

## **TOWARDS AN ENGAGING, INCLUSIVE AND MEANINGFUL PLANNING DEVELOPMENT OF AN URBAN PARK IN PHITSANULOK, THAILAND**

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### **ABSTRACT:**

Phitsanulok has been renowned for its leadership in urban green space development. Phitsanulok Central Park (PCP) is the latest urban park project initiated in 2012 to enliven the unused green spaces and to create connection to the waterfront. PCP was developed to become the new city landmark that is: 1) engaging with diverse user groups o by offering a variety of activities for people from all ages, 2) inclusive for everyone especially those with disabilities for having safe and convenient access to PCP, and 3) meaningful to enhance place identity by linking to the urban heritage and being a learning environment. The incorporation of design strategies in PCP is investigated to demonstrate how three design principles are embedded in the main features of this urban park. The analysis of PCP's elements was performed according to nine design strategies. It is found that PCP consists of engaging, inclusive, and meaningful spaces as the new urban park offers places for children to play, adults to enjoy and seniors to relax. It also gives opportunities for all users including the disabled people to conveniently access, have social interaction, connect to the city's history, share memorable moments together, and learn about environmental sustainability.

*Key-words: Engaging, Inclusive Design, Meaningful, Public Park, Urban Green Spaces.*

### **1. INTRODUCTION**

Rapid urbanization of cities in the developing world put great pressure on the availability of urban green spaces. According to the World Health Organization-WHO (UN Habitat, 2015), cities should provide a minimum of 9 m<sup>2</sup> of green spaces for each person to ensure the adequate amount of urban green spaces for enhancing people's quality of life. Evidences show that the use of urban green spaces associates with the improved health and well-beings (e.g. Akpinar, 2017; Veitch et al., 2016), have positive impacts on people's psychological condition as a result of the restorative effect of nature (e.g. Liu et al., 2017; Mitchell, 2013), and foster social cohesion and social identity (e.g. Dempsey et al., 2012; Seeland et al., 2009)

Like other developing cities, Phitsanulok has struggled for making the city healthy and liveable. Local authorities particularly Phitsanulok Municipality has made a great effort since 1990 to develop several green spaces for serving recreational and cultural activities. Three important green spaces of the city are *Chom-Nan* Waterfront, Her Majesty the Queen's 80<sup>th</sup> Birthday Anniversary Park, and Moat greenway. The first two urban parks are the destiny for a number of park visitors who are interested in outdoor exercise and have leisure activities. The latter was built along the cultural heritage, the ancient moat of the city, becomes a learning corridor for visitors to explore the history of Phitsanulok aged over 700 years.

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However, the city lacks an open public space where everyone can gather together. The green area per capita of Phitsanulok is only 5.6 m<sup>2</sup>, which is far less than a minimum of 9 m<sup>2</sup> of green space suggested by WHO (2012).

The latest UGS project is Phitsanulok Central Park (PCP) as the extension of *Chom-Nan* Waterfront. Located in the city center and surrounded by public buildings, commercial districts and historically significant monuments (**Fig. 1**), this new urban park is envisioned as the new city landmark and the important open space for urban residents and visitors to celebrate public events and enjoy greeneries. To attract a wide range of users, the accessibility and a variety of facilities are the critical issues for the urban park development. Historic importance of the site and its surroundings needs to be unveiled and echoed to construct place identity. Along with social values, this urban park should exemplify greening initiatives to raise people's awareness in environmental sustainability. In addition, the involvement of stakeholders in the early planning process to make decision on the PCP's elements is essential to ensure that PCP will become an engaging, inclusive and meaningful urban park.



**Fig. 1.** Map of Phitsanulok City.

With a total area of 2.1 ha, the new urban park will contain recreational areas and facilities for children, adults, and the elderly. This article has the major objective to present the design development process of PCP which takes social, cultural and environmental considerations into account in every step. This is reflected in the design concept and the master plan of PCP. It also aims to investigate how design principles of creating engaging, inclusive, and meaningful spaces are embedded in the main features of PCP.

## **2. DESIGN PRINCIPLES OF AN URBAN PARK**

### **2.1. Creating Engaging Spaces by Being Responsive to Diversity of uses**

People with different ages, genders, social status, or ethnic have different preferences in recreational activities and requirements. Different requirements for park visitors in different ages are highlighted by various scholars (e.g. Liu et al., 2017; Jim & Xizhang, 2013). The seniors enjoy spaces with social connections, and some prefer to be in quite spaces with connection to nature whereas teenagers strongly need a hangout area that maximizes views of and from passerby. Significant differences in park activities among users with different ethnics are found in the requirement for social and nature-based activities (Whiting et al., 2017). Considering diverse uses in public outdoor spaces, various types of spaces should be offered to make urban parks responsive to different groups of users.

