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# Pha Tad Ke Botanical Garden



*"As a botanist, I support the garden at Pha Tad Ke and I am asking you to do the same. This is a vital project for Laos: peaceful, as is everything to do with plants, it focuses attention on little-known treasures of Lao flora and will be immensely useful for the local economy and culture. Help Rik Gadella, founder of Pha Tad Ke, his initiative deserves your full attention and is well worthwhile."*

**Francis Halle**

Professor Emeritus of Botany, University of Montpellier

**WWW.PHA-TAD-KE.COM**

# ECOTOURISM & BIODIVERSITY IN LAOS

**AN ECONOMY IN DEVELOPMENT**

THE FORMER CAPITAL OF LAOS, LUANG PRABANG, IS A RIVER PORT ON THE BANK OF THE MEKONG RIVER IN THE NORTHWEST OF THE COUNTRY.



## **A CITY PRESERVING ITS UNIQUE HERITAGE**

Declared a World Heritage Site in 1995, the city of Luang Prabang is a unique example of an established traditional town. The preservation of its cultural heritage, its historic monuments and its social structure has attracted international attention.

## **A GROWING TOURISM BOOM**

Since the Lao People's Democratic Republic was opened to new economic structures and became integrated into the world system of open commerce in 1986, tourism has developed. It is now playing an important part in the economic development plans of the country. There are 600 classified buildings in Luang Prabang and it is the leading tourist destination of Laos. Since 1995, the number of visitors has risen from 20,000 per year to more than 350,000.

## **The protection of biodiversity is a national priority.**

Biodiversity is the common thread that is integral to our lives and on which we depend. The biological diversity of Laos is immense, made up of vast rainforests and rare floral species including many varieties of orchids. The National Assembly of Laos, wanting to preserve natural resources for the sake of the betterment of local people, passed three laws concerning wildlife and aquatic life, intellectual property, and fire prevention. As well, Laos has put in place 22 national reserves for the preservation of biodiversity and wild species, covering nearly 14% of its territory. The goal of the government is that by 2020 it will bring its forested territory up to 70% from the present 50% of the country.

This policy is in line with the economic perspectives of the agricultural and forest industries and depends on a program of environmental, flora and fauna protection and investment in tourism. In addition, the government has launched an awareness campaign to inform people about the dangers of large-scale deforestation.



*Pha Tad Ke, just outside Luang Prabang on the Mekong*





*View of Luang Prabang, from the Phousi Mountain*

## LAOS

- Neighboring countries: Myanmar (Burma), Thailand, Cambodia, Vietnam and the People's Republic of China.
- 235,000 km<sup>2</sup>, 6M population, 60% under 21 years old.
- 80% of the population lives on agriculture, fishing and forestry.
- Government encourages investment in ecotourism.
- Forested area: 50% of the country, government goal is to extend this to 70%.



## LUANG PRABANG

- 120,000 population.
- Declared a World Heritage site in 1995.
- Leading tourist destination in Laos with more than 300,000 visitors per year.
- Port city on the Mekong River.
- Unique example of an established traditional town.
- Preservation of its cultural heritage.

# Pha Tad Ke Botanical Garden



*View over the rice fields at Pha Tad Ke*

## AIM

The creation of the first botanical garden in Laos for the conservation and study of the Flora of Laos. The aim of Pha Tad Ke is to create a regional biodiversity research and education centre with the first living collection of plants in Laos, dedicated to research, both in situ and ex situ, for both educational and leisure purposes.

As such, Pha Tad Ke will be the very first centre in the country, which will ensure the knowledge and the preservation of the exceptional biodiversity of Laos. The centre, supported by the collaboration and exchange of information with prestigious botanical institutions of South East Asia, the United States and Europe will have as its mission the development of educational programs, to publish editorial work, and to conduct research into environmental conservation, re-introduction of plants, horticulture, and ethno-botany in order to promote biodiversity.

## A PIONEER ECOTOURISM PROJECT

Pha Tad Ke will promote a new type of ecotourism with initiatives in:

- Raising the fundamental awareness of the population of the importance of biodiversity and indigenous plants for the development of the country.
- The protection of traditional knowledge and of a unique environment from the point of view of management and sustainable development.
- The allocation of 2% of the budget towards helping local villages.
- The formation of an all-Lao team who will eventually manage the garden.



*Signing of MOU at NUoL, Vientiane, 2010*



*Village life next to the garden*

## PHA TAD KE BOTANICAL GARDEN

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*Pha Tad Ke, June 2010*

## PHA TAD KE - TODAY AND TOMORROW

Pha Tad Ke Botanical Garden is located on the Mekong River, 15 minutes by boat from the centre of town. It lies two kilometers from the village of Ban Chan, between the river and rice paddies. It is an exceptional site. On the former hunting grounds of the Viceroy of Luang Prabang, the Botanical Garden nestles at the base of the Pha Tad Ke cliffs.

**Area: 14 hectares**

**25 hectares of reserved forest on the mountain**

**Opened to the public in November of 2016.**

At the instigation of Rik Gadella, the first work began in 2008 on the clearing of the site and development of the concept for the master plan. Today, a team of 40 locally trained gardeners are working onsite alongside botanists and ecologists, and we conduct regular field trips with international partners.



*Rik Gadella*

## The Founder

Rik Gadella was born in Aruba, in the Caribbean, in 1964. After studying philosophy, he established in Amsterdam a publishing house called Picaron Editions, devoted to works of philosophy, poetry and art. He worked with a number of writers and artists, notably Jean-Charles Blais, Mel Bochner, James Brown, Markus Lupertz, Robert Mangold, Jose Maria Sicilia, Bob Wilson, etc. A dedicated and hard-driving organizer, he founded and directed internationally acclaimed artfairs, including Paris Photo, ArtistBook International, 20th Century Design and Parcours des Mondes. In 2007, he visited Laos, and had a revelation.

