

Public rights, beach life, and tourism space

The study of rights in public space through space usability in tourism:
The case of Patong beach in Phuket, Thailand



Figure 1. Bird's eye view of the beach (Feola, 2017)

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ABSTRACT

Public spaces are considered significant to human interactions and the tourism industry. Beaches, unlike other public spaces, have a unique characteristic of being a natural space that has been developed to be appropriate for human society. Moreover, beaches play an important role in tourism industries across the world, which result in privatization among relevant stakeholders like government bodies and private sectors. However, an individual user known as 'the public' still gains insufficient attention. According to the interest in the public use on beaches as well as the beach privatization practice of the individual user, this study attempts to understand the impact and the influential matter of beach users' activities on the beach space. Thus, the aim of this research is to explore the relationship of beach users' activities and the beach environment via the five dimensions from the concept of rights in public space.

Patong beach in Phuket, Thailand is chosen as a site of the study due to its popularity amongst tourists. The findings from the observation and interview show that people's activities have a significant impact on the beach environment. Both physical attributes and sociocultural practices of the beach are affected when an individual negotiates the space. Freedom to act in beach users is the main cause to the change of the beach environment that influences the way people appropriating, modifying, and accessing the space. In addition, the disposition dimension of the local authorities is discovered to have the ultimate control over other dimensions. In the meantime, the material settings are confirmed to have an influential role on people's activities and can be categorized into two types: the artefacts as an instrument to negotiate the space and the nature that also negotiate the space with people. Consequently, based on the results and involved concepts, design principles that contain three main principles (access and connections, uses and activities, and impression) are created. The principles are proposed as a tool to improve the quality of the beach environment and beach users' satisfaction.

Regarding the importance of individuals to the beach environment, it is recommended to concern about them in the beach tourism planning. Furthermore, the design principles are suggested to be further developed as a standard of beach design and management.

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1. INTRODUCTION

1.1 Public space in the sphere of tourism

Although parks or plazas might not be the highlight of everyone's journey, they are quite popular among visitors. Central Park attracts about 25 million visitors every year (The Complete Guide to New York's Central Park, n.d.), while International Patrons of Duomo di Milano (2014) indicates that 80% of visitors in Milan visit Piazza del Duomo. Places like parks and plazas, known as 'public space', are common places of visitation for both locals and guests. According to Cybriwsky (1999), public space is the space either indoor or outdoor that can be freely accessed by the public and is aimed for social interaction, relaxation and passing through. Many scholars also suggest the benefits of public space to public health, economic and political development (Carr et al., 1993; Garvin, 2002; Schmidt, 2008). Several public spaces are created to satisfy the owners or designers, while public users sometimes may be neglected (Carr et al., 1992). However, many architectural and planning experts are aware of the fact that people are crucial for public spaces and tend to pay more attention to this concept. Therefore, several urban public spaces are created to enhance the quality of public life by aiming to understand human's behaviors and needs (Gehl & Svarre, 2013). Although public space is a popular topic in tourism studies, limited literature is found especially when involved with public users who are tourists and locals. Understanding public users' behaviors would contribute to different perspectives in tourism studies.

1.2 Let's go to the beach

According to Rubio (2005), Jimenez et al. (2007), and Ariza et al. (2008) beaches are multifunctional spaces where various human activities occur. Besides, beaches are the meeting point between land and sea that can be considered as common properties with dynamic energy systems and usually have tourism as a main activity (Botero & Diaz, 2009). Beach tourism is one of the fastest thriving industries within the sphere of tourism (Orams, 1999; Hall, 2001) that result in severe infrastructural developments and sea-side tourism activities, all of which have put pressure on the stability and quality of coastlines (Hall, 2001). Even though the impact of tourism upon beaches is widely discussed in the literature, often citing economic and ecological values as the major concerns (Hall, 2001). At the same time, the effects on beach sustainability, resulting from the public use of beaches, garner insufficient attention.

