they were ripe, they in turn released civilised people who had diverse cultures but had lost their divine connection.

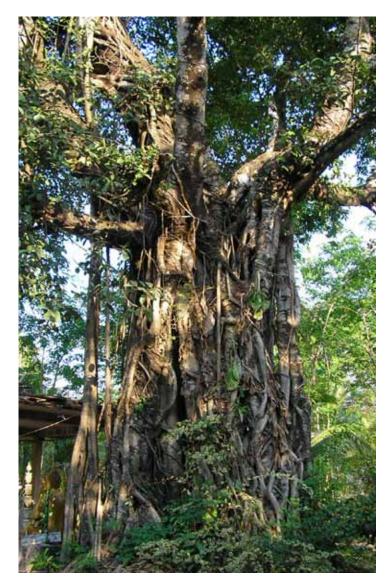
In another legend, as the flood sent by the gods approached, people enclosed themselves inside a hollow tree trunk, which hung from the branches of a fig tree and watched the flood through cracks in the wood. When the waters had subsided, a young girl who survived the

floods gave birth to two gourds, which produced a new human race.

Cities also have their foundation myths and one of the best known is that of the town of Luang Prabang. Long ago, monks searched for a place to establish the capital of the realm. At the confluence of the Nam khan and the Mekong they saw "a gigantic flame tree which was permanently covered in blossoms which were as splendid as flowers made of red copper." At that spot, they built a gold and silver column to found the village, which was then called Xieng dong Xieng thong, which is usually translated as the "town of Dong (a river) and town of the Flame tree". It is not understood why this translation is widely accepted, as the Flame Tree is a native of Madagascar, and is

a very beautiful tree which belongs to the leguminous family and which also has "flamboyant" flowers and is called tone thong (Erythrin astricta) or, literally, the copper tree. There is another very lovely stand of these trees on the Sacred Mountain (Phousi) in the centre of Luang Prabang which dominates the old capital city.

Another legend about the founding of Luang Prabang, reported by Amphay Doré, has it that a pregnant woman was chosen as the spirit of the town, and after a procession through the streets, was taken to the edge of a great pit and thrown down into it. A post of *mai don (Pterocarpus macrocarpus)* was then planted at the site of her death. Is it a result of this legend that the spirit post and the primary post of a Lao house are made



of *mai don*. It is also said that the temple bells of the town must be made of this wood. What is certain is that this "Burmese Rosewood" is well over-used, logged illegally and sold in dubious circumstances to neighbouring countries.

The births and rebirths based on plants are not at all rare in the literature of Southeast Asia. In Laos, the story of the four princes born in four Frangipani tree trunks is alive and well and still recounted at funerals. (cf. PTK Newsletter #11).

The Palm Tree and the Monkey: stories and legends

The tone of these stories is generally one of wonder and fantasy, and whether amusing, moralising or epic, they take place in a magic universe when logic has little importance. They tell of a fairly stereotypical version of the world of human beings. Partly it is a civilised place where princes and princesses live in paradisiacal gardens full of fabulous flowers and perfumes and partly a wild, dangerous place where heroes carry out their exploits. For example, in Sinsay, a story in verse, there are no recognisable, known flowers. The heroes come to "a garden of flowers", offer the young princess "bouquets of flowers" with "a sweet fragrance that fills a garden to the south of the city", and "the enamoured king surrounds his beloved with flowers and attentions". In contrast, the heroes go off to places far from

The banyan tree is often mentioned in stories

their homeland where they encounter thick forests full of invisible creatures and dangers.

The rare plants mentioned in these texts are very much the basis of everyday life; rice which represents success or the coconut palm, which represents the sweetness of life. Bamboo is also very often mentioned as it provides a vessel for magic potions, alcohol, water or rice. The hardships of life in the wilderness are noted in the search for unidentified tubers and seedpods.

Saveng Phinithh has collected and translated *The Stories and Legends of Lao* in a bilingual edition. Many of these mention the fig tree, which is a rather vague term as there are at least 50 species in Lao. On the other hand, in the story entitled *khunlou* and *nang Oua*, it is a big *banyan* (*Ficus benghalensis*) which shelters the love affairs of the young. Louis Finot, calls this same *banyan nigroda*, after its Sanskrit name, in a story entitled *The Nymph of the Fig Tree*, in which a man is seduced and killed by a goddess who lived in this tree.