*“Who would have thought that a week’s stay in Laos would have turned my life around so much that I’d end up moving to the other side of the world, into a country and a culture that I knew nothing about, to launch myself on a completely new path and a huge adventure. Here I am in Luang Prabang, one of the most fascinating places on earth. And, I also have the privilege of working with amazing people on the discovering and classifying of an exceptional flora for the creation of the first botanical garden in Laos.”*

Thus the project of a botanical garden took shape with the necessity of setting up a research centre worthy of the name. This decision required rigorous scientific work and the valuable input of committed partners.

For Rik Gadella, it is vital to make known the extraordinary but little-recognized biodiversity of Laos and that Pha Tad Ke is also involved in a dynamic education process and in the promotion of responsible ecotourism.

# Why help Pha Tad Ke ?

**TO BE A PART OF THE DEMANDING AND AMBITIOUS PROJECT OF CREATING THE FIRST BOTANICAL GARDEN IN LAOS.**



*Training by Dr. Leigh Morris, RBGE, August 2010*

## **PROTECT BIODIVERSITY**

By supporting Pha Tad Ke, you help protect the biodiversity of Laos and begin the process of raising the awareness of the local population about environmental issues.

The garden presents a living collection of the Flora of Laos as well as a herbarium. A medicinal plant garden and several thematic collections, including orchids, ferns an arboretum, palm and bamboo garden, will allow visitors to discover the richness of the Flora of Laos.

## **SUPPORT THE DEVELOPMENT OF YOUNG LAO STUDENTS**

The Pha Tad Ke Botanical Garden will create scholarships in the field of botanical research in Laos, both in situ and ex situ. It will participate in putting into effect programs of cooperation and post-graduate qualifications for Lao botanists in institutions and universities overseas.

By becoming involved in the educational progress of Pha Tad Ke, you will help Lao students expand their horizons and contribute to the advancement of research and innovation in Laos, in the fields of botany and biodiversity.



*Training by Dr. Bouakbaykhone Svengsuksa, June 2010*

## **BE INVOLVED IN RESPONSIBLE TOURISM DEVELOPMENT IN AN AREA OF GREAT POTENTIAL**

Mr. Southat Keoboulapeth, a student at Souphanouvong University in Economics and Tourism, completed a survey about tourism in Luang Prabang under the aegis of Pha Tad Ke. This survey, conducted in November 2009, was carried out in the centre of Luang Prabang and involved about 900 tourists. Analysis of the results revealed that 73% of respondents expressed a desire to visit a Botanical Garden.

**By getting involved with the Pha Tad Ke Botanical Garden, you will help the development of ecotourism in Laos and thus contribute to the growth of new economic activity which will benefit the local population.**



*Pha Tad Ke, June 2012*



*Pha Tad Ke, June 2012*

## **FUNDING OPPORTUNITIES**

Pha Tad Ke Botanical Garden is excited to announce the fundraising campaign for the second phase of our development: the installation of our Bio-diversity Research and Education Facilities accompanied by an intensive 5-years capacity building and research program.

## **THE PROJECTS**

Attached you will find information sheets summarizing the projects for which funding is sought. There is an information sheet for each, and these are in several categories:

**Infrastructure**

**Conservation**

**Education & Research**

**Communication**

This system of information sheets is designed to keep you updated on the progress of financial support for the various planned projects with complete transparency.

## **EQUITABLE EXCHANGE AND BENEFITS**

Returns and benefits will be part of individual packages according to the identity and purposes of the patron.





# Pha Tad Ke International Scientific Committee

**Dr. Nura Abdul Karim**

Plant Records Manager, Singapore BG, Singapore

**Prof. Dr. Leonid Averyanov**

Komarov Botanical Institute St. Petersburg, Russia

**Prof. Dr. Jin Chen**

Director Xishuangbana Tropical Botanical Garden, China

**Dr. Luu Hong Truong**

Head of Bioresources, Institute Tropical Biology, Hochiminh, Vietnam

**Prof. Dr. Francis Hallé**

Botanist, Montpellier, France

**Assoc. Prof. Dr. Sovanmoly Hul**

Muséum national d'histoire naturelle, Paris, France

**Prof. Dr. Paul Kessler**

Prefect Hortus Botanicus Leiden, The Netherlands

**Prof. Dr. Tetsuo Koyama**

Director Kochi Prefectural Makino Botanical Garden, Japan

**Dr. Mark Newman**

Tropical Systematic Botanist, Royal Botanic Garden Edinburgh, UK

**Prof. Dr. Pranom Chantaranothai**

Khon Kaen University, Thailand

**Dr. Jacinto C. Regalado**

Assistant Curator, Head Vietnam Program, Missouri BG, USA

**Dr. Yue-Hsing Star Huang**

Director General Taiwan Forestry Research Institute, Taiwan

**Dr. Piyakaset Suksathan**

Herbarium Queen Sirikit Botanical Garden, Thailand

**Prof. Dr. Wei-Bang Sun**

Executive Director Kunming Botanic Gardens, Yunnan, China

**Dr. Suyanee Vessabutr**

Deputy Director Queen Sirikit Botanical Garden, Thailand

## **From Laos**

**Somsanith Bouamanivong**

Director National Herbarium Laos

**Assoc. Prof. Dr. Somchanh Bounphanmy**

Vice-Dean Faculty of Science, NUoL

**Dr. Sounthone Ketphanh**

Director Forest Research Center, NAFRI

**Dr. Souroudong Sundara**

Director General Science and Technology Research Institute

**Assoc. Prof. Dr. Bouakhaykhone Svengsuksa**

Scientific Advisor Pha Tad Ke Botanical Garden



# They Support Pha Tad Ke



The National University of Laos was founded in 1995 in Vientiane and offers two specialized courses in Botany within the Faculty of Agriculture and Forestry.



