# Planting Angsana Tree
## Cohesion and Resistance during Singapore's Urbanization

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**Abstract**

Planting Angsana tree, integral to Singapore's "Garden City" vision in the 1960s, provided immediate lushness, ample roadside shade, and transformed Singapore into a desirable garden city. However, as political and aesthetic visions evolved, the tree's prominence waned due to misalignment with new urban ideals and recurring disease. This paper explores this rise and fall of Angsana tree's history along the urbanization of Singapore, intersecting the domains of nature (with a focus on plants), politics (urban planning), and space (the physical realm), and questioning how urban studies can overlook the intricate relationships between human and more-than-humans, as the formation of the city is not only purely led by human's intentions but also plants' story. This study advocates for a more mobile positioning analytical framework that acknowledges the agency of more-than-human subjects and their contributions to urban transformation. It first argues that planting is a joint practice, process and a close interaction between human and more-than-humans, which helps us to go beyond the universal and simply statement of urban greening. Second, this study embodies the botanical study with historical analysis of planting Angsana, by examining how the Angsana tree's lifecycle—growth, adaptation, and eventual decay aligns with and resists human urbanization goals. This goes further shift from the traditional understanding of nature by either scientific or social constructed to contextualizing more-than-humans within the social and ecological fabric of the city.

**Keywords**
More-than-humans, Urbanization, Singapore

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## INTRODUCTION

An Angsana tree, much taller than the surrounding buildings and other trees, stands along one main road in Singapore (Fig.1). The crown is big but not too well-shaped, the trunk is very thick. Nearby, one can see other carefully pruned shrubs, lining up along the road. A bit far away, there is another line of equal-spaced trees. All those vegetations are situated in between a main road and housing buildings. The Angsana tree shown in the photograph is scientifically called Pterocarpus indicus, and it naturally grows on flat riparian where is shadier, cooler, and moister than the adjacent upland environments, which is very different from the landscape now they are in. Then, the question is, how did this Angsana travel from the riparian area to urban Singapore but standing by itself? Moreover, the size of the tree itself also simply tells its age and the history of it, especially how Angsana tree has been integrated into human's settlement. It is tagged as a 'Heritage tree', which means it is more than 60 years old and is one of the largest roadside trees in Singapore, while the adjacent vegetation and built things seems much younger. It is not hard to notice that Angsana, in this landscape, is very outstanding and holds a history behind the formation of this space. Then the question is how it grows and adapts the process of urbanization of the area, further forming and re-shaping the space around it?

The curiosity first triggers a historical research of Singapore's urban greening trajectory. In 1963, Prime Minister Lee Kuan Yew planted a mempat (cratoxylum formosum) tree at Holland Circus marking a historical moment, leading into a 6-decades-long non-stopping planting, at national scale, socially and geographically. From then, 'Garden City' to 'City in Nature', Singapore's urbanization, urbanism, spatial reconfigurations, social changes, and politics are all closely tied to nature. Most critically, all these things are all connected through the various planting process, from what and how we plant to where we plant. Therefore, in this study, I argue that, planting is a joint practice, process and a close interaction between human and more-than-humans, which go beyond the universal and simply statement of urban greening. Further, this also marks this research intersects the domains of nature (with a focus on plants), politics (urban planning), and space (the physical realm), questioning how urban studies can overlook the intricate relationships between human and more-than-humans as the formation of the city is not only purely led by human's intentions but also plants' story.

During this research inquiry, Angsana trees quickly emerged from the urban greening history of Singapore, as over 20,000 trees were planted between 1969 and 1982, rapidly making Singapore 'green'[1]and being recognized as a Garden City. However, the role of Angsana has much been neglected in the urban studies. Built on that, it is my objective to see and understand how Angsana trees depend on both their individual character traits and the spatial effects created by the process of planting (pre-planting, transplanting and post-planting) as row or in groups and where, specifically situated in Singapore, Southeast Asia. And how Angsana's own process align with entangled with different political visions of how much a city should be shaped and managed and rationalized through urban planning. This requires this project to pivot from traditional ecological or social-centric analyses of nature towards a mobile-positioning framework that fosters dialogue between these realms, illuminating the evolving

human- nature relationship in Singapore. Its changing place is elaborated from how nature embodies themselves in urban and human society and how humans embody the message from plants. Angsana, here, is studies as an example through the way of planting in the history of Singapore to fulfill the following two critical questions:

1. How to form a nuanced analytical way to read urbanization through the process of planting - to closely examine our interactions with plants, recognizing their unique entities, agencies, and dynamics? This helps to shift common-sense perception when we contextualize plants within their specific natural and social ecosystems.
2. How do more-than-human subjects play an active role in the urban space and culture transformation as they grow, adapt and decay, and how it is entangled with different political visions of how much a city should be shaped, managed and rationalized? This helps to understand the implications for our broader understanding of life in our shared space.