### **2.2. Inclusive Design to Increase Accessibility**

Inclusive design was defined as “a general approach to designing in which designers ensure that their products and services address the needs of the widest possible audience, irrespective of age or ability” (Design Council, 2008). Accessibility, convenience and responsiveness to diverse uses are the key principles promoted for achieving inclusive design (Waller & Clarkson, 2009; EIDD, 2004). In the context of public parks, inclusive design considers the needs of general users and groups with special needs, such as the elderly and the disabled users. It covers several issues related to accessible entrance, safe and convenient walkways, the provision of well-designed signage, the presence of facilities and amenities required by users with special needs (Wu & Song, 2017).

Accessibility can be enhanced for pedestrians and cyclists by creating walkable and cyclable environment. Walkable environment can be developed through seven C-principles: connection, convenience, comfort, conviviality, conspicuousness, coexistence and commitment (Moura et al., 2017). To achieve walkability, it is therefore necessary for having the pedestrian network that connects to destinations, being conveniently accessible, providing facilities and amenities for walking, creating a convivial atmosphere for encourage social interaction, providing signs and information for pedestrian, arranging coexistence between walking and other transport modes, and having commitment from local communities and administration to create pedestrian-friendly environment. Along with pedestrian network, cycling network and facilities should be provided.

### **2.3. Creating Meaningful Spaces by Fostering Place Identity and Offering Learning Opportunity**

Place identity relates to the formation of self-identity and sense of community (Low & Altman, 1992). When ones feel that they belong to a community, they tend to have an increase of place attachment (Lewicka, 2005). In contrast, a community satisfaction diminishes by the loss of place (Bernardo & Palma-Oliveira, 2016). According to Montgomery (1998), physical form, activity and meaning are three components of place. Uniqueness, congruence and legibility are the important attributes of physical forms that make a place distinguish from the others, constituting the identity of a place (Lynch, 1984 from Carmona & Tiesdell, 2007). Making references to traditional design elements, emphasizing local characteristics of the built environment or preserving urban heritage are techniques often found to maintain a sense of local identity (Zukin, 2012).

Apart from physical form, activities have a strong influence in fostering the identity of a place through collective ways. Community participation in the design process for defining

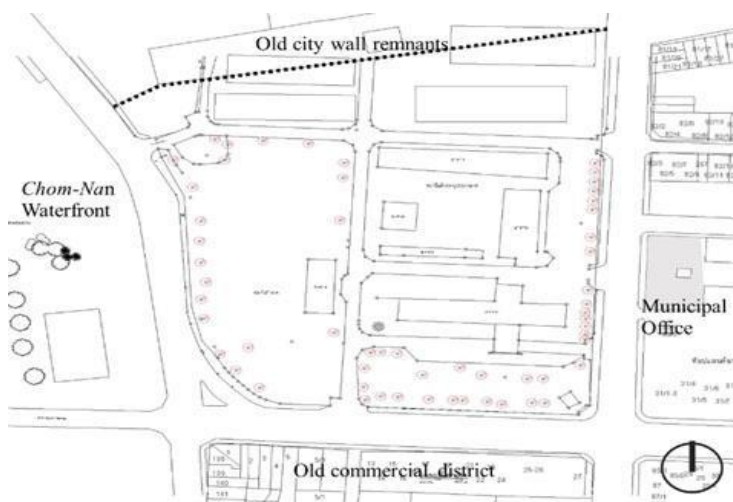
distinctive place characters is leading a way to achieve place. Also, people interaction with a place in everyday uses or the culturally shared activities generates meaningful experiences and increases degree of place attachment (Hodgetts et al., 2000). Meanings characterize a place as they construct a bond between an individual and a place (Scannell & Gifford, 2010). To achieve symbolic meanings recognizable among individuals, signage and symbols are therefore commonly utilized for enhancing identify of the environment (Ngesan et al., 2013).

Learning about environmental sustainability is also crucial to embrace environmental stewardship as part of the community culture. In the context of urban green spaces, Low Impact Design (LID) can be applied to emphasize the importance of water resource and its role in mitigating urban flood risk. LID refers to an approach to stormwater management that is based on distributed systems across a development site (Montalto et al., 2007). Instead of using pipe systems, LID systems rely on open systems, such as rainwater harvesting, to allow water infiltration and reduce the amount of runoff. Reducing the impact on the environment contributes to the concept of a sustainable productive area (Turon & Gomis, 2016).