The Museum of Natural History was founded in 1793, replacing the Royal Medicinal Gardens, created during the reign of Louis XII of France in 1635. This institution is dedicated to the conservation of collections of plants, the dissemination of scientific culture, research and education.



Queen Sirikit Botanic Garden, is the first botanical garden of Thailand at international standards. The main objectives of the Garden are to serve as a center for botanical study and research and to render services concerning biodiversity and environmental conservation. In 1994, QSBG received the honor from HM the Queen to grant a royal permission to name this northern botanic garden as “Queen Sirikit Botanic Garden”.



**Royal  
Botanic Garden  
Edinburgh**

The Royal Botanic Garden Edinburgh, created in 1670 in Scotland as a garden of medicinal plants, now specializes in biodiversity, conservation and climatic change. To this end it initiates and coordinates a number of international projects.



The Singapore Botanic Gardens is a dynamic and living monument to the foresight of the founding fathers of Singapore. Sir Stamford Raffles, the founder of Singapore and a keen naturalist, established the first botanical and experimental garden on Government Hill (Fort Canning Hill) in 1822.



BCGI is an international organization created in 1987 and dedicated to the conservation of endangered floral species. It includes over 700 members in 118 countries and most International Botanic Gardens.



# 01 Collecting

**The primary mission of Pha Tad Ke Botanical Garden is to establish a collection of living plants and a biodiversity conservation program that will be useful for botanists and their research projects.**

This project is the first of its kind in a country suffering from a lack of knowledge in this field.

The goals are to establish a number of specialized collections of native plants, to preserve the customs and uses associated with these plants, and to promote their future use both in ceremonies and as medicines or in traditional construction.

The Garden is creating five thematic collections, which will make possible research directed at the reintroduction of wild plants and their restoration into the natural environment.

The different themes of these collections is determined by the Garden's scientific team and will include, among others, an orchid house and an ethno-botanical garden.

In order to establish these collections, the Garden will start with a series of eight collecting trips a year over three years to be undertaken by the scientific team.



*Pr. J.E. Vidal & Dr. Bouakhykhone, 1994*





*Field trip, Luang Prabang Province, May 2010*

## **PROJECT DESCRIPTION**

Creation of a unique window into the flora of Laos  
eight collecting trips per year for five years.

## **PROVISIONAL TIMETABLE**

**End of 2017**

Botanist in charge of collecting begins work.

**January 2018 - 2022**

Fieldwork begins with 8 collecting trips per year.

## **COST OF THE PROJECT**

8 Field trips per year over 5 years 350,000\$,  
or 8,800\$ per fieldtrip.

Five-years Research Fellowship: 110,000\$.

## **MORE INFORMATION**

The creation of a Botanical Garden endowed with several national plant collections is an important way to promote environmental education and to awaken a collective consciousness of the importance of indigenous plants and their environment. These collections will be organized by the team at Pha Tad Ke under the supervision of the Royal Botanic Garden Edinburgh and under the aegis of the International Scientific Committee of Pha Tad Ke.

There are already many international botanical institutions, which have joined Pha Tad Ke including the National University of Laos and the Queen Sirikit Botanical Garden in Chiang Mai, etc.

*Field trip with Pha Tad Ke Team and Steve Scott of the Royal Botanic Garden Edinburgh, May 2010*







## 02 Herbarium, Offices

Pha Tad Ke seeks to create a 360 square meter herbarium to accommodate specimens collected in the field, to facilitate biodiversity research and to encourage the study of the preservation of the Flora of Laos. In addition to the Herbarium there will be a 360 square meter area for the library, meeting room, staff offices and a seed bank.

The herbarium will be a tool for training and also for providing subjects for study in the flora and biodiversity, and will eventually consist of more than 15,000 indigenous species. This herbarium will demand rigorous discipline in its development and careful conservation work. Each collected specimen will be given a classification, a description and precise details of its collecting history.



*Specialized Herbarium Storage*



*Field trip Pha Tad Ke Team, January 2012*

## **PROJECT DESCRIPTION**

Infrastructure: 720 Square meters

15,000 indigenous species.

4 research offices, conservation room and seed bank.

Equipment: plant-friendly air-conditioning, freezers, ovens.

Material, furnishings and reference library.

## **PROJECT COST**

Construction and furnishing 1,180,000\$.

8 Field trips per year over 5 years 350,000\$.

Five-years Research Fellowship: 110,000\$.

## **PROVISIONAL TIMETABLE**

End of 2018

Construction starts

**January 2018 - 2022**

Fieldwork with 8 collecting trips per year.

## **MORE INFORMATION**

Laos still lacks an up to date herbarium despite being a place of immense biodiversity. Therefore, this collection will constitute an indispensable reference for all study of indigenous flora and its conservation. As part of a UNESCO World Heritage site, the nature of Laos, and particularly Lao ethno-botanical knowledge, is a heritage that is in urgent need of preservation.

*Field trip Pha Tad Ke Team, January 2012*







## 03 Medicinal Plants

Laos has many medicinal plants. The uses of these which was once the province of minority groups living in the mountains, and little remains known by the greater Lao population. Pha Tad Ke will create a medicinal garden of about 4,000 square meters in order to evaluate the usage of these plants through research, educational programs and publication of academic works on the subject.