In addition, this study also tends to shed lights on post humanist study by re-evaluating Singapore's urban greening from specific tree story. This attempt shifts from a devoid of human interaction but as a tale of embodiment of both human and more-than-humans. The journey of the Angsana tree exemplifies this narrative. Throughout its lifecycle—growth, adaptation, and eventual decay— whether the Angsana aligns with or diverges from the evolving goals of urbanization, systematically been planted and then been replaced to meet the human's intension and shape the city's space. Most interestingly, this process involves both cohesion and resistance.

Before Angsana's story, let us take a quick overview of conventional discussion around nature, what Latour[2] called two houses: one rooted in natural science and the other in social science. However, I contend that both approaches are inherently human- centric, in both overt and subtle ways. First, nature is analyzed through the so-called scientific lenses of botany and ecology, focusing on the biological traits of species in a manner that seems to remove humanity from the equation. Furthermore, ecological strategies employed in urban areas often lack consideration of the sociopolitical contexts in which they operate, reducing them to mere ecological initiatives[3]. I argue that this perspective inadvertently promotes a human-centric narrative by fakely attempting to disassociate ourselves from nature. Paradoxically, ecological understanding largely stems from scientists' direct embodied engagement in situ with natural environments, emphasizing the interconnectedness of all entities[4]. Echoing Castree and Braun[5], everything, including humans, is defined through its relationships with other entities.

Moreover, I argue, since interdependence, Singapore's urbanization has been represented by nature, critically leading by the massive planting activities. Thus, this research further critiques the tendency to categorize nature purely based on socially constructed notions and spatial representations, which often overlooks the actual agents of nature—the more-than-humans through the planting process. Although Singapore's natural landscapes are de facto deliberately repurposed for urban development, such approaches tend to emphasize societal power dynamics, neglecting the active role of nature[6] in politics and space, what agency they represent. This study posits that both the overt and covert anthropocentric perspectives limit our understanding of nature and imagination of how future urbanism, most importantly what kinds of human-nature relation could be.

Fig. 1. Angsana Tree along roadside.

## METHODOLOGY

To answer those questions, this study is rooted in methodological localism, drawing inspiration from Donna Haraway's concept[7] of situated knowledge, involving forming 'mobile positioning' to be able to see and read both humans and more-than-humans. However, the question is how? I begin with embodying the purely botanical analysis with the historical analysis and to see how the tree intersects with political vision, spatial changes through the way of planting. It means first situated the Angsana tree into Singapore to see how the tree itself embodies the political intentions and materialized urban changes, also embodying myself as an observer and writer into Singapore.

This requires tracing its trajectory in the history of Singapore's landscape. I understand this tracing as multilayer, meaning that it is attuned to how Angsana as a body interacts with human and their intentions in Singapore, and to the intertwining of biological, political, and spatial matters in the making of Singapore's contemporary urban and its landscape. My approach connects the work of urban history, politics, and so-called science (botany/ ecology) with insights from bontanical studies to explain the performativity of Angsana in Singapore urban history and landscape that I encountered during fieldwork. I am also concerned with how Angsana is both an object and subject during the Singapore's urbanization process. While Angsana was introduced to Singapore as a major component to green the roadway, as the major part of fulfilling the image of garden city, its history also illustrates the role that non-human subjects can plant in the transformation of both urban space and culture as their bodies grow, adapt, host, reproduce and decay. I am building on Haraway's argument to looking for the view from a more-than-human, from a situated location, from a complex but connected web, neither the view from a dominated human, from simplifications, nor the view from so-called natural science that fakely excludes humans.

## SITUATE ANGSANA, SITUATE OURSELVES

The narrative of the Angsana tree is captivating not only for its cyclical presence in Singapore's urban landscape but also for the layers of meaning it accumulates through these cycles of disappearance and resurgence. Traditional studies often quantify the changes in Singapore's greenery. However, as Danneels [2] (2023) astutely observes, such approaches frequently overlook the agency and political significance imbued in these living entities. By initiating the inquiry with straightforward questions—What distinguishes the Angsana? How does its physical form resonate with political ambitions and urban planning? What has facilitated its growth, particularly within the urban confines of Singapore? Why was this species chosen for significant planting initiatives during different periods in Singapore's history? —we begin to peel back the layers of its story.

