

Buddhist Tree: From the Narrative in Tipitaka to the Practical Use in Landscape Design

Onumpai Samkhuntod, Kasetsart University, Thailand

Natsiporn Sangyuan, Kasetsart University, Thailand

The Asian Conference on Cultural Studies 2024

Official Conference Proceedings

Abstract

Tree is a type of plant frequently used in landscape design. The Bodhi tree is recognized as symbolic of Buddhism and has been planted in many Buddhist places. However, there are more trees related to Buddhism and also various usages of trees in the landscape of Buddhist places. This research seeks to explore the relation between trees mentioned in Tipitaka and their usage in the landscape, aiming to identify more options for tree usage in Buddhist places. Through the document research focusing on trees related to Buddha, especially the ones providing space underneath for sitting meditation, thirty-three trees have been found, e.g. Bodhi tree, Sal tree, Banyan tree, Indian oak, Milky tree, and Mango tree. This finding implies the benefit of trees for meditation. Following the observation of trees in temples in Bangkok, Thailand, along with the analysis applying the landscape approach, the use of Buddhist trees can be applied in three aspects: spiritual, functional, and environmental aspect. For the spiritual aspect, trees can be sacred and used as a symbol referring to Buddha or his dharma. In terms of physical function, trees can create outdoor space for various activities, provide shade space for sitting, and serve as a visual element. For the environmental aspect, trees can absorb pollution, support site irrigation, enhance microclimate conditions, etc. It is suggested that all the thirty-three trees found in Tipitaka are selected to be appropriately planted in Buddhist places to create a more meaningful and functional use of Buddhist trees in landscape design.

Keywords: Buddhism, Landscape Design, Tipitaka, Tree

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Introduction

Plants used in landscape architectural design can be classified into 5 types: tree, shrub, vine or liana, groundcover, and aquatic plant. This category is mainly due to the physical appearance of the plants. Tree is a woody plant with a single trunk straight up from the ground to a certain height, then the branches spread out. Tree height is at least 3 meters. Trees have a lifespan of many years and can be used to provide shade, control view, prevent wind, etc. (Arayanimitsakul, 2015a; Veessommai, Siriphanich, Menakanit, & Pichakum, 1999). Therefore, trees are highly useful and can be considered as a main landscape element.

The use of trees in Buddhist places, for example, in the Sukhothai period, trees with fragrant flowers were usually planted as an offering to bring devotion to Buddha. The temples would have planted large trees to provide shade, for the advantage that they have a long life and are easy to maintain (Sukawattana, 1995). Trees are suitable for a hot and humid climate thus the temples should have planted trees for shade and a natural atmosphere. They may be connected to the teachings, to help creating a place for listening to the Dharma in quiet and peaceful surroundings with good ventilation (Poshyanandana, 2015).

In terms of trees in Buddhism, there are several trees related to the Buddha's life, mostly associated with major events such as birth, enlightenment, the first teaching, and passing away (Cheykiwong, 2008; Nanakorn, 2019). The Bodhi tree and the Sal tree are well recognized as symbolic of Buddhism and consequently have been planted in many Buddhist places. But there are other trees related to Buddhism that could be perceived as Buddhist sacred trees. For that reason, it is important to study and collect information on trees mentioned in Tipitaka, both the names and their context, aiming to understand the usefulness of those trees.

This research contains two objectives: (1) to study and collect information on trees in Tipitaka and analyze the use of trees using the landscape architectural design approach and (2) to suggest the practical use of trees in landscape design. This is a documentary research by studying and collecting information on trees that appear in Tipitaka which is regarded as the primary source of information on Theravada Buddhism. The data analysis using the landscape architectural design approach along with the content analysis, together with the field study to observe the use of trees in the temples in Bangkok, Thailand, in order to suggest more options for tree usage in Buddhist places.