As certain beaches grow in popularity competing actors tend to claim unwritten rights and ownership of desirable areas for touristic purposes. Consequently, the tourism industry is often pointed out as a crucial practice that increases the chance of beach privatization. Distinguishing whether a space is either public or private often fall into ambiguous characterizations, considering the reality of the public-private realm is rather arbitrary and contingent. The public-private access and boundary of the beach raise conflicts amongst many actors (Cartlidge, 2011) particularly on an organizational level. In the meantime, an important actor, the public user, has yet to be included. People visit the beach for different reasons, which should be investigated considering their effects on the beach environment. Carr et al.'s (1992) concept of rights in public space is introduced in order to explain the phenomenon of the individual use of space. The

concept comprises of five elements: access, freedom of action, appropriation, modification, and disposition. Each element represents different ways that people claim, control and experience freedom within a space. Exploring the least popular areas or discovering the most purchased goods on the beach can reveal a lot about human interactions with their surrounding environment. Moreover, not only beachgoers activities affect beach spaces, but the material placement at the beach can also influence their behavior. Thus, the role of materiality at the beach should be taken into consideration when probing whether human activities have a notable impact on the beach environment. In order to gain an understanding of the relationship between humans and the beach environment, this study will examine how beaches are privatized by individuals and how various activities influence the space.

1.3 Problem statement

Tourism is often blamed for privatization since it is the domain of commodifying existing goods, places, and experiences. As a result of being an environmentally and socially rich area, beaches are often privatized by several actors and unavoidable conflicts are raised, specifically for touristic purposes (Cartlidge, 2011). However, the discussions often happen between private sectors and government bodies while the crucial actor known as 'the public' is neglected. Hence, how rights in public space are negotiated by users in a touristic beach setting is the knowledge gap that this study aiming to find out.

Besides, a limited amount of literature acknowledges that beaches are interconnected sites with multifaceted activities that can be

modified daily or seasonally. Because the actual event that happens on the beach is interesting to sociocultural, economic and ecological features but yet gain adequate attention. In the meantime, design and development schemes overlooking public life in public spaces often result in the failure of those spaces (Gehl & Svarre, 2013). Hence, the study of the relationship between human and the beach environment would help in understanding the space usability phenomenon and offer new approaches for further beach tourism development.

1.4 Research objective and questions

According to the interest in the public use on beaches as well as the concern of privatization practice amongst individual beach users, this study seeks to understand the impact and the influential matter of beach users' activities on the beach space.

The objective of this research is to explore the relationship of beach users' activities and the beach environment through the concept of rights in public space at Patong beach in Phuket, Thailand. The design principles will be developed to guide alternative concepts and strategies for marine and coastal tourism development.

The following questions are designed in order to guide the research:

1. How do rights in public space constituting from beach users' activities impact the beach environment at Patong beach in Phuket, Thailand?
2. How does the role of material settings influence beach users' activities to constitute rights in public space at Patong beach in Phuket, Thailand?

3. What kind of design principle can be drawn from the result based on constitutional rights in public space through beach users' activities at Patong beach in Phuket, Thailand?

1.5 Thesis outline

This thesis is organized into eight chapters. In the first chapter, the introduction, the problem statement, and the research objective and questions have been introduced. Chapter two presents the theoretical framework, which contains a literature review and a conceptual model. Chapter three breaks down the methodology of this thesis and presents the epistemology, study site, methods, data analysis and challenges of the study. In chapter four, background information about beach tourism worldwide and in the study area of Phuket, together with the concept of human dimension in public space are covered. The results are provided with the preliminary design principles in chapter five, followed by the discussions in chapter six and the conclusions in chapter seven. Finally, chapter eight presents the recommendations in the study area and for future research.

2. THEORITICAL FRAMEWORK

In order to fully comprehend this study, its main approach will be generated below by given idea the complication of the public-private realm (2.1). After that, the privatization issue on the public area particularly at the beach will be discussed (2.2), followed by the rights to public space and its component (2.3). Then the theory about the role of material settings is presented (2.4). Finally, the conceptual framework drawn from the theoretical framework is introduced as an approach to study public life on the beach (2.5).

2.1 The complication of the public-private realm

In accordance with many scholars, public spaces are agreed to be beneficial for human society (Carr et al., 1993; Garvin, 2002; Schmidt, 2008). Thus, discussions are raised among the literature about what is a good public space should be like. Carr et al. (1992) indicate that the space should address basic human needs, be democratic, supportive and meaningful. While the American Project of Public Spaces (PPS) notes that accessibility and connectivity to surroundings, cleanliness, safety and comfort, activities for different users, and sociality are vital for the success of public space (Project of Public Spaces, 2008). These aforementioned aspects can offer a better understanding of how to denote the quality of a public space. However, a space that claims to be good may not necessarily meet the criteria of being public. Since there is no agreement on a specific theory as a standard for public-private dimensions, analyzing and measuring the difference of these dimensions can be ambiguous. Whether a space matches the criteria of being public varies across different standards. Pradinie et al. (2016) illustrate the private-public configuration in which the spaces are divided into four