### **This medicinal garden will:**

Enable people to:

- Re-discover and learn the skills of their antecedents
- Create employment
- Give treatment to villagers
- Educate new generations about nature



*Field trip Pha Tad Ke Team, November 2011*

It is envisaged that a collection of around 400 species from Laos will form a basic reserve; emphasizing the educational aspect through precise descriptions of each plant; presented in a museum in the form of traditional style house and the setting up of teaching programs to catalogue the uses of these medicinal plants. To answer these needs, the Association of the Friends of





*Pha Tad Ke Team, January 2012*

## PROJECT DESCRIPTION

4,000 m<sup>2</sup>, 400 species.

Organization and creation of the garden by a landscaper.

Architect-designed traditional Lu House of 240m<sup>2</sup>.

Museum with educational descriptive panels.

Research fellowship and publications.

## COST OF THE PROJECT

Construction Museum and install the collections: 290,000\$.

Scientific publications and guides in Lao: 24,000\$.

Five-years Research Fellowship: 110,000\$.

## TIME LINE

**October 2012** the first of three identification trips to the Hmong village Longlan.

**2013 – 2014** Plant propagation and research.

**2015** Report and Analysis of specimen to prepare collections and publications.

**2016** Planting Medicinal Garden.

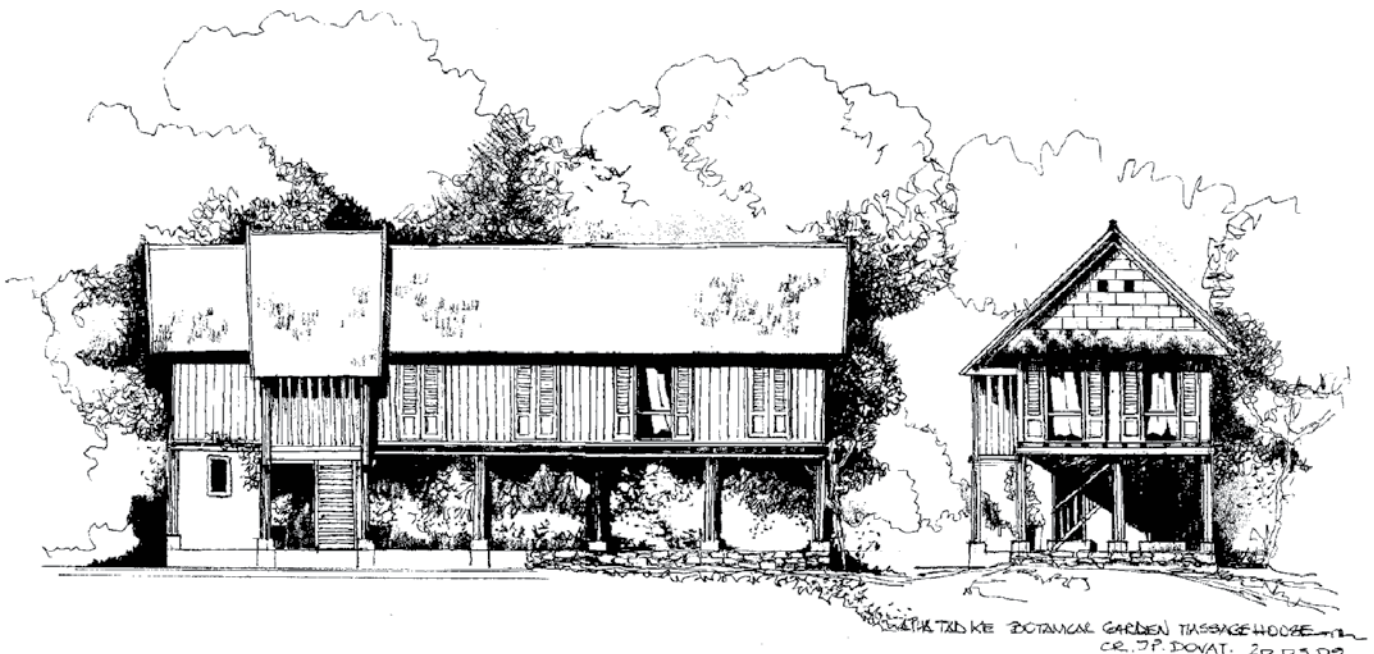
**2018** Preparation of the ground for construction of traditional Lu House and laying of first stone and publication of book.

## FOR MORE INFORMATION

Since increasing urbanization and de-forestation throughout Laos poses a threat to traditional knowledge and methodology, it is important to gather these plants and catalogue the information about their uses. Pha Tad Ke is creating a collection of medicinal plants in order to contribute to the education of local populations and of tourists, and proposes funding resources for scientific work in this field.

A 5-year program of post-graduate research will enable the further study of the subject and will result in the publication of a practical guide.

*Plan Medicinal Plant Museum in Pha Tad Ke*





*Careya sphaerica*

## 04 Mist House

In order to show our scientific collections of orchids, ferns and carnivorous plants, Pha Tad Ke Botanical Garden will build a Mist House.

A 300m<sup>2</sup> structure will hold 900 species from Laos and neighboring areas. The purpose of the house is the protection of these fragile and sensitive plants and to improve their visibility and accessibility.

Once they are in place and have been developed and studied, the house will give visitors the opportunity to discover the orchids of Laos in an environment designed for serenity and peace.

This open structure of 300m<sup>2</sup> will also include a 30 square meter workspace for botanical artists.





*Bulbophyllum lemniscatoides*

## PROJECT DESCRIPTION

300m<sup>2</sup> structure

Workspace of 30m<sup>2</sup>

900 species of orchids, ferns and carnivorous plants

## COST OF THE PROJECT

Construction and signage: 42,000\$.

Publication of a field guide on the Orchids of Laos: 32,000\$.

Five-years Research Fellowship: 110,000\$.

## PROVISIONAL TIME FRAME

**2012 - 2017** Field collecting and preparation of the monograph.

**2018** Construction of the mist house structure.

**December 2018** Opening of the orchid house and publication of the field guide.

## MORE INFORMATION

Orchids make up the largest family of flowering plants.