I begin with the 'common sense' way of discussing trees - botanical books, and I notice that there is a consistent emphasis on characteristics such as size, shape, trunk, leaves, fruits, flowers, and scent. Let's look at a typical writing introducing Angsana, from Rao and Wee's book Singapore trees [8]. This is also typical when we talk about trees. Another reason I picked on this book is, in the introduction part, "This book is addressed to everyone who is keen to recognise and learn more about our local trees. For this reason it is purposely written in simple language." But the actual botanical details in their descriptions of each species, it doesn't feel like it's meant to be understood outside of botany:

A large tree of up to 40 metres, it has a dense, drooping crown (size and shape). The trunk is buttressed and the bark greyish-brown, becoming scaly and slightly fissured with age. If a slash is made on the trunk, a dark latex slowly oozes out (trunk). The leaves are simple pinnate compound and the flowers are small, yellow, faintly fragrant and in bunches (leaves). The fruits are flattened pods, disc-like, with one or more seeds and they do not split open. They turn brownish, pulpy and very few of them germinate (fruits). Trees that are ready to flower

may burst into bloom one day and shed the petals the next, giving rise to the familiar carpet of yellow petals on the ground below. A closer observation of the individual tree would also reveal that only that part of the tree exposed to direct sunlight will flower more profusely than the shaded part (flower). The Angsana is a majestic seaside tree native to this region (origins).

In popular botany or horticulture books, this type of text often leaves me puzzled. While there is a certain sense of familiarity in reading such descriptions, it simultaneously feels as though I know nothing about the plants. This stems from the inherent dullness and distance embedded in the writing style, which aims to establish a sense of natural science. This style of writing has two main characteristics:

1. Plants are explained individually, also in its fragmented elements. The "body of nature" is considered in isolation from wider determinants of nature. This is neither the case of how they grow in their natural habitat, nor where the urban condition they currently exist. Trees always grow in association with other trees and plants under natural conditions to get protected from its neighbours[9]. Then, where is their society (linked to other plants, and to human)? Also, what's Angsana's relation to Singapore, to Singaporeans, where this book is written? This is calling for shifting from a purely botanical analysis to an inquiry of how those plants in association with human settlements and intentions. How are these ecological characteristics connected with socio ecological groups of inhabitants?

2. Nature is intentionally explained as a nature with humans removed. However, again, this is also a human- centeric way of trying to exclude ourselves from nature by explaining nature without us. Deliberate dehumanization is itself a form of human-centricity, a de-humanzalized lens is still under impact of the human- centric lens. Thus, human-centric views are pervasive, both visible and invisible.

Interestingly enough, although Angsana has been present in Singapore for a long time, it was a cultivated species and introduced to the region by English people. The history of Angsana in Singapore started with the intervene of how humans urbanized. The process of how Angsana being naturalized in urban and at the same time being urbanizated are intervented through the process of planting, so why should we separate when we study and interpret them? How does this purely botanical analysis linked to how that is linked to people and the urban changes? We criticize human-centric views, but avoiding talking about the role of humans doesn't mean jumping out of existing frameworks. So I am asking, fundamentally, how plants society establishes themselves and represents urban through the process of planting, and how humans react to this nature force? How do plants' own process entangled with different political visions of how much a city should be shaped and managed and rationalized through urban planning?

The brief history of the Angsana tree in Singapore unfolds in two distinct chapters, each marked by a cycle of planting, disease, and eventual falling out of favor. Initially introduced by the British in 1802. However, by the 1910s, a devastating fungal disease had decimated the majority of the Angsana population[10]. With the ambition of transforming Singapore into a "Garden City," a resurgence in the planting of Angsana occurred in the 1960s. Despite this effort, the fungal disease made a comeback, leading to the gradual replacement of these trees with alternative species[11]. The Angsana's story shows there are always certain natural forces that exceed human intention and planning, but we have fundamentally ignored and misinterpreted them. By 80s, Angsana had been actively supported and built up Singapore as the

'Garden City', but its role and natural processes have been ignored and uncovered.

Let us take Angsana's roots and routes as a guide of overlaying historical and policy analysis to botanical investigation, for a situated study of nature, towards a more mobile-positioning analytic. I would like to once again reinforce some things to keep in mind when studying Angsana (and for future other plants):

1. Shift from a purely botanical analysis/study to linking that to how that linked to different political visions and the urban spatial changes.
2. To understand how the process of planting affects or aligns with plants' own natural process.