Trees in Tipitaka

The search through Thai Tripitaka, Mahachulalongkornrajavidyalaya University edition (Mahachulalongkornrajavidyalaya University, 1996) which comprises 45 volumes (volume and page, i.e. vol./p., are indicated in the blanket after the reference number, e.g. [7, 10/5] means Thai Tripitaka volume 7 page 5), obtains information on trees that related to Buddha, namely Buddhist sacred tree. Thirty-three names of trees were found. These trees are in various contexts as follows:

The enlightenment of all Buddhas occurs under the trees as mentioned in Tipitaka, in Maha Pathana Sutra states that Vipassi Buddha attained enlightenment under the Khae Foi tree, Sikhi Buddha attained enlightenment under the Ma Muang tree, Vessaphu Buddha attained enlightenment under the Sala tree, Kakusanda Buddha attained enlightenment under the Suek tree, Konagamana Buddha attained enlightenment under the Ma Duea tree, Kassapa Buddha

attained enlightenment under the Sai tree, and Gautama Buddha attained enlightenment under the Assattha tree [7, 10/3-4]. In Khuddaka Nikaya Phutthawong Jariyapitaka states that Dipangkorn Buddha attained enlightenment under the Liap tree [7, 33/165], Kondanya Buddha attained enlightenment under the Ka Nang tree [7, 33/600], Mangkala Buddha attained enlightenment under the Ka Ka Thing tree [7, 33/606], Sumana Buddha attained enlightenment under the Ka Ka Thing tree [7, 33/611], Revata Buddha attained enlightenment under the Ka Ka Thing tree [7, 33/617], Sobita Buddha attained enlightenment under the Ka Ka Thing tree [7, 33/622], Anomadassi Buddha attained enlightenment under the Rok Fa tree [7, 33/627], Pathum Buddha attained enlightenment under the Oi Chaang tree [7, 33/632], Narada Buddha attained enlightenment under the Oi Chaang tree [7, 33/638], Pathumuttra Buddha attained enlightenment under the Son tree [7, 33/644], Sumedha Buddha attained enlightenment under the Sa Dao tree [7, 33/649], Sujata Buddha attained enlightenment under the Pai tree [7, 33/654], Piyadassi Buddha attained enlightenment under the Kum tree [7, 33/659], Atthadassi Buddha attained enlightenment under the Cham Pa tree [7, 33/664], Dharmadassi Buddha attained enlightenment under the Ma Klam Luang tree [7, 33/669], Siddhartha Buddha attained enlightenment under the Kan Ni Ka tree [7, 33/674], Dhisra Buddha attained enlightenment under the Pra Du tree [7, 33/679], Pussa Buddha attained enlightenment under the Ma Kham Pom tree [7, 33/684], Vipassi Buddha attained enlightenment under the Khae Foi tree [7, 33/689], Sikhi Buddha attained enlightenment under the Kum Bok tree [7, 33/694], Vessaphu Buddha attained enlightenment under the Oi Chaang tree [7, 33/700], Kakusanda Buddha attained enlightenment under the Suek tree [7, 33/705], Konagamana Buddha attained enlightenment under the Ma Duea tree [7, 33/710], Kassapa Buddha attained enlightenment under the Sai tree [7, 33/716], Gautama Buddha attained enlightenment under the Assatthaphruek tree [7, 33/714]. This finding implies the benefit of trees for meditation and attainment of enlightenment eventually.

Gautama Buddha was born under the Sala tree in Lumpini Forest and attained enlightenment under the Bodhi tree [7, 37/802/839]. He passed away and accessed nirvana between the two Sala trees in Kushinagar [7, 10/145], at that time, both Sala trees were in full bloom and the flowers fell on his body to worship the Buddha [7, 10/147-148].

A single tree related to the dwelling place of Gautama Buddha, for example, after the enlightenment, he was seated at the Bodhipruek tree near the bank of the Neranjara River [7, 4/1], then went to sit and contemplate under the Ajapala Ni Khrot tree, the Mucalinda or Chik tree, and the Rajayatana (Ked) tree consequently [7, 4/7-9]. There are some trees mentioned as places for sitting, contemplating, resting, and conversing on dharma such as the Gautama Ni Khrot tree in Rajagir [7, 10/128], the Rajasala tree in Supakwan Forest in Ukkattha [7, 10/5], the beautiful Rang tree in Palilayaka Forest in Kosambi [7, 17/130], the Sa Dao tree in Werancha [7, 23/219], and the Sai tree named Supradita Jatiya in Suan Tan Num, Rajgir [7, 4/55].