There are more than 30,000 species grouped into some 750 genera. Terrestrial orchids have the particular characteristic of growing in the ground. Their roots live in the surface layer of humus. Most orchids in this category come from temperate regions. Although they are tropical, the genus *Paphiopedilum* has the same growth habit.

Epiphytic orchids use other plants for support, while not being actually parasitic. They are nearly all of tropical origin.

The genera *Phalaenopsis* and *Cattleya* are found in this category.

*Dendrobium signatum*







*Workshop by Steve Scott, RBGE*

## 05 Education

One of the goals of the Garden is that, within 20 years, it will be directed and run by an all-Lao team (administration, training, and reception) and to transfer all the direction to a Lao non-profit association. The population of Laos at present has not had the benefit of the necessary resources to conduct such a project well and there are very few botanists. For this reason, Pha Tad Ke will create these teams and promote botanical and horticultural education in Laos.

The main objective is two-fold: to create infra-structure and an external structure dedicated to research framed by competent botanists under the supervision of the Scientific Committee. Thus, an important part of the budget of the Association of the Friends of Pha Tad Ke is to be used for training and skills development. Educational programs will be useful in recruiting qualified personnel and to build a Botanical Garden, which will one day have a totally integrated Lao staff.

## PROJECT DESCRIPTION

1. Scholarships for Lao students at Lao universities or the Northern Agricultural and Forestry college.
2. Post-Graduate Research Funding. Pha Tad Ke will offer the possibility for students to become involved in post-graduate research for one year, on a subject chosen in consultation with the Garden and their universities.
3. Overseas Scholarship Funding for Laos students and Pha Tad Ke staff in Thailand, Australia, Europe or the USA.

## PROJECT COST - Total budget for 5-years 255,000\$

Examples per student:

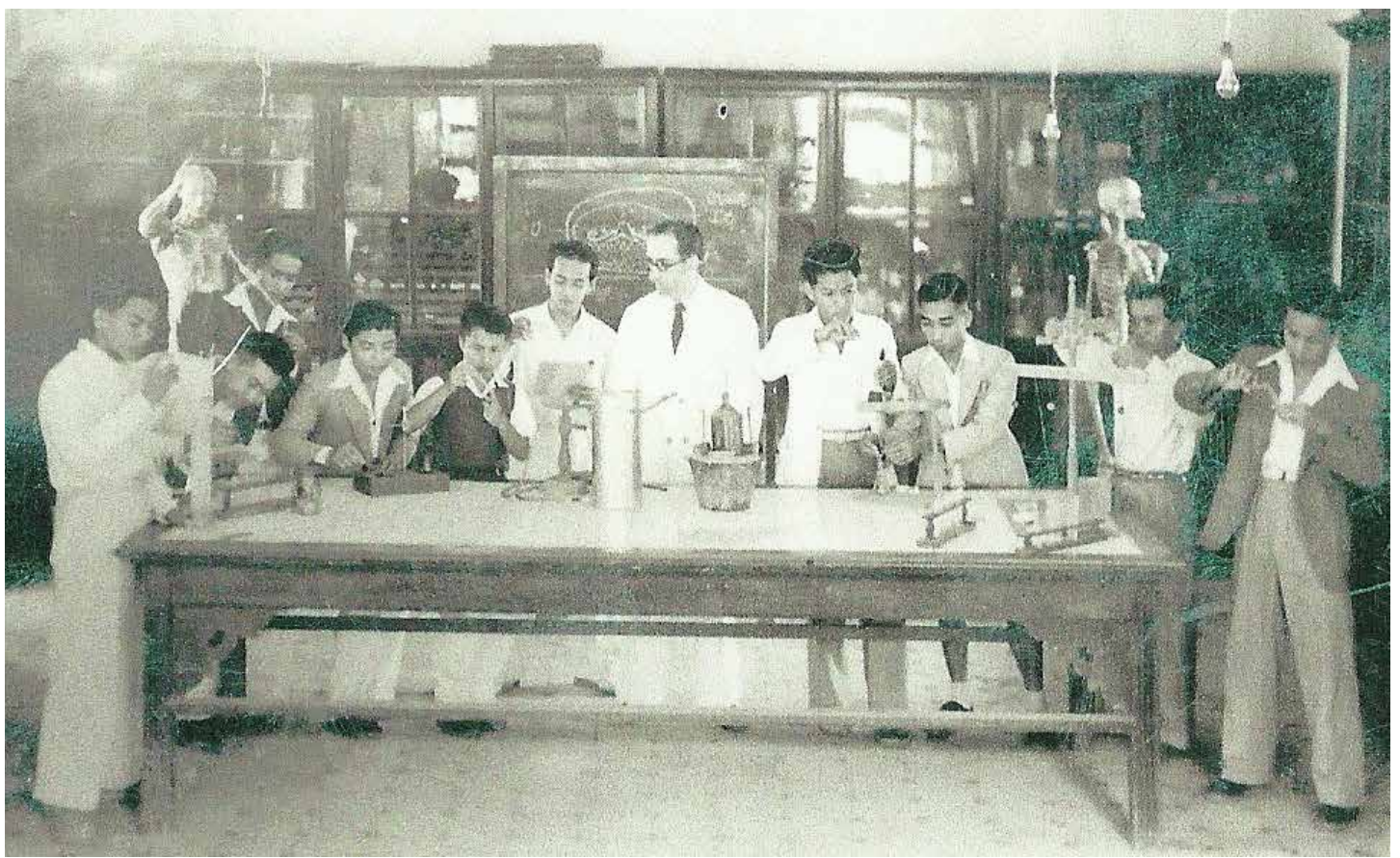
1. Four-year Scholarship for university in Laos: 6,500\$.
2. Post-graduate research: 5,500\$ for one year.
3. Scholarship at the University of Khon Khaen, Thailand: 16,000\$ for 3 years Masters study and 33,000\$ for European or US University.