I start with adding historical process into the scientific description of Angsana, to situate the tree into a more specific context:

- *"The Angsana is a majestic seaside tree native to this region."* The Angsana tree, known by its Malay name, is native to the southern part of the east coast of Peninsular Malaysia. The genus name Pterocarpus derives from the Greek words "pteron" (wing) and "karpos" (fruit), referring to the flat, winged pods characteristic of the genus[12]. The species name "indicus" suggests a connection to India, though the tree is not native to that region[13]. Angsana is widely distributed throughout Southeast Asia and the Pacific, including Sumatra, West Java, Borneo, the Philippines, Sunda Islands, the Moluccas, New Guinea, and the Carolines[1]. However, Angsana did not naturally appear in Singapore; its history there began with human cultivation.
- *"A large tree of up to 40 metres, it has a dense, drooping crown."* Humans translated this chartater as providing excellent shade and lush green, and it became a popular choice for roadside trees. This species was widely cultivated along Singapore's roadsides beginning in the 1880s. But this also means it requires a lot space, and does not explain if its natural growing habits can adapt to urban conditions, for example, next to concrete.
- *"Leaves are simple pinnate compound and the flowers are small, yellow, faintly fragrant and in bunches."* Human translated this as it can provide lush green and 'colors' in green, which fit into the garden city idea.
- *"The fruits are flattened pods, disc-like, with one or more seeds and they do not split open. They turn brownish, pulpy and very few of them germinate."* Fruits means nothing to human, but how about other species? Here are no mentions.

Here, we began to see the connection between how Angsana naturalized and urbanized at the same time. However, this is still a fragmented study if we only focus on biophysical functions of the tree, without answering the questions like how do they sustain their own growth and adapt to urban conditions. And how those contribute to their embodiments of the local and historical conditions of its production. Yet, if we look into that, the primary reasons Angsana trees have been extensively planted in Singapore during two distinct historical periods extend beyond their aesthetic appeal. The decision to plant Angsana trees was primarily informed by how their innate growing habits align with the socio-political vision of urban. Here, plants, like trees, are agencies, having the capacity to act in a given context - urban. These provides new insights to looking into a deeper histography of Angsana: What are some differences of planting Angsana in two time periods, interns of the way of planting, the alignment of the policy, and the space created. What are trees planted to replace Angsana and how does it change the image of Garden City? In what ways, this help to produce different knowledge or lenses of seeing things?

## FIRST ROUND OF PLANTING

### ROADSIDE TREE BUT DISEASED  REMOVING

Angsana trees first extensively planted in 1802 in strategic colonial ports—starting from Malacca, extending to Penang, and ultimately gracing Singapore [14]. When it began to be planted in Singapore, it was incorporated as a wayside tree, especially the important streets. British adorned key promenades such as St Andrew's Road and Connaught Drive (where the national gallery is now), embodying the colonial aesthetic of orderly green spaces[15]. Therefore, Angsana appeared in Singapore from a cultivated species, meaning the evolutionary process has been influenced by humans to meet their needs. However, a pattern of disease mirrored the route of their planting, devastating these arboreal giants in succession from Malacca in 1885, to Penang by 1908, and reaching Singapore by 1914[16]. To control the disease, rows of the trees were cut down, but in vain. By the 1980s, the first generation had vanished[17].

## SECOND ROUND OF PLANTING

### 'INSTANT' TO 'WEAK AND BORING' TREE  REPLACING

May 1967, *The Straits Times* anchored an ambitious objective for Singapore: to transform into a beautiful city within three years (Fig. 2), which derived from the Garden City campaign in the same year to make cityscapes with lush plantings. However, how is it possible, in three years? This urgent demand for quickly effecting a visible change in the urban images requires: first, rapid planting materials - not only immediate greenery but also the introduction of trees with tall structures and expansive crowns to build up the visible green space; second, easy planting trees with less care. The Angsana became a perfect choice, due to its ability to form the structure in one year and starting to provide shade and restructure the space in four years. Its mature size can reach heights of 30 to 40 meters with wide and dense canopy with gracefully drooping branches [18] offering the desired instant transformation of urban image (Fig. 3 and 4).

Beyond its aesthetic qualities, the Angsana trees' natural growth habit has aligned with remarkably well with Singapore's rapid urbanization requirement, thanks to its robust growth capabilities: propagation techniques, a resilient root system, and the presence of nitrogen-fixing bacteria. Angsana trees can be efficiently propagated from cuttings, facilitating successful transplantation[19] . Their strong and fibrous root system allows them to thrive under roads and adapt to diverse soil conditions [20]—including moist sandy loam, clay loam, and even the compacted clayey soils prevalent in urban settings. Those critical traits help Angsana to tolerate a more rough handling [21] when transplanting, less care in terms of laboring. Moreover, Angsana trees are capable of growing in reclaimed lands with compact soil conditions, as evidenced by their prevalence along the east coast parks developed in the 1970s, where they quickly began providing essential shade.