The story entitled *The Old Monk and the Jackfruit* is a farce which recounts the misadventures of an elderly monk who is both "greedy and egotistical" and a novice who enjoys getting revenge on his master by the use of a jackfruit, mak mi (Artocarpus heterophyllus). Because the young monk didn't know how to present the ripe fruit correctly to his superior he was given a rap on the head. When the occasion presented itself again, but this time with a fruit that was still green, he hit the old man on









the head with it and when you think that a jackfruit can weigh several kilos, you can imagine how much it hurt the old fellow.

Daily life among the Lao people was, until quite recently, built around the practice of betel-chewing. (*Piper betle*). This cultural habit is found in stories, in particular those in which the betel seller of *Candapuri* changed stones into gold and when he became king built Wat *Xieng thong* and *That chomsi* in Luang Prabang.

Like coconut trees, palms are part of the settled landscape. In The Monkey and the Palm Tree, some woods men started to chop down a kok tan or sugar palm, (Borassus fabellifer), by hammering a wedge into the trunk and then went off to have lunch. A monkey came along and pulled out the wedge, where upon the two halves of the tree slammed shut, trapping his private parts and killing him. "No matter what you do, you cannot escape your destiny". Lao people are very fond of stories of justice in which difficult cases are taken to a royal tribunal where judgement is given either by the king himself or by the wise men of his court. A man climbed a mango tree (Mangifera indica) to pick some fruit and lost his balance but managed to grab a branch from which he hung suspended. Along came a mahout on his elephant. The mahout tried to rescue him by grabbing his feet and ended up hanging in the air himself. Then there came

- 1 The jackfruit became a weapon in the hands of an insolent novice
- 2 The sugar palm that killed an unwise monkey
- 3 The clumsy mango picker hanging from a branch, waiting for help
- 4 The betel seller of Chandapuri



a hunter who rescued the two from their perilous position. The question then was as to whom should be paid for rendering aid.

Riddles are also a much-loved genre and while most of the time they involve animals, occasionally they are about plants. In a verbal duel between lady crow and sir worm, he asks her "what is lighter than something that is light?", and she replies, "The down of the false cotton plant." That answer isn't very good, so a wise doctor interrupts, "Lighter than that which is light, that is to be pure, with no sins or faults." The false cotton plant is the false kapok with

False cotton tree in flower Below: The fruit of the true cotton tree





red flower pods, which yield stuffing of a lesser quality than kapok (*Ceiba pentandra*). In Lao these are called *ton ngiou pa* and *ton ngiou ban* respectively.

The jungle of religious and canonical texts

"The Buddhist canon is not an easy subject to study, discouraging all but the most zealous in its size and its severity," said Louis Finot, who studied these texts in Laos nearly 100 years ago, (1917). Be that as it may, I will continue with my botanical research into this jungle of mythical trees and real trees.

A forest of wonders

There are innumerable mythical trees in the literature of ancient India and most can be found in both secular and religious Lao texts as well.

Tone kalapheuk is one of these. The name is composed of two Sanskrit words; kalpa, or kala, (weather) and peuksa, (tree) which means "tree of the cosmic period" and comes from a legend in which money could be found on trees.

Tone manikhot is covered in precious stones and grows in a marvellous Garden of Eden where one merely gathers the fruits of the trees to become rich and happy. It can be found in several versions in *Pha lak pha lam*, the Lao version of the *Ramayana*, about the birth of Hanuman. The branches of the *manikhot* tree grow both vertically



and horizontally towards all points of the compass. The fruits, which grow on the horizontal branches, change people into animals when eaten and those of the vertical take human form. One day when *Pha lam*, in the throes of great sadness, wanders in the forest, he eats fruit from



Cassia bakeriana is considered a mythical tree

this fantastical tree and turns into a monkey and which creates Hanuman after a union with a female monkey, herself a victim of a magic spell.

The Buddha of trees within trees

In the Buddhist texts, the life of the sage seems to progress from tree to tree through a course of initiation leading to Enligh tenment. His birth, his long periods of meditation, his death, all happen under a *çâla* tree, which belongs in the group of mythical trees, and often confused with *tone manikhot*. But with an attempt at realism, some writers try to include this sacred tree in botanic reality and scientific names are suggested like *Shorea robusta*, *Cassia bakeriana* or even *Couroupita gianensis*, a foreign tree, which is native to tropical America.