### 3. METHODOLOGY

#### 3.1. Study Area

The city of Phitsanulok covers the area of 13.05 km<sup>2</sup> and has the population of 80,000 in 2016. The city is bisected to the east and west sides by the Nan River. Two urban parks, Chom-Nan Waterfront and Her Majesty the Queen's 80th Birthday Anniversary Park, are also located in the east of the city. Chom-Nan Waterfront was redeveloped in 1999 along the Nan River. It is lined by public buildings including Phitsanulok Police Station. In cooperation between the Provincial Region 6 and Phitsanulok Municipality, the police station is redeveloped by relocating some buildings and transforming the private open space into a vibrant public space for people. The site is bordered by Chom-Nan Waterfront at the west, old commercial district at the south, municipal office with King Rama I at the east, and the ancient city wall remnant at the north (**Fig. 2**).



**Fig. 2.** The location of PCP (Source: adapted by authors).

### 3.2. Design Process

During 2012–2014, the PCP projects have been developed by a team of consultant which is collaboration between the Faculty of Engineering and the Faculty of Architect, Naresuan University. To develop the master plan of the PCP, site analysis was carried out to identify landscape and circulation pattern that fits the site characteristics, the suitable park facilities and amenities, and the potential to reconnect the urban park to the surroundings. Five formal meetings with Phitsanulok Municipality were organized to present a draft master plan. After the last meeting with the municipality, the public hearing was conducted to receive comments from the stakeholders. The steps for organizing the public hearing are as follows:

- Notification. A notice for the Hearing is posted in the municipality office and the municipality website 30 days before the Hearing
- Invitation Letter. Invitation letter was sent to 300 stakeholders to invite them to participate in giving suggestions for the development of PCP
- Consultant report. The consultant team prepared a report and a brochure giving PCP information including the master plan and the facilities offered in the urban park
- Public hearing. On September 19, 2012, the public hearing was hold at the Grand Riverside Hotel, Phitsanulok. About 200 participants attended the event. After the 1-hour presentation of the consultant team, representatives from the municipality were invited to comment on the masterplan of PCP. The floor was then opened for public testimony. There were 12 persons who asked questions and gave comments to the consultant team. Besides, 7 persons submitted their feedbacks in writing during the Hearing.
- Written Testimony. All comments were collected and written in the public record distributed to the public and the consultant team members.

The consultant team read all written testimony. The masterplan and landscape design of PCP was then refined based on suggestions from stakeholders.

### 3.3. The Analysis of PCP's Elements

The main features of PCP are analyzed to demonstrate how three design principles: engaging, inclusive, and meaningful are considered (**Table 1**). In total, there are nine design strategies. These strategies formulate the assessment framework used to examine the PCP's elements in next section.

**Table 1. Design principles and strategies of PCP.**

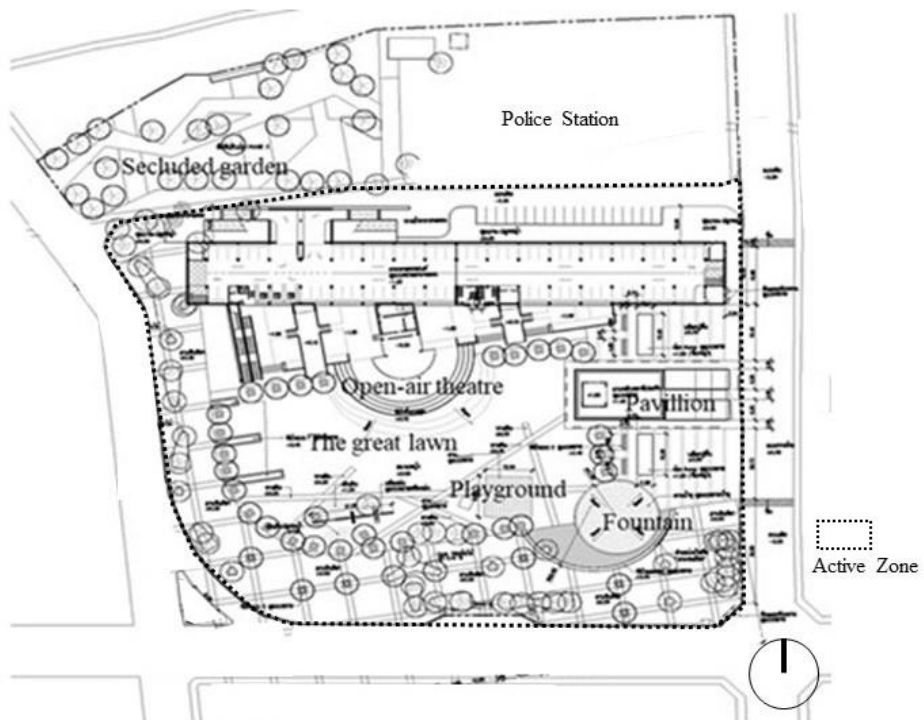
Design Principle	Design Strategies
1. Creating engaging space for people from all ages	1.1 Provision of playful and dynamic spaces for children 1.2 Provision of gathering spaces for adults 1.3 Provision of peaceful space for elderly
2. Creating inclusive space for people with special needs	2.1 Accessibility 2.2 Comfort and convenience 2.3 Safety
3. Creating meaningful spaces	3.1 Symbolic meaning 3.2 Gathering spaces for cultural events 3.3 Environmental sustainability