distinct themes: i.e. public space, semi-public space, semi-private space, and private space. Alternatively, a space can be distinguished and measured by using the dimension of publicness. Firstly, the ownership that categorizes as either private/corporate or public/government. Secondly, management that categorizes into exclusive/closed or inclusive/open. Lastly, uses and users that refer to as wither homogenous/individual or diverse/collective (Németh & Schmidt, 2011). By both standards, the same principle of having two ends of public and private is applied but dissimilar criteria are generated. The first scheme focuses more on the visible and in a non-complex way. Meantime, the second scheme focuses on multi-dimensional methods of space identification and does not set a tangible line of public-private. However, both configurations face the complication that the usability of public-private space consists of several unmeasured and contradictory variables.

Several theories attempt to explain the issue of publicness, particularly concerning the fundamental shifts of how public space is conceptualized in a tourism-related context. Banerjee (2001) illustrates this through three main issues. First is the risen of liberal movements in modern societies in which private sectors have gained more power and have been gradually eroded the traditional role of governments. The privatization and commodification of public goods are also noteworthy practices along the lines of public-private power relations. Second is the 'third places' concept based on the 'experience economy' from Pine & Gilmore (1999). The concept explains that added values to activities, goods, and places can create superior experiences for individuals or groups. Thus, any places after first places (i.e. the home) and the second places (such as work or school) that are of significance to people can be defined

as third places. In addition, public life can still be developed in any space while not necessarily being public. Lastly, the information and communication technology revolution brought about by the internet shifts human interactions to an intangible network of information and socialization (Banerjee, 2001). Several activities e.g. money transactions and shopping can be done online, reducing physical interactions among people. This issue may affect the existence of public spaces because online activities receive more interest, and the tangible spaces may not be as value as before.

In this research, only the issue of liberalism and the third places concept will be discussed because they are more relevant to the individual level of public-private dimension that is the focus of this study. Privatization is one of the more widespread issues of space alteration though many perceived public places e.g. parks and plazas are privately owned and not truly public. Therefore, instead of saying 'privatized the public', maybe the phrase 'publicized the private' can be more accurate in some settings (Banerjee, 2001). As an example, an owner of a shopping mall decides to host a music event in the mall which consequently creates a loud noise. Public users not associated with the event start criticizing it even though the mall is privately owned and the owner has the right to modify it. Thus, the public-private realm, in this case, is quite vague. A space defined as public for some people might not be public to others. The third place concept also relates to privatization since the creation of place attachment is the action of personalizing such places. As a result, a special bond between people and places is built either at an individual or a group level.

2.2 Whose beach is it?

Tourism is highly related with traveling through and to places. These historical, natural and urban 'landscape' destinations are utilized (and are often staged) by the tourism industry in order to attract more visitors (Terkenli, 2004). A landscape can be considered as a nexus for tourism activities because it is a space in which multi-dimensional practices revolving around tourism occur, regardless of whether they are tangible or intangible. Despite landscape being enticing for visitors, the relationship between landscape and tourism in the scientific literature has been limited. The existing literature is dominantly in the architectural field. According to Terkenli (2004), landscape and tourism study gained interest during the late 1930s and 1940s and was mainly focused on resort development and coastal landscapes. In addition, Terkenli (2004) argues that the relationship between landscape, space, and tourism should be further researched.

Several touristic sites are open to the public and accessible for both guests and hosts. These landscapes are perceived as 'public spaces' which can vary from shopping malls, plazas, to beaches, and hills. Public spaces usually offer more opportunities to interact between strangers than private spaces (Goffman, 1963; Lofland, 1998) and are considered as major areas to support local-tourist relationships. Although public spaces usually refer to urban areas (Gehl & Svarre, 2013), there are spaces on the fringe of an urban-rural domain that have natural environment features together with rapid modern development such as beaches. Unlike urban public spaces that are designed by experts to serve the public, beaches are nature-made areas with rich biodiversity that have been found and modified by humans. Preston-Whyte (2004) identify that a beach contains two

dimensions: the 'material space' which includes physical attributes e.g. water, sun, and warm climate and the 'cultural space' where the cultural integration of locals and visitors take place. Several scholars suggest that visitors' notion of beach space is constructed as a result of their life experience. Some might seek wild and isolated environments, while others may prefer leisurely activities (Harvey 1989: Soja 1989: Lefebvre 1991: Young 1999). Meanwhile, those who visit beaches daily, such as beach vendors or lifeguards, can perceive the space with respect to both cultural and natural values in a different way from less frequent visitors.