Ka donenam is one of the tree under which the Buddha meditated

The ton pho (Ficus religiosa) is the final tree of this series and it is the tree of Knowledge (pali « bo », Lao « pho » Sanskrit « bodhi »). It is the Buddha himself at the same time both the Enligh tener and the Enligh tened One. Such is the function of this Bodhi tree throughout the canonical texts. (cf. newsletter #4)

The Lao and Thai texts tell us that the Buddha, after having attained enlightenment, meditated for three weeks under a tone hay (Ficus benghalensis), passed the fourth week under a tone monangmeng vane (Buchanania latifolia), while during the fifth he sat under tone deua (Ficus racemosa). The sixth was spent under a tone kadonenam (Barringtonia acutangula) where the Naga protected him with his seven heads and the seventh under a tone sakoun (Mimus opselengi) where the god Indra presented him with some



Buddha also meditated under a tone mouangmeng vane

fruit. We find in this list two fig trees; the *banyan* already mentioned and the *tone deua* which bears plump, edible figs along its trunk. It is considered to be a preferred residence for spirits. *tone ka donenam* is often cited in stories under the name of Indian Oak because its timber is rather like that of the European Oak. In some texts it is considered to be the Tree of Enlightenment. *tone sakoun* has pretty white fragrant flowers, which were once made into garlands to place around the chignons of ladies. It is now rarely done, possibly because Thai people consider it to be bad luck. *tone mouangmeng vane* is quite spectacular with its masses of white flowers, which bloom at the end of the dry season. Many other trees are also cited in texts recounting the life of the Sage, including, the mango, the tamarind, and the Jambosier



(Eugenia spp.). The name of this last is borrowed from the Sanskrit jambu, a mythical tree of ancient India of extra ordinary size. Its branches spouted mighty rivers, and its fruits of golden seeds were immortal. Nothing astonishing that the Buddhist tradition has reinvested this tree for having sheltered the Buddha's first meditation, with even its shadows immobilised so as to protect him for a longer time.

Many species of *Eugenia* are found in Laos, both cultivated and wild. It is generally a tree of medium height with lanceolate leaves and pretty white puffball flowers,

tinged with green or pink depending on the species. The fruits are shaped like a fat pear but are called 'pommes', or apples in French.

The Lotus Flower

Along with Ficus religiosa, the other emblematic Buddhist plant is the lotus, which has two areas of significance. In the secular literature, it is used as a paradigm of the most sublime fragrance, usually together with sandalwood. Thus, when a great king spoke, he perfumed the air with the scent of the lotus and his body gave off the fragrance of sandalwood. According to the merit system, "If one is honoured with the three jewels his body exudes the scent of sandalwood and his mouth the fragrance of the lotus flower." But mainly, the lotus represents both the Buddhist doctrine and the Buddha himself. He shows the way in the "Lotus Sutra" and he is Enlightened because "like a lotus which is not attached either to the water nor the mud at the bottom, the wise man is attached neither to sensual pleasures nor to the world." (cf. PTK newsletter #3)

The Rewards of the Flowers

Besides the Buddhist Canon there are a great number of texts designed to teach the monks essential religious lessons on particular points of doctrine. Among these, the *son*, are for explaining to the monks and the faithful about the practical advantages of various



acts of piety. Thus, son dokmai, which Finot translated as, "The reward of the flowers," of which a hightlighted example is given; "Those who pick flowers of all kinds' like coconut tree blossoms, jasmine, coral tree flowers, lotus, Acacias etcetera will gain a great reward from them." And he adds at the bottom of the page "The author enumerates 25 species of flower by their Pali and Lao names. A curious detail is that The Buddha is like the lotus which is attached to neither the water nor the mud The Jambosier sheltered the Buddha in its shade



The pods and stems of sompoy Gardenias are sought after for their fragrance

most of these are wild flowers and are never used now a days as offerings on Buddhist altars." The flower of the coconut tree or, rather, the inflorescence, despite its huge size, was once picked for marriage ceremonies in particular. The coral tree is the French name for trees of the genus Erythrina. Jasmine, which fits the description of several species of the genera Jasminum or Gardenias still often used because of its fragrance. As for the 'Acacias', they are innumerable in Laos, among them the famous sompoy (Acacia concinna) which has several uses both secular and religious. The footnote added by Louis Finot is frustrating because we could have had a list of flowers from literature, but he has decided that it is useless to give all the names and I have not been able to find them in the Lao text.

In conclusion, I can't help but notice the paucity of references to real plants in this literature but where botany is powerless, imagination associated with these ancestral beliefs recreates a magical universe which delights the heart of the hearer or reader.