S'pore to become beautiful, clean city within three years

PM ANNOUNCES TWO-STAGE PLAN

SINGAPORE, Thursday

A TWO-STAGE plan, which will make Singapore into "a garden city beautiful with flowers and trees, and as tidy and litterless as can be," was outlined by the Prime Minister, Mr. Lee Kuan Yew, today.

The Prime Minister, who was speaking to the supervisory staff of the Health Ministry's Cleansing Department at the Conference Hall,

Fig. 2. The Straits Times, 12 May 1967, Page 4

Fig. 3. Angsana, after one year of transplanting.

A crucial aspect of the "Garden City" initiative involved the regular clearing of fallen leaves to maintain urban cleanliness. This practice, while keeping the streets neat, reduced the nutrient recycling naturally provided by decomposing leaves. Fortunately, the presence of nitrogen-fixing bacteria in Angsana trees enables them to self- sustain by fixing atmospheric nitrogen, compensating for the nutrient-poor urban soil.[22]. Not surprisingly, between 1969 and 1982, over 20,000 'instant' Angsana trees were strategically planted island-wide, especially along important roadsides (orchard road) and important developments to provide immediate greenery (fig.3).

In addition, many developments were embedded behind the garden city movement - new town plans - to relocate residents to outskirts in high-density housings. Angsana also served as markers of burgeoning development areas, highlighting the expansion of housing and new town initiatives. The example is Ang Mo Kio, a new town completed in the late 1970s, was one of the largest town centers in Singapore, where previously it was an industrial area. 1973 Straits Times report: "Ang Mo Kio new town will have the best designed HDB flats in Singapore, the Housing Board said yesterday. The town will have 45,000 flats on a 1,500-acre site, with plenty of open space and greenery, social, recreational, sporting, educational, shopping and transport amenities. The HDB calls it a "new generation" town designed for gracious living." Angsana, in this case, because of its instant green effects, were largely planted around the new town zone to quickly transform the industrial area into a green residential zone. Here, Angsana also signified where urbanization happened.

This stage, is a cohesion period - the planting of Angsana is an alignment between the tree's own growth pattern, characters and human's political visions - successfully reshaped the urban space with green canopies, and further built the image of Singapore as a garden city by the 1980s.

However, the popularity of the Angsana in the 1960s did not last long until the fungal disease attacked again in 80s and Angsana began to be gradually phased out[23]. Notably, disease was the main reason to remove Angsana in the 19th century, but in the 80s became a more complicated story - a multi-layered interplay between how the plant's behavior started to resist to the political vision of how urban space should look like.