Although beaches are perceived as publicly accessible in various countries (Cartlidge, 2011), they are often privatized by involved actors which affect the development of marine and coastal tourism (Houston, 2008: Botero et al., 2014). Figure 2 is presented to explain the commonly known public-private line of beaches. A beach starts when the breaker zone (the area which waves approaching shoreline are breaking) is ended or from the lowest astronomical tide (LAT). Then continuing to the highest astronomical tide (HAT) zone, the beach between LAT and HAT are known as wet sand or intertidal zones which often vary according to the tides. When the tides reach LAT zone, the wet sand can be used as beaches. Meanwhile, when the tides meet the HAT, the wet sand is no longer beach and only the dry sand or backshore is. The area beyond the dry sand on the foredune is usually where local plants such as grasses or trees grow. It is known as the vegetation line which is considered the end of the beach (Cartlidge, 2011).

Beach boundaries are geographically and culturally divided into two main phases: the area from inland until the foredune, and the area from the vegetation line/foredune to the offshore. The former is

usually private land where buildings are allowed. The latter is known as a public space according to laws and regulations in several countries. To be specific, the area from the HAT to LAT is commonly known as public, while in some jurisdictions the area from the HAT to the vegetation line (often know as dry sand) may be given over to private hands (Cartlidge, 2011). Thus, the area from the vegetation line to the wet sand is often raised conflicts in several places.

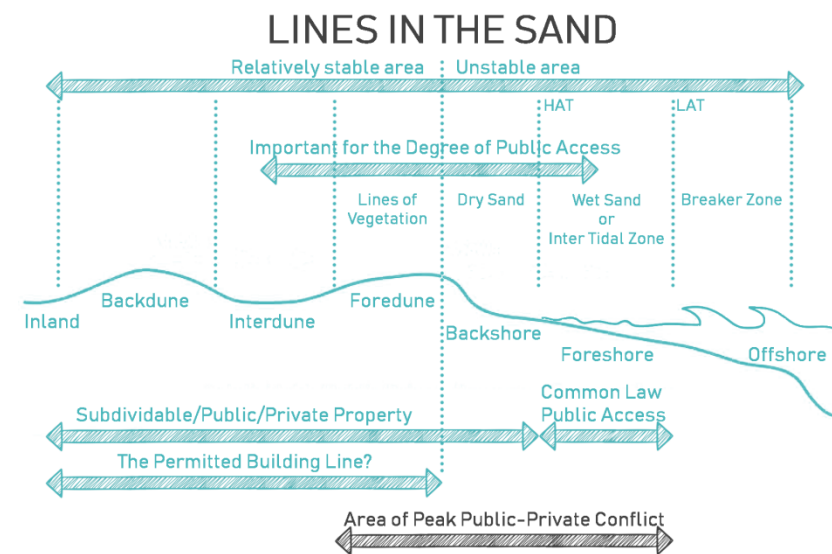


Figure 2. The line between private property and public access (Cartlidge, 2011)

In places that laws and regulations offer public access to the wet sand but the area on land beyond the fore dune can be privately owned, the right to access beaches can be limited by those who have rights over adjacent lands and properties. Two solutions can be made from this situation, creating access for public or extending private rights, either way, the conflicts between public and private

are raised (Grove, 2010). As an example, in Queensland, Australia, the public has rights to access the shore from the sea but they do not have conclusive right to access the shore from the land. Thus, the beach is privately owned while the public wishes to obtain rights to access the shore (Cartlidge, 2011).

The conflicts over publicness are often at an institutional level (e.g. governments and private sectors) while an individual level is scarcely investigated and discussed. Putting beach umbrellas and towels to occupy the area or gathering in a group to play beach volleyball are personal practices of daily privatization events. These activities which are performed by either locals or tourists impact both material and cultural spaces of beaches. To understand whether there are specific areas for different activities or which material settings lead people to privatize certain areas can provide clearer pictures of how a beach is actually utilized among users. Besides, the larger the privatized area, the less space there is for others which results in overcrowding and environmental problems which in turn also leads to the dissatisfaction of all beach users. Thus, the public life on the beach needs further studies in order to obtain concepts of individual privatization for developing suitable actions for a particular beach.