## MORE INFORMATION

Pha Tad Ke will organise interdisciplinary International Scientific Conferences. These would cover research work, botanical and horticultural; teaching programs; conservation and environmental education. In order to evaluate cooperation between institutions, scholarship funding will be given to international botanists for research work both in situ and ex situ, relative to Laos.

The Association of the Friends of Pha Tad Ke is seeking interested partners for these different projects.

*Professor J.E. Vidal honorary member of the Amis de Pha Tad Ke - Lycée Pavié de Vientiane, november 1948*







# 06 Ecological Awareness

Among its principal objectives, Pha Tad Ke seeks to support environmental education in Laos, a country blessed with a considerable degree of biodiversity, a basic keystone for the region in terms of natural resources. At this point it is imperative that Lao people should understand the importance and uniqueness of their natural heritage and should want to preserve it.

Pha Tad Ke seeks to involve institutions in financing teaching programs in environmental awareness aimed at the Lao people and the general public.

## ENVIRONMENTAL AWARENESS PROGRAMS

Garden receives visits from many groups of students and adults. These visits are supervised by educational staff of the Garden and participants receive copies of our Lao language books during these visits to instill an understanding of environmental responsibility.

These programs take place in the form of one-day or weekly workshops and are about the specific themes of botany, horticulture, ecology and permaculture.



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ດຣ. ບົວໄຂຄອນ ສະແຫວງສິກສາ  
ແຕ້ມໂດຍ ກິງເງິນ ແສງດີ

Pha Tad Ke Botanical Garden - Luang Prabang

*First Publication of Pha Tad Ke in Laos for children*



## PROJECT DESCRIPTION

1. Educational Workshops: 30 children, one day
2. Student and Adult Workshops: 20 participants, 5 days
3. Discovery Trips - Luang Prabang: 15 participants. 5 days

## PROJECT COSTS - Total budget for 5-years 210,000\$

Some examples:

20 Children's workshops per year: 2,000\$

20 Adult workshops (2-days) per year: 4,000\$

10 Adult workshops (5-days) per year: 10,000\$

1 Adult workshop (3-months): 20,000\$

## MORE INFORMATION

The Pha Tad Ke Botanical Garden has a major advantage for a country which has chosen an economic development path centered on natural resources and global biodiversity.

The government has extended the declared forestry area to 70% of the country (which today covers just half the territory), to promulgate protection of the environment, the local Flora and Fauna and the development of ecotourism. The Pha Tad Ke Botanical Garden is a great opportunity for the growth of environmental awareness among the Lao population.

The Flora of Laos, one of the richest in the world, is still the least known in Asia. It is vital to promote environmental education, to encourage the preservation of a strong ecology and to create a collective consciousness about the importance of indigenous plants.

*School in the village of Ban Chan built with support from Pha Tad Ke and the Kingma School in the Netherlands*





# 07 Publications

To promote our goals and to reach a large public, in Laos as well as internationally, we have already published 15 books and are preparing several new book publications: Children's Books, Field Guides as well as Teachers Manuals.

## Already published - Children Books

### Trees of Laos

*Dr. Bouakhyakbone Svengsuksa (Published 2011)*

### Trees of Laos Volume 2

*Dr. Bouakhyakbone Svengsuksa (Published 2017)*

### Plants of the Forest

*Khamfa Chanthavongsa (Published 2012)*

### Flowers and Symbols of Buddhism in Laos

*Manichanh Sayarong (Published 2012)*

### Medicinal Plants

*Somsanith Bonamanivong (Published 2013)*







## Ars Botanica

A collection of small and intimate books with beautiful botanical illustrations from local and international artists, each volume illustrates a theme in depth and carries the flavours of the tropics to your house.

**Areca catechu**

**Dendrobium moschatum**

**Edible Flowers**

## Ethno Botanica

The richness of the Laos Flora and the way the plants are used in daily life, in religious and social rituals is the domain of ethno-botany and the focus of these publications.

**Fleurs de la Devotion** (*Published in 2012*)

**Jouer la Nature** (*Published in 2014*)

**Medicinal Plants from the Hmong**



## Educational Teaching Manuals

Didactic material in Lao language developed by Pha Tad Ke with various experts for use by schools, extension programs and training programs.

**School Garden Manual for Teachers**

*Mary Oakley Strasser & Pasith Sengamphone* (*Published in 2013*)

**Horticulture Manual**

*Somdy Oudomsack, Khamphart Tongchan & Pasith Sengamphone*  
(*Published in 2016*)

**Ecology and Biodiversity in Laos**

*Toulaphone Keokene* (*Published 2013*)



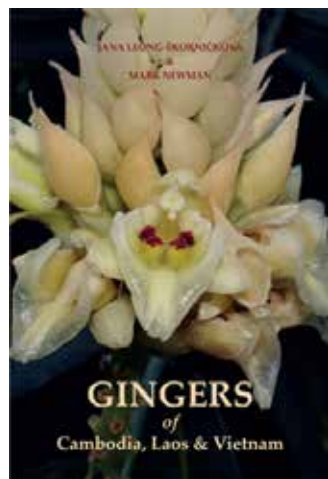
## Field Guides

Practical Field guides of the Flora and Fauna of Laos and South East Asia, easy to carry and use, they are the companions of all your explorations be it in the field or on your sofa.

**Gingers of Cambodia, Laos & Vietnam** *Dr. Jana Skornickova & Dr. Mark Newman* (*Published 2015*)

**Fruit & Vegetables in the Markets of Laos**

**The Wild Orchids of Lao PDR**



## Monographs

Lavishly illustrated books on the Flora, Fauna and the Arts of Lao and South East Asia. Photographers of international re-known are commissioned to illustrate these publications, written by botanists and art-historians, each expert in their fields.