A group of trees or groves related to the dwelling place of Gautama Buddha for example the forest of Thong Kwao tree in Kosol [7, 13/186], the Pai forest in Kimila [7, 19/465], Sisapawan or the See Siat forest in Alwi [7, 20/189], Pesakalamikathayawan or the Phe Ka forest in Pakka [7, 22/436], the Sala forest named Thepwan in Kosol [7, 13/531], and the Ma Muang (mango) orchard of Chewaka Komaraphat or Chewakampawan in Rajgir [7, 23/270]. There are also several mango orchards mentioned in Tipitaka, e.g. Amphawan in Pava, Amphapaliwan in Vesali, and mango orchard of Pavarik Sedhi in Nalanda.

All the tree names found in Tipitaka are verified with the book of Thai Plant Names (Smitinand, 2014), the main resource for plant botany in Thailand. Details of all thirty-three trees consist of the name as in Tipitaka, scientific name, and volume of Tipitaka in which the tree appears are shown in Table 1: Trees in Tipitaka that related to Buddha.

No.	Name in Tipitaka	Scientific Name	Volume of Tipitaka
1	Kan ni ka	<i>Pterospermum acerifolium</i> (L.) Willd.	27 32
2	Ka ka thing (Kra thing)	<i>Calophyllum inophyllum</i> L.	28 32 33
3	Kum (Kum nam)	<i>Crateva religiosa</i> G. Forst.	4 26 27 28 32 33
4	Kum bok	<i>Crateva adansonii</i> DC. subsp. trifoliata (Roxb.) Jacobs	33
5	Ka nang	<i>Homalium tomentosum</i> (Vent.) Benth.	28 33
6	Khae foi	<i>Stereospermum cylindricum</i> Pierre ex P. Dop.	10 26 27 28 32 33
7	Cham pa	<i>Magnolia champaca</i> (L.) Baill. ex Pierre	28 32 33
8	Chik, Mucalinda	<i>Barringtonia acutangula</i> (L.) Gaertn.	4 25 28
9	Chang nao	<i>Ochna integerrima</i> (Lour.) Merr.	27 28 32
10	Suek, Phruek	<i>Albizia lebbeck</i> (L.) Benth.	10 18 26 28 32 33
11	Thong kwao	<i>Butea monosperma</i> (Lam.) Taub.	13 18 19 27 28 32 33
12	Thong laang, Parijata	<i>Erythrina subumbrans</i> (Hassk.) Merr.	4 14 19 23 25-30 32 33
13	Sai	<i>Ficus annulata</i> Blume	2 4 7 10 11 13 15 18 19 22 25-28 32 33
14	Ni khrot	<i>Ficus benghalensis</i> L.	4 10 15 19 21 25 33
15	Pra du	<i>Pterocarpus macrocarpus</i> Kurz	28 32 33
16	Pai	<i>Bambusa</i> spp.	1 2 5 7 10 13 15 16 19 21 22 23 25-30 32 33 35
17	Phe ka	<i>Oroxylum indicum</i> (L.) Benth. ex Kurz	22 23 26
18	Bodhi, Pho, Assattha phruek	<i>Ficus religiosa</i> L.	2 4 10 12 13 18 19 25 27-33
19	Ma duea	<i>Ficus racemosa</i> L.	2 10 13 15 18 19 23 25-30 32 33
20	Ma klam	<i>Adenanthera pavonina</i> L.	27 32 33
21	Ma kham pom	<i>Phyllanthus emblica</i> L.	2 4 5 7 15 19 24-28 32 33
22	Ma tum	<i>Aegle marmelos</i> (L.) Correa ex Roxb.	10 12 13 15 17 24 25 27-29 32 33
23	Ma muang	<i>Mangifera indica</i> L.	1 2 4 5 7 9-11 13 17 18 21- 29 32 33 36 37
24	Rok fa	<i>Terminalia alata</i> B. Heyne ex Roth	28 32 33
25	Rang	<i>Shorea siamensis</i> Miq.	5 12 17 21 25 27 28 32
26	Rajayatana (Ked)	<i>Manilkara hexandra</i> (Roxb.) Dubard	27 28 32 33
27	Liap	<i>Ficus subpisocarpa</i> Gagnep. subsp. Subpisocarpa	19 27 32 33
28	Son	<i>Dacrydium elatum</i> (Roxb.) Wall. ex Hook.	27 28 32 33
29	Sa dao	<i>Azadirachta indica</i> A. Juss.	1 5 20 23 24 26 27 31-33
30	Sala	<i>Shorea robusta</i> C. F. Gaertn.	10 12 13 15 19 20 22 23 25- 28 32 33 37
31	See siat	<i>Acacia catechu</i> (L. f.) Willd.	10 20 27 28
32	Wa	<i>Syzygium cumini</i> (L.) Skeels	1 4 12 13 19 26-29 32 33 37
33	Oi chaang	<i>Lannea coromandelica</i> (Houtt.) Merr.	26-28 33

Table 1: Trees in Tipitaka that related to Buddha.