Flowering of Convolvulaceae in January

The Convolvulaceae family has beautiful and different flowers, with more than 1,880 species occurring in tropical and sub-tropical regions. The Convolvulaceae plants are found in diverse habitats such as open area, dipterocarp forest, mixed deciduous forest, dry evergreen forest, evergreen forest and somtimes found in limestone forest. In Laos, this familyhas about 68 species in checklist of vascular plant in Laos (M.F.Newman et al. 2007). Now a team of experts of Convolvulaceae are studying this family in Laos. More species will be reported to science, please await new publications, coming soon. This photo essay presents thirteen examples of the Convolvulaceae family in Laos.

ດອກກະໂຖມິດ -Lepistemon binectariferum, Convolvulaceae © K. Phoutthavong

















ດອກມັນດ້າງຂືນແມວ -Argyreia capitiformis, Convolvulaceae © K. Phoutthavong









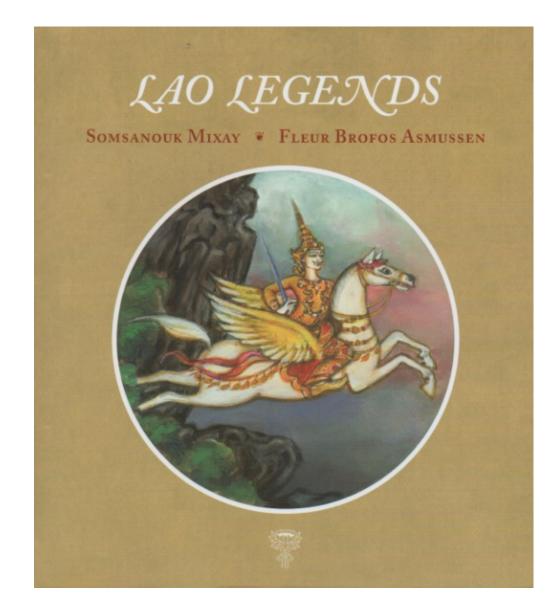
SOME BOOKS AND OTHER AFFAIRS WE LOVE

LAO LEGENDS

Somsanouk Mixay & Fleur Brofos Asmussen

White Lotus, Bangkok 2013 136 pp., 51 pp. illus. in col., 200 x 220 mm 35\$ ISBN: 9789748434469

"Once upon a time..... Laos!" Lao Legends, a collection of magnificent Lao tales traditionally passed down orally, now particularly well captured on paper by Somsanouk Mixay and deliciously illustrated by Fleur Brofos-Asmussen, both of Lao origin, takes one on a voyage through the imaginary world and the traditions of the endearing Lao people.





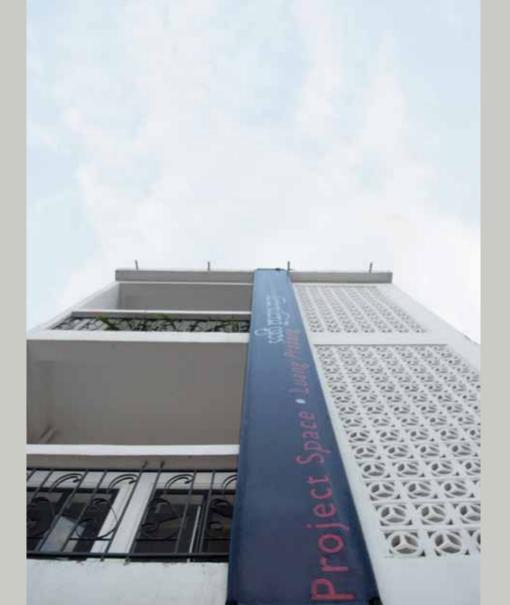
At the Kuangsi waterfall 30km outside Luang Prabang, Ineke, Olaf and Vandara have recently opened the first butterfly park of Laos. Their purpose is to study and show the local butterflies and provide educational activities to school children and tourists.

Beautiful landscaping, hundreds of butterflies and creative bamboo architecture make this a wonderful and educative experience absolutely worth your visit!

Open every day from 10am to 5pm

For more information: 020 - 98 23 74 66 laosbutterflies@yahoo.com





Project Space • Luang Prabang

Dear Friends, we are very happy to announce that the Children Hospital Luang Prabang will take over Project Space as their office and presentation place and keep our space and spirit alive.

Project Space • Luang Prabang will continue as a non-profit organisation to work with and present the work of exciting Lao artists.

Project Space • Luang Prabang
PO Box 959, 06000 Luang Prabang, Lao PDR

Tel: + 856 20 22 54 09 99

www.projectspace-luangprabang.com