2.3 Personal rights to public space

There is no specific standard to identify whether a space is public or private because the boundary between the two ends is often equivocal and arbitrary. Moreover, the conflicts revolving around the issue of privatization are often at an institutional level and have governments and private sectors as the main actors. However, there

is a stakeholder that can play a crucial role in public space and privatization practice: people, the actual users of the space. Public users are people who come to the public area with different ages, sex, ethnicities, and lifestyles for various purposes in making use of the space. Their actions at public spaces offer information on how spaces are used and focusing on this aspect can guide further designs and policies for how a space can better fit its users. Besides, individuals can privatize the space as well as be affected by privatization practices. As soon as any place is occupied by an individual or a group, the rights of others to enter and utilize that place are limited. Thus, the space appropriation by one group can be seen as a restriction for others.

The negotiation of individual and group users on privatization can be explained by the concept of rights to public space from Carr et al. (1992). The concept is under an encompassment of the human dimensions of public space that aims to understand people-place interactions and how this affects the ways settings function. The extensive concept contains three dimensions: needs, rights, and meanings. Firstly, needs are about the role of places on people's lives and understanding why spaces are utilized or neglected. Often people's views and needs are not addressed in the design and management of a public space despite their significant roles in the space. Secondly, rights to a public space, the focus of this study, are highly involved with the freedom of public use. Different spaces offer different levels of freedom and control which in turn depends on the norms and behaviors of space users together with space management and design (Carr & Lynch, 1981). Lastly, public space meanings are about the experiences people have with a space that generate the establishment of connections between people and

places over time (Appleyard, 1979; Rapoport, 1982). Incorporating the three dimensions contributes to the study of human-place relationships and offers a new approach to study public spaces.

Since privatization crucially impacts public users, notably in tourism, the freedom and control of people in using public space is focused. Carr et al. (1992: derived from Lynch 1981) indicate five dimensions of spatial rights: access, freedom of action, appropriation, modification, and disposition. The five dimensions offer an approach to study how public rights function on an individual level and its relationships.

Access

This dimension identifies the basic ability to enter a space and encompasses three elements: physical access, visual access, and symbolic access. First, *physical access* refers to whether a space is physically available to all, and includes tangible entrance barriers as well as suitable connections to other areas. The use of fences or guards is common for space restriction during opening hours and can be considered as limits for public-private alteration. Next, *visual access*, or visibility, describes how free people feel in accessing spaces, often relating to people's idea of the security of a space. Meanwhile, visual access enhances one's perception of safety, their privacy can be reduced. For instance, an open lawn in a park makes people feel secure to access because they can see what is in that area. At the same time, the open nature of the area will certainly act against users' needs for privacy. The dilemma of safety-privacy can be accommodated through responsive design. Finally, *symbolic access* relates to recommendations of who is and is not welcomed to an area via the display of hints in the form of people or design elements. A security guard can be a good example of sorting

visitors. Inanimate components like the shop entrances' decorations can also give people welcome or unwelcome feelings.

Freedom of action

From Lynch (1981), freedom of action represents the rights of users to act freely in spaces. The responsible freedom promotes one's satisfaction without offending the rights of others is the main concern. Therefore, rules and regulations are usually enabled to control the success of responsible freedom in some spaces, while in others with no certain rules users are allowed greater freedom. The major concern for the degree of public freedom is psychological comfort because comfort is a fundamental human need. Several spaces are designed to make certain people uncomfortable such as by having gatekeepers. In addition, women, the elderly and the physically disabled are groups whose freedom of action in public sites is often limited through psychological discomfort.

Encouraging the rights of one group can adversely affect the right of other user groups (e.g. less space for activities and restricted access hours). Hence, rights for some people are also diminished from diversifying users and activities in a space.