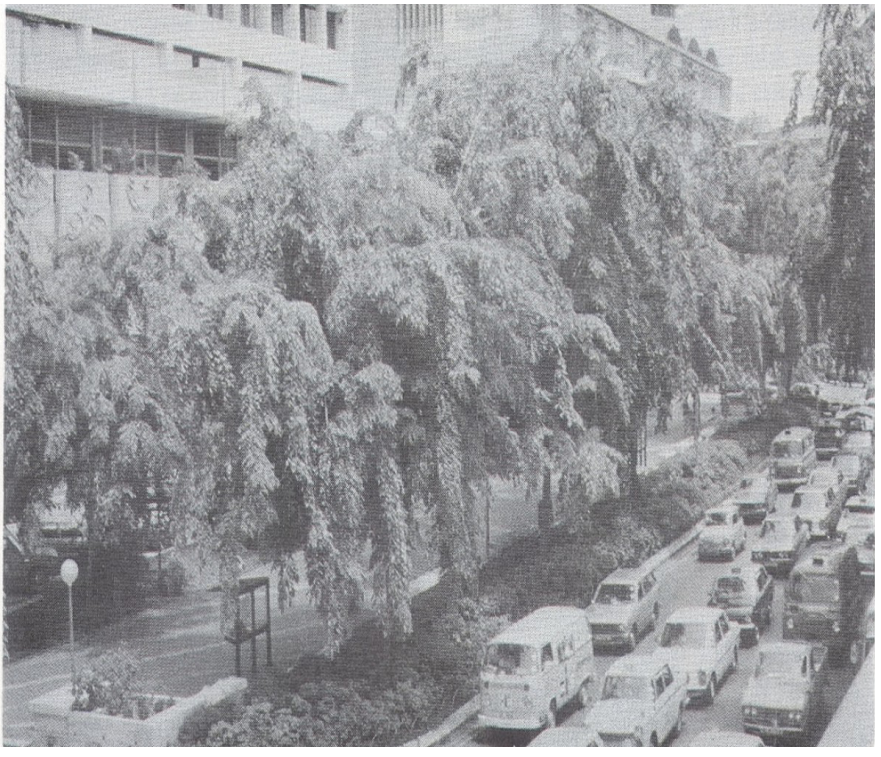

Fig. 4. Angsana forms structure after four years of transplanting.

What further led to the large replacement of Angsana? Clues can be found through the stories of why Angsana was named to be a "weak" tree. Despite the initial appeal of Angsana trees, which included their ability for rapid root development from cut stems facilitating quick canopy growth post-transplantation, Angsana quickly showed some resistance to urban development and human intentions. Firstly, Angsana trees exhibited an extensive growth pattern that conflicted with the need for road expansion. Their rapid growth required frequent pruning, which was labor-intensive and contrary to the maintenance expectations for a garden city. Additionally, as a deciduous species, their frequent leaf shedding did not align with the vision of a perpetually lush, green urban landscape. The tree's propensity to develop roots from the upper portions of its cut stems—while beneficial for quick growth—proved to be a double-edged sword. As the trees matured and more branches developed, the upper sections of the stems were often unable to support the additional weight, leading to branch failure[24]. Moreover, the ideal spacing required for the trees to thrive is about 25 meters apart to ensure proper growth and canopy spread. However, to maintain an appearance of dense greenery, they were often planted only 12 meters apart. This closer spacing led to overcrowded conditions, further stressing the trees and causing them to thin out prematurely[25]. These factors combined—the tree's natural growth habits impacted by humans and the evolving demands of urban planning— contributed to their classification as "weak" in the context of urban forestry and ultimately led to their large-scale replacement.

By the 1980s, Singapore was internationally celebrated as a "Garden City," largely due to the widespread planting of Angsana trees. However, the government soon sought to diversify the urban greens, advocating for a greater variety of trees that could bring more color to the cityscape. As a result, the Angsana began to be viewed as a boring tree. Despite its natural beauty, the Angsana is a deciduous tree that blooms spectacularly with yellow blossoms twice a year—potentially adding the desired 'colors' to the green landscape. Yet, these flowering phases depend on experiencing a dry season, a rare occurrence in Singapore's typically humid climate[26]. During the same period, Angsana trees began suffering from a mysterious and rapid-spreading disease, likely fungal, that caused them to wither and die within a month. Public and governmental dissatisfaction with the Angsana was increasingly voiced in platforms like The Straits Times[27] published a news in 1981- "Angsana trees here there and everywhere", which criticized the tree's boringness for the evolving urban environment. This marked a period of tension where the natural characteristics of the Angsana clashed with human aspirations for a more vibrant and diverse urban greenery. By the late 1980s, this discord led to the gradual removal or replacement of Angsana trees in what was framed as an "upgrade" to the city's greenscape. This phase highlighted the inherent resistance between the natural tendencies of the more-than-human world and human intentions.

## THE EMERGENCE OF FAMILY OF FABACEAE

Does the death, removal, and replacement of Angsana trees truly alter the landscape of Singapore's "Garden City" or how? Interestingly, historical documents ignore this Angsana's story but tend to quantify the success of this initiative by the sheer number of trees planted, currently simplified to the 'One Million Trees' campaign. Yet, what deeper significance does this figure hold? What are those trees? What can the selection of tree species and their numbers tell us about the spatial impacts and the human-nature interactions within the urban environment? As we replacing Angsana, it's crucial to consider not just the quantity but how does these changes materalized. How do the chosen species influence urban space and interact with human?