#### 4. THE INTEGRATION OF DESIGN PRINCIPLES INTO PCP

**Fig.3** illustrates the PCP masterplan divided into two parts. The larger part as the active zone, covers the area of 1.5 ha encompassing circular fountain and Sri Tala Pirom Pavilion, which is built to celebrate King Rama X, the great lawn, play areas, an open-air theater and the underground parking lots. The smaller part with the area of 0.3 ha serves as the passive zone for the quiet contemplation. **Table 2** presents the PCP elements and the areas of each element. More details of key design strategies for creating an engaging, inclusive and meaningful park are summarized in **Table 3** and described as follows:

##### 4.1. Engaging with diverse users by providing a variety of recreational activities

An activity ranges from highly active sports to leisurely activities. Spaces for children include play areas and circular fountain plaza, accounting about 3% of PCP. The major spaces served for recreational activities of adults are the open-air theatre and amphitheater occupies about 12% of PCP. Spaces dedicated for the elderly are Sri Tala Pirom Pavilion and seclude garden have the largest share of 50% of PCP. Juxtaposition of spaces for users with different ages is aimed to enhance visibility and social interaction among different groups of users. There are five districts located within a walking distance of 500 m from PCP. The total population of these five districts is approximately 4,000. Therefore, PCP will benefit at least 4,000 persons who live nearby. The number of park users can reach up to over 15,000 when public events are organized along the waterfront.



**Fig. 3.** The PCP masterplan.

**Table 2. PCP's elements.**

<b>Element</b>	<b>Area (m<sup>2</sup>)</b>
<i>Sri Tala Pirom</i> Pavilion	5,940 (34%)
Circular fountain plaza	380 (2%)
Open-air theatre	278 (1.5%)
Amphitheater	1,800 (10%)
Play area	157 (0.5%)
Secluded garden	2,862 (16%)
Promenade and walkway	3,000 (18%)
Parking area	2,970 (17%)
Total area	17,482
- Hard surface	12,152 (70%)
- Green and permeable surface	5,330 (30%)

#### **4.2. Creation of a dynamic and engaging outdoor environment**

In the active zone, landscape features, such as circular fountain plaza, were designed to support individuals to actively participate and socially interact with one another. The snake-ladder playground enables users particularly children to independently explore through the dynamic environment. They will enjoy with different spaces of enclaves, steps, stairs, slides and tunnels which provide them opportunities to crawl, climb, jump, hide, discover and ultimately, make friends. In addition, the curving green-roofing form of the open-air theatre creates the dynamic aesthetic identity and blends this large structure to the great lawn (**Fig. 4**).

#### **4.3. Enhancement of accessibility and support to users with special needs**

To promote social inclusion, the PCP can be accessible from all directions, equipped with tactile pavement, signs, benches and lighting to guarantee the safety and convenience of users. Pedestrian network is offered to enhance individuals to freely wander around with multiple choices (**Fig. 5**). Bicycle parking racks are also provided along the edge of PCP. Importantly, a bus stop is located at the south promenade to enhance the use of public transport to the urban park.