**The Wild Orchids of Lao PDR**

**Pha Tad Ke. The Mountain to Untie and Resolve**



## **PROJECT COSTS**

For more details on how you can sponsor a book and have your logo on the cover please contact us.

It is also possible to sponsor a Book Party / Educational Workshop in the Garden; 30 Children, one day, at the end of the day they will all receive one of our Lao books: 400\$.

## **ONLINE REFERENCE DATABASE**

To be able to reach a public as large as possible we will create several online databases.

## **ETHNO BOTANICA OF LAOS**

The richness of the Laos Flora and the way the plants are used for medicine, construction, as dye for textiles and for the preparation of the daily meal has received little attention.

With this online database in English, French and Laos we will make this treasure trove available to the public.

Each record will describe in lay language and will be illustrated with several photos or botanical drawings. An easy to use search engine will enable searches by plant name, theme, usage and keywords.

**This is an important tool to make information available and promote biodiversity, easy to use and a large public impact.**

## **PROJECT COSTS**

For the development of the database and 200 plant records 28.000\$, each additional 100 records 9.700\$







*Artist Studio, drawing by Jean-Pierre Dovat*

# 08 Arts & Culture

*"I used to think the top environmental problems were biodiversity loss, ecosystem collapse and climate change. I thought that with 30 years of good science we could address those problems. But I was wrong. The top environmental problems are selfishness, greed and apathy ... and to deal with those we need a spiritual and cultural transformations and we scientists don't know how to do that."*

**Gus Speth, US Policy Maker and Environmentalist**

It is our conviction that biodiversity conservation can only be attained through a fundamental change of awareness that leads towards a holistic view of nature and society. Arts and Culture play an important role in this.

## **ARTIST STUDIO**

We will install an artist studio where we can receive artists in residence as well as provide workshops and trainings.

## **AMPHITHEATRE**

We will host festivals in the garden and create an Amphitheatre for traditional as well as contemporary performances.

## **RETREAT CENTER**

Accommodate retreats for meditation programs as well as intensive workshops and think tanks on ideas that can lead to fundamental changes in our attitudes and the way we live.





*Etienne Fouchet, Stumbling Rooms, Pha Tad Ke, 2018*

## PROJECT DESCRIPTION

Construction of the 240m2 artist studio with installation of artisan hand presses for etching and lithography. This includes also a training program and workshops by professional artisans on print techniques.

## PROJECT COSTS - Total budget 322,000\$

Construction Museum: 275,000\$

Print equipment: 37,000\$

Training program by professional artisan: 10,000\$

Or support an artistic action:

Workshops for local artists: 3,000\$

Residency programs for international artists: 10.000\$

Installation of Follies and sculptures in the gardens: POR

## MORE INFORMATION

Pha Tad Ke Botanical Garden is collaborating with international artists and curators to develop an exciting and quality residency program. Two works have already been installed with Dutch artist, herman de vries and French artist, Etienne Fouchet. Invitations have been extended to several interesting artists.

An artist in residency program to create works and Follies in-situ will bring an exciting cultural program to Pha Tad Ke to stimulate the senses and the minds for all visitors.



*herman de vries, my poetry is the world, pha tad ke 2018*





ຟາ ທັດ ເກີ



# Pha Tad Ke Botanical Garden



*"As a botanist, I support the garden at Pha Tad Ke and I am asking you to do the same. This is a vital project for Laos: peaceful, as is everything to do with plants, it focuses attention on little-known treasures of Lao flora and will be immensely useful for the local economy and culture. Help Rik Gadella, founder of Pha Tad Ke, his initiative deserves your full attention and is well worthwhile."*

**Francis Halle**

Professor Emeritus of Botany, University of Montpellier

**WWW.PHA-TAD-KE.COM**

# A General introduction to plant collecting and the Flora of Lao PDR



The flora of Lao PDR is one of the least known in Asia. Although it was revised in the *Flore générale de l'Indochine* (Lecomte 1907–1950) and is being revised again in the *Flore du Cambodge, du Laos et du Viêt Nam* (Aubréville 1960–present), neither of these projects has treated Lao PDR independently. Both these studies group the flora of Lao PDR with that of its neighbours, Cambodia and Vietnam and the great majority of specimens cited are from Vietnam where botanical collecting has always been more intensive than in Lao PDR or Cambodia.

The earliest botanical collectors in Lao PDR were French. Clovis Thorel was the first to make a significant contribution, collecting along the Mekong in southern and central Lao PDR from 1866–1868. He was followed by Jules Harmand who also worked mainly in the south in the 1870s. These pioneers were followed by Henri D'Orléans (1892, in northern Lao PDR), Clément Dupuy (1900, around Louangphrabang) and Jean- Baptiste Counillon (1909, along the Mekong). The most prolific collector in the 20th century was Eugène Poilane who worked in various provinces of Lao PDR from the 1920s–1940s. At the same time Camille Joseph Spire was collecting in Xiengkhouang. More detail about the flora and collectors in Cambodia, Lao PDR and Vietnam may be found in the “*Tome préliminaire*” to the *Flore générale de l'Indochine* (Gagnepain 1944).



Pha Tad Ke, just outside Luang Prabang on the Mekong

Historical events all but prevented botanical work in Lao PDR between World War II and the 1990s though some collections were made by Jules Vidal, Pierre Tixier and Allen D. Kerr in the 1950s and early 1960s. Taking all these Laotian collections together, it is possible to calculate that roughly 3 specimens per 100 km<sup>2</sup> have been collected in Lao PDR up until the early 1990s. Such figures bear comparison with statistics such as 50 per 100 km<sup>2</sup> in Thailand, and 1500 in the United Kingdom.