The late 1970s marked the completion of the first phase of Singapore's ambitious island-wide planting campaign. This initial phase transitioned into a second, characterized by a shift towards planting a more diverse array of species, notably those with large and visually striking blossoms. During this period, the greening initiative introduced several notable species: the Yellow Flame, recognized for its vivid yellow blossoms; the Flame of the Forest (Delonix regia), renowned for its bright red flowers; and the Rose of India (Lagerstroemia speciosa), admired for its graceful purple blooms. The Golden Shower (Cassia fistula) also gained prominence, decorating roadsides with its appealing clusters of yellow flowers hanging from the branches, according to Wee and Coelett[28]. By 1988, the top fifteen trees are: Acacia auriculiformis (30 meters tall), Samanea saman (Fabaceae, hardy, widely- spreading crown which can reach 20 to 30m), Cinnamomum iners (10-15m tall, wide crown), Peltophorum pterocarpum (Fabaceae, 35 meters tall, wide crown) Eugenia grandis (25-45 meters tall), Swletenla macrophylla (30-40 meters tall), Pterocarpus indicus (Fabaceae, Angsana), Khaya senegalensis (30 meters tall, wide crown), Andira inermis (Fabaceae, 35 meters tall, wide crown), Casuaria

equlsetlfolla ( hardy, 30-40 meters tall, wide crown) Cerbera odollam (flower, a medium-sized tree, up to 12m tall), Khaya grandiflora (30-35 meters tall), Tabebula rosea (flower, a medium to big sized tree, can grow 30m tall), Terminalla catappa (a big tree, up to 35m tall), Eugenia polyantha (up to 30m tall).

By 1988, the fifteen most prominent trees included: Acacia auriculiformis (30 meters), Samanea saman (30 meters, with a hardy, widely-spreading crown), Cinnamomum iners (10-15m, with a wide crown), Peltophorum pterocarpum (35 meters, with a wide crown), Eugenia grandis (25-45 meters), Swietenia macrophylla (30-40 meters), Pterocarpus indicus (Angsana), Khaya senegalensis (30 meters), Andira inermis (35 meters), Casuarina equisetifolia (30-40 meters), Cerbera odollam (flower, a medium-sized tree, up to 12m), Khaya grandiflora (30- 35 meters), Tabebuia rosea (up to 30m), Terminalia catappa (flower, up to 35m), and Eugenia polyantha (up to 30m).

The replacement of the Angsana tree involved over a hundred different species, with the Fabaceae family being particularly prominent, comprising 37 species including the Yellow Flame and Flame of the Forest, and various others. The success of these species is largely due to their symbiotic relationship with nitrogen-fixing bacteria within their root nodules[29]. This biological feature allows them to assimilate nitrogen directly from the atmosphere, providing a significant growth advantage in nutrient-poor soils. Moreover, the flowering traits of these trees contribute vibrant colors to the urban landscape, aligning with human aspirations for a more colorful green environment at that time.

## THE INTERACTION BETWEEN GOVERNMENT AUTHORITY, THE PUBLICS, AND BOTANISTS

By the end of the 90s, Angsana on the island had decreased a lot. The rest of the surviving trees have grown into huge trees and stand individually along the road, like the figure 1. The story of Angsana resumed in 2010 when the School of the Arts (SOTA) began to be constructed at Orchard road area, where there is a large Angsana tree standing. The botanists and design consultants worked together to include the tree into the overall design of the school – integrating the Angsana tree into a large step – later became Sota's grand steps. Unfortunately, due to decay and cavity at its base, the tree was removed on 21 January 2018 [30]. More than 200 students stood at the top of Sota's grand steps to farewell this giant tree. At the ceremony, Sota principal Lim Geok Cheng called the tree an important landmark for Sota that this Angsana tree has become more than an urban space structure, but a sign of culture, known as the "Tree of Knowledge" or the "SOTA Tree"[31]. In addition, in 2015, we saw a successful transplanting of the mature Angsana trees to Esplanade Park to provide shade for the public. Different from planting for shade in the 60s, this time, Angsana is tied with culture sense, as NParks Director (Streetscape) Oh Cheow Sheng said this would "help to bring back a sense of nostalgia"[32]. NParks scientists managed to breed disease-resistant Angsana trees[33] and started to plant Angsana once again. Here we not only see the role of Angsana shift, but also the interaction between government authority, social groups, and botanists.