Of all the trees related to Buddha that are found in Tipitaka, some trees are significant due to their connection with Gautama Buddha. Pho, Assattha Phruek, Assattha, or Bodhi tree (*Ficus religiosa* L.), Figure 1, is relevant to the enlightenment. Sala tree or Sal tree (*Shorea robusta* C. F. Gaertn.), Figure 2, is relevant to the birth and demise. Ni Khrot or Banyan tree (*Ficus benghalensis* L.), Figure 3, Chik, Mucalinda, or Indian oak (*Barringtonia acutangula* (L.) Gaertn.), Figure 4, and Rajayatana, Ked, or Milky tree (*Manilkara hexandra* (Roxb.) Dubardfor), Figure 5, are relevant to contemplation after the enlightenment. Ma Muang or Mango tree (*Mangifera indica* L.), Figure 6, is relevant to several dwelling places.



Figure 1: Bodhi tree.



Figure 2: Sal tree.

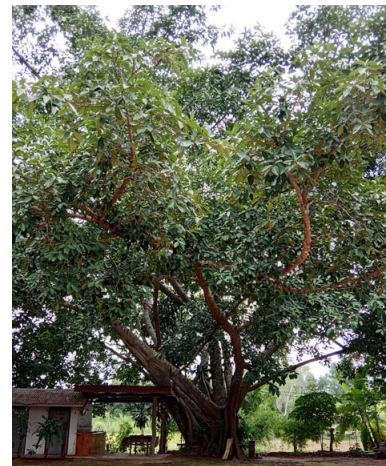


Figure 3: Banyan tree.



Figure 4: Indian oak.



Figure 5: Milky tree.



Figure 6: Mango tree.

Analysis of trees in relation to open space and usage reveals that the area under the tree is suitable and present for sitting because of shade and natural surroundings, whether by a single tree or a group of trees. A tree can provide underneath canopy space for usage, such as sitting and meditating, listening to dharma or conversing on dharma, and resting. The appropriate tree, therefore, should be large with a broad canopy for shade, no brittle branches, and not too many fallen leaves, flowers, or fruits.

The Use of Trees in Landscape Design

A tree is a natural landscape element, be a view and good scenery, helps to create a comfort zone and pleasant atmosphere, enhance the ecosystem and a better environment. The use of trees in landscape architecture generally concerns space usage, desired atmosphere, and

changes, as it is a living thing that constantly changes, such as growing, spreading branches, and flowering. The selection for usage must also take into account the suitable soil and weather conditions (Arayanimitsakul, 2015b). Therefore, the considerations for using trees in landscape architectural design consist of:

- Characteristics of trees: size, leave, shape and density of canopy, flower, fruit, stem, root, growth rate, longevity, durability, and propagation (Arayanimitsakul, 2015a; Arayanimitsakul, 2015b).
- Benefits of trees: functional usage, aesthetic, ecology (Arayanimitsakul, 2015a; Arayanimitsakul, 2015b; Harris & Dines, 1998).
- The balance of utility, price, durability, safety, and maintenance (Harris & Dines, 1998).

Landscape architecture encompasses the planning of the use of plants including tree, shrub, vine or liana, groundcover, and aquatic plant (Harris, 2006). Planting design includes identification of location, type of plant, and amount. According to the information from Tipitaka, the observation of trees in temples in Bangkok, Thailand, and the landscape analysis, the application of Buddhist sacred trees in the landscape can be divided into 3 aspects: spiritual aspect, functional aspect, and environmental aspect.