#### **4.4. Reconnection to the local context**

To reconnect to historical monument of King Rama I, the ancient city wall remnants, the commercial district and the Nan River, the main viewpoint, *Sri Tala Pirom* Pavilion, is therefore placed at the opposite to the King Rama I monument. At the center, the great lawn serves as the open space for connecting *Sri Tala Pirom* Pavilion with *Chom-Nan* waterfront. It will be an outdoor gather space, offering the Nan-River views to the PCP. The connection to water is expressed to the eastern edge by the cascading waterfall at the base of *Sri Tala Pirom* Pavilion (**Fig. 6**). Active edge at the south also connects the PCP with the existing commercial district. On the other hand, the secluded garden frames the PCP at the north, enabling visitors to learn the city history from the city wall remnants.

#### **4.5. Creation of experiential and meaningful spaces through metaphors and symbols**

To create the symbolic spaces that users are able to interpret city stories, not only the position of *Sri Tala Pirom* Pavilion is emphasized at the main axis of PCP as described in Section 4.4, other design techniques are employed. Brick wall, the main feature of the secluded garden, represent remnants of the ancient city wall nearby. Snakes and Ladders plaza is also the metaphor of the popular board game for children.

**Table 3. Summary of design principles and key design strategies of PCP.**

Design element	Engaging spaces			Inclusive spaces			Meaningful spaces		
	Dynamic and playful spaces children	Recreational space for adults	Peaceful spaces for elderly	Accessibility	Comfort & Convenience	Safety	Symbolic space	Gather space for memorable moments	Environmental sustainability
<i>Sri Tala Pirom</i> Pavilion			√	√	√	√	√		
Secluded garden			√	√	√	√	√		√
The Great Lawn	√	√	√	√	√	√		√	√
Open-air theatre	√	√	√	√	√	√		√	√
Circular fountain plaza	√			√	√	√	√		
Snakes & Ladders playground	√				√	√	√		
Play area	√			√	√	√	√		
Promenade	√	√	√	√	√	√		√	√
Cascading waterfall	√			√	√	√	√		
Parking				√	√	√			



**Fig. 4.** Green-roofed theatre and the great lawn.



**Fig. 5.** Pedestrian network.



**Fig. 6.** *Sri Tala Pirom* Pavilion.



**Fig. 7.** Promenade as a venue for Art exhibition to honor the Late King.

Importantly, the Great Lawn, amphitheater, and even the promenade will serve as a place for people to celebrate cultural events and have memorable moments. **Fig. 7** illustrates the art exhibition held in the promenade of PCP as the tribute for the late King Bhumibol Adulyadej (Rama IX) during 1 August - 31 October 2017. Apart from the art exhibition, mini-concert and food stalls were set up to attract a large number of visitors. It demonstrates that this extensive space of the promenade could be used to facilitate large-scaled events which will bring life to the city and memorable experience to urban residents.



#### 4.6. Promotion of low impact development through the use of green roof and rainwater harvesting

The green-roofed theatre was designed as a showcase to express the municipality's pursuit of the environmental sustainability. Rooftop runoff will be intercepted and stored in the underground water tank. Stormwater runoffs are further collected from the sunken plaza to increase the amount of the water harvested. This harvesting rainwater is reused for irrigation. Based on the calculation or runoff volumes compared between before and after the development of PCP, an increase of green and permeable areas can reduce the runoff volumes from 0.72 m<sup>3</sup>/s to 0.53 m<sup>3</sup>/s.

**Fig. 8** illustrates the overall view of phase I. The urban park has undergone the construction since 2016. The construction of this urban park is divided into two phrases. Phase I covers the area of circular fountain and Sri Tala Pirom Pavilion, which is built to celebrate King Rama X. Phase II features the great lawn, play areas, an open-air theatre and the secluded garden.



**Fig. 8.** Overall view of PCP.

## 5. CONCLUSIONS

The development of PCP emphasizes Phitsanulok Municipality's ambition to create a liveable city. Through participatory planning process, the PCP masterplan had been developed to well fit with community needs. This urban park is envisioned as the place for enhancing community identity formulated from chances offer by the PCP to physically and socially connect to urban heritage and the other peoples. It will therefore become a place where social cohesion can be enhanced through a variety of recreational and leisure activities.

The analysis of overall plan of PCP and each landscape elements shows that this urban park was designed to enable individuals to engage with and have inclusive and meaningful experiences. At least 4,000 urban residents will enjoy several recreational opportunities offering by PCP. In addition, the urban park's meaning will be collectively constructed by over 10,000 visitors who will participate several cultural events. As a place for learning environmental sustainability, PCP can be an outdoor classroom for visitors to rethink about water management. With multifunctionality of PCP, this urban park will definitely provide an engaging, inclusive, and meaningful space for Phitsanulok city.

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