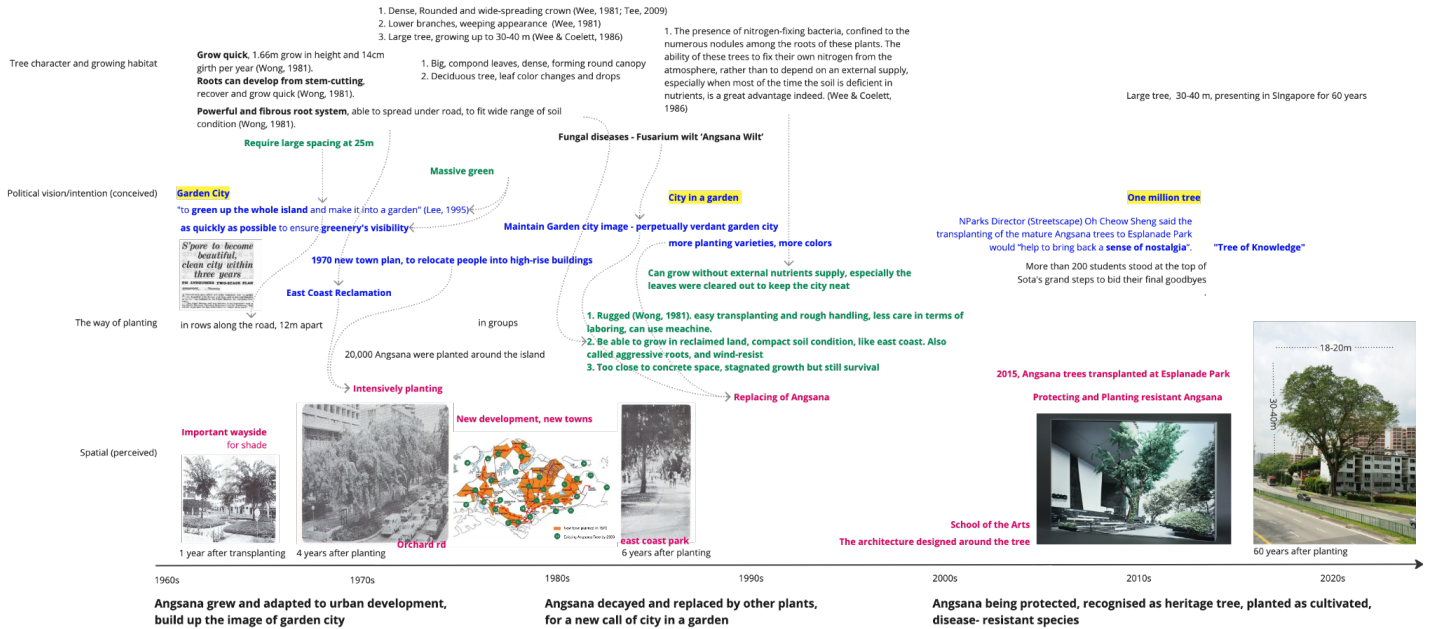


Fig. 5. Periodization diagram – showing Angsana's growth overlays with urbanization. Created by author.

## CONCLUSION

The long history of Angsana in Singapore is materialized in the wide landscape on the island, which is an accumulation and intersection of its natural force with humans' political subjectivities, and spatial impacts. In the 1960s, the Singaporean government aimed to enhance urban greenery to support rapid urbanization. Angsana trees were pivotal in this initiative, providing immediate lushness across the island, offering ample shade along roadsides, and transforming industrial zones into desirable residential areas. Over two decades, extensive planting of Angsana in rows and clusters helped forge Singapore's identity as a "Garden City," both physically and discursively. Yet, human intentions are relentless and evolving. As Singapore's political and aesthetic visions for the future shifted, the way Angsana trees grew and their physical appearance began to misalign with these new urban ideals. Consequently, they gradually receded from the forefront of the urban landscape. However, the remaining mature Angsana trees, now significantly larger and more imposing than many other urban plantings, have transcended their original utilitarian role. These giants have become symbols of heritage, culture, and knowledge—entities that are preserved, protected, and even transplanted (Fig.5).

Plants make silent yet profound statements simply by existing, transforming modest spaces into narratives of greater depth. The journey of the Angsana tree exemplifies this narrative, going beyond understanding urban greening as one devoid of human interaction but through a tale of embodiment. Throughout its lifecycle—growth, adaptation, and eventual decay—the Angsana aligns with or diverges from the evolving goals of urbanization, systematically planted and then replaced to shape the city's space.

This research underscores a critical need to re-evaluate our engagement with urban nature, especially more-than- humans. The story of Angsana is a start for looking at Angsana trees not through the established methodology system but positioning it into a specific social and ecological context. Such a perspective recognizes trees as active participants in urban planning and space-making, shifting from objects placed by human design to subjects with their own agency and influence on the urban landscape. Their position is changing from passively selected by humans to locate at a certain place, to more actively present themselves in the urban planning process and construction of urban space.

From 'garden city' to 'city in nature', they are big political visions, as well as simply situated plants' stories.

### DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

### NOTES ON CONTRIBUTOR(S)

**Tiantong** is currently a PhD student in Architecture at NUS. Her research interests focus on seeing urbanization from the process of planting in Singapore, to recognize more-than-humans' agency to futher understand how human-nature interactions shape urban systems, and what novelty would emerge.

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