A. Spiritual Aspect

Trees can be sacred and used as a symbol referring to Buddha or his dharma. This is a form of using trees in temples and other Buddhist places for a long time. However, only a few trees have been used in this aspect, such as the Bodhi tree and the Sal tree. There are more sacred trees as stated in Tipitaka that can be used in order to refer or worship to Buddha or to convey Dharma. It can also help to promote knowledge of Buddhism and enhance understanding of important trees in Buddhism. It is possible to plant a single tree as a highlight of the area, or to plant trees in groups or in rows to be suitable for certain usage. The consideration of the location and number of trees depends on the condition of the area as the main factor.

B. Functional Aspect

In terms of physical function, trees can create outdoor rooms for various activities, provide shading space for sitting, and serve as landmarks or other visual elements. The use of trees for functional purpose can enhance the effectiveness of a master plan or layout. Trees can be used to: divide the land use area, create space, create awareness of the area, manage view or visual quality, emphasize main buildings, create a good environment, and control access. For example, planting trees around the land plot as a buffer, screening the view and preventing interference from the outside, using flowering trees at the entrance to emphasize the gateway and create a visual point, planting trees along the sides of the road to screen sunlight and reduce pollution, planting trees around concrete parking lots to provide shade and reduce heat and glare, planting trees between two different land use zones, planting trees on the west and south of the building to prevent sunlight and filter heat into the building.

C. Environmental Aspect

Trees as a natural element can immensely help to improve environmental conditions, for instance, provide shade, filter sunlight, reduce heat and glare, cool down the temperature, be a source of oxygen, purify the air, filter dust, absorb pollution, absorb noise, reduce the intensity of wind, protect soil surface, reduce soil erosion, maintain soil fertility, support in

drainage, help water seep into the soil, reduce the amount of run-off water, enhance site irrigation, protect waterfront area or river banks, be a sanctuary for animals, etc. In the unused area, mixed trees should be planted to create ecological green space.

In conclusion, it is suggested that all thirty-three trees found in Tipitaka be selected to be appropriately planted in Buddhist places, aiming to create more meaningful and functional use of Buddhist sacred trees in the landscape. The three aspects: spiritual aspect, functional aspect, and environmental aspect, should all be taken into consideration in order to enhance the effectiveness of trees in the landscape, and to increase the value of Buddhist sacred trees as well.

Conclusions

The research entitled “Buddhist Tree: from the Narrative in Tipitaka to the Practical Use in Landscape Design” contains two objectives: (1) to study and collect information on trees in Tipitaka and analyze the use of trees using the landscape architectural design approach and (2) to suggest the practical use of trees in the landscape. Through the document research focusing on trees associated with Buddha in Tipitaka, the primary source of information on Theravada Buddhism, thirty-three names of trees have been found. These trees could be considered Buddhist sacred trees, e.g. Bodhi tree (*Ficus religiosa* L.), Sal tree (*Shorea robusta* C. F. Gaertn.), Banyan tree (*Ficus benghalensis* L.), Indian oak (*Barringtonia acutangula* (L.) Gaertn.), Milky tree (*Manilkara hexandra* (Roxb.) Dubardfor), and Mango tree (*Mangifera indica* L.). These trees are mentioned as present places for sitting or resting. All the Buddhas have attained enlightenment under the tree. This finding implies the benefit of trees for meditation or enhancing mindfulness. In terms of space usage, a tree provides space underneath its canopy with shade and natural surroundings. Whether a single tree or a group of trees, space underneath the canopy can be used for sitting and meditating, resting, listening to dharma, and conversing on dharma, for example. The use of trees to connect the space, create a specific area for usage, indicate a boundary, and divide a large space into subspaces, like building a room, with the canopy of trees acting like a roof (Siriphanich, 2015).

According to the observation of trees in temples in Bangkok, Thailand, and the analysis concerning landscape design, the use of Buddhist sacred trees in outdoor environments can be divided into 3 aspects: spiritual aspect, functional aspect, and environmental aspect. For the spiritual aspect, the tree is sacred and can be used as a symbol or a place of worship for Buddha or dharma. In terms of physical function, a tree as a landscape element can create an outdoor room or space for various activities, provide shading space for seat or meditation, enhance the present atmosphere, and serve as a landmark or visual element. And for the environmental aspect, trees can be dedicated to reducing pollution and enhancing site irrigation, air quality, and microclimate conditions, for example. It is suggested that all thirty-three trees found in Tipitaka be selected to be appropriately planted in Buddhist places, aiming to create more meaningful and functional use of Buddhist sacred trees in the landscape.

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