Starting around 1990, Lao botanists began to intensify their study of the flora, often in cooperation with foreign scientists. They have contributed to accounts of families for the *Flore du Cambodge, du Laos et du Viêt Nam* and several broadly based forestry projects with a taxonomic component, such as the DANIDA funded Lao Tree Seed Project (LTSP) that formed part of the regional Indochina Tree Seed Project. A significant output of this project was the manual, *Forests and Trees of the Central Highlands of Xieng Khouang* (Lehmann et al. 2003). Other studies have focused on plants which yield non-timber forest products such as rattans or medicinal plants (for example Evans et al. 2001, Somsanith Bouamanivong 2005) or on particular *National Protected Areas* (Maxwell, 1999; Chansamone Phongoudom, 2000).



Orchids have been of special interest and there has been a considerable increase in our knowledge of this group (Schuiteman & De Vogel 2004, Svengsuksa & Lamxay 2005). This is continuing through the work of the ORCHIS project ([www.orchisasia.org](http://www.orchisasia.org)), a collaboration between the National University of Lao PDR (NUoL), Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD) and the Nationaal Herbarium Nederland. Other botanical work that is currently under way in Lao PDR includes Biodiversity Informatics and co-operation in Taxonomy for Interactive shared Knowledge base (BIOTIK), an EU funded project concentrating on large tree species, and a number of MSc and PhD ethno botanical projects based at NUoL and Uppsala University.



Three checklists for the plants of Lao PDR have been published.

1. *Noms vernaculaires de Plantes en Usage au Laos* (Vidal 1959), lists more than 1000 species with their local names and uses.

2. *Checklist of Lao Plant Names* (Callaghan 2004) lists more than 2000 taxa, including more than 300 cultivated and introduced plants. This second checklist is primarily based on Vidal's work, the fascicles of the *Flore du Cambodge, du Laos et du Viêt Nam* that have been published since 1960, enriched with a range of unpublished field surveys.

3. *A checklist of the Vascular Plants of Lao PDR* was published in 2007 as part of the Darwin Initiative project: Taxonomic Training in a Neglected Biodiversity Hotspot in Lao PDR. This checklist was made by:

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Royal Botanic Garden Edinburgh

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Forestry Research Centre, National Agriculture and Forestry Research Institute, Laos

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## Philip Thoma

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## Kate Armstrong

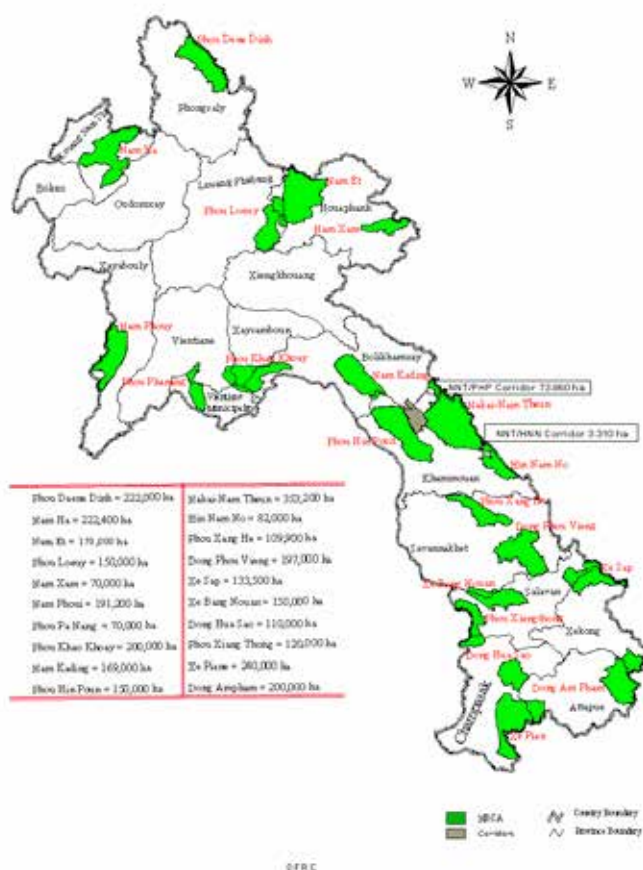
Royal Botanic Garden Edinburgh

The checklist includes 4,850 species of native, introduced, cultivated and naturalized vascular plants. The information in this checklist derives from several sources. The first was an electronic version of Latin names contained in Callaghan's *Checklist of Lao Plant Names* (Callaghan 2004) and generously donated by the compiler. The second is the specimen based accounts in the fascicles of the *Flore du Cambodge, du Laos et du Vietnam* that have either been published since 1960 or are due to be published in the near future.

For each taxon, at least one specimen per province was selected for inclusion in the database. The third source is the records of specimens collected during recent botanical projects in Lao PDR. In most cases the specimens are lodged in Lao herbaria with duplicate sets at Paris, Edinburgh and Leiden.

In addition to the specimen-based records, a range of non-specimen based electronic and printed literature sources have been used. Published and unpublished accounts for the Flora of Thailand and the Flora of China have been consulted and taxa that have been noted to occur in Lao PDR included in the checklist. The World Checklist Series, both published and as available on the internet ([www.kew.org/wcsp/home.do](http://www.kew.org/wcsp/home.do)) has also been used. These records are not directly supported by specimens and are therefore not as reliable.

National Biodiversity Conservation Areas



Source: *A Checklist of the Vascular Plants of Lao PDR*, 2007

Mark Newman, Sounthone Ketphanh, Bouakhaykhone Svengsuksa, Philip Thoma, Khamphone Sengdala, Vichith Lamxay, Kate Armstrong.