Appropriation

The act of appropriating or claiming space from an individual or a group by others implies control over a space reflecting two behavioral practices: privacy and territoriality. Both concepts are explained as tools for people to maximize the range of open options and to increase their freedom in the given environment (Proshansky et al., 1970). As people claim spaces for various reasons, Westin (1967) describes four distinct states of privacy: solitude, anonymity, intimacy, and reserve. Firstly, solitude is when people search for a

quiet space for reflection or relaxation. Anonymity is the state of being free from an interaction. Thirdly, intimacy involves close interactions with another person or a small group. An intimate practice is usually groups or individuals engaging spaces at the furthest area of public spaces away from other people's sights. Lastly, reserve can be identified in bigger groups where that group often takes responsibility for land management and caretaking e.g. an abandoned playground being developed into a community park by an active neighborhood.

By appropriating the space to fulfill an individual or group's needs could result in restraining the freedom of others. The situation of claiming a space is similar to freedom of action defined in the previous section. A group claims an area and settles territory to achieve their own goals while impinging others' wish for the same access. However, space appropriation does not necessarily yield disagreements between users. Sometimes the area can be shared by different groups over different times. As an example, a town's plaza is occupied by food vendors for a weekend market in the morning and then transform into a popular clubbing square for teenagers at night. The design of a public area can also be made use of by different groups, taking into consideration gender, age, lifestyle, and nationality which can all alter the preference of space uses and activities.

Modification

Lynch (1972) mentions that the ability of places to alter and evolve over time is a vital feature of a good environment. Modification or change of places is associated with adding to or removing from places. The action could be temporary e.g. putting up decorations or volleyball nets to modify the appearance and function of a place or

can be more permanent e.g. graffiti and playground reconstruction (Moore, 1978). Space alteration regularly revolves around two main approaches: forward and reverse changes. A forward modification is about modifying sites by paying attention to present users. In the meantime, a reverse modification involves returning places to their original state where future users are considered. Sometimes, manipulation of space increases a sense of place and differentiates that space from the others. A personal attachment can be enhanced in this dimension of rights to public space and can be explained by the 'third places' concept referred to formerly. People manipulate and privatize spaces often relate to the recollection of those spaces. For example, a group of teenagers who usually hang out at a playground decides to paint graffiti onto a concrete wall to remind a memorable history at the place together. Although the modification of space can be driven by any societal group, a community-involved approach is more frequently better suited towards the needs and uses of users (Francis et al., 1984).

Disposition

This dimension is highly related to the negotiation of public-private realm between organizations and individuals. The disposition forms an ultimate control, surpassing and encircling the rights in access, action, appropriation, and modification of the space. Furthermore, disposition and modification have a strong connection since gaining ownership gives rights to owners to manipulate places when they no longer meet their needs. Lately, the community disposition which the local community has absolute rights over the places is getting more attention than the traditional forms of disposition that rights belong to governments or private sectors. It is claimed to be beneficial to users' needs, the ability of regular changes, and lower

maintenance costs (Francis et al., 1984). The community disposition can be divided into three types: the first type limits access and use of place to a particular group of the community. The second type is the community space (e.g. gardens or parks) being open to the public only when under the condition that a member of the community is present. The third one is a site open to all at all hours.

Many public areas constantly fail to meet users' needs for public life due to neglect from designers and planners (Gehl & Svarre, 2013). By looking more closely at how a space is accessed, claimed, and altered by the public can be one significant approach. However, creating a public space that encourages users' rights should look further than these five dimensions of rights to a public space. In accordance with Preston-Whyte (2004) that the beach environment consists of material and cultural spaces, people's behaviors on the beach can be affected by cultural practices as well as material settings of beaches. Thus, the study of how the material settings or artefacts can influence people's actions on the beach can be another vital approach to be considered.

2.4 The influence of material settings on human behavior

To investigate whether beach users' behaviors have a significant impact on a beach environment, the role of material settings should be taken into account. Material settings in this research are defined as non-human natural and artificial elements which are present in the environment. Therefore, the Fogg Behavior Model and Gibson Affordance Model are presented below to explain beach users' behaviors in response to material settings.

Fogg Behavior Model

Human behaviors do not only occur from one's internal formation but rather one's conscious and unconscious responses to external triggers. Fogg (2009) indicates that to perform a behavior, a person must (1) own sufficient motivation, (2) have the ability to carry out the behavior, and (3) be triggered to perform the behavior. Following the chart in figure 3, people that are highly motivated and have a high ability to perform the target behavior must also have a sufficient trigger otherwise the target behavior will not happen. The relationship of the trigger with the other two factors often impacts the performance of a behavior. On one hand, when people are not motivated, the trigger can be a distraction. On the other hand, when people lack ability but are triggered, the result is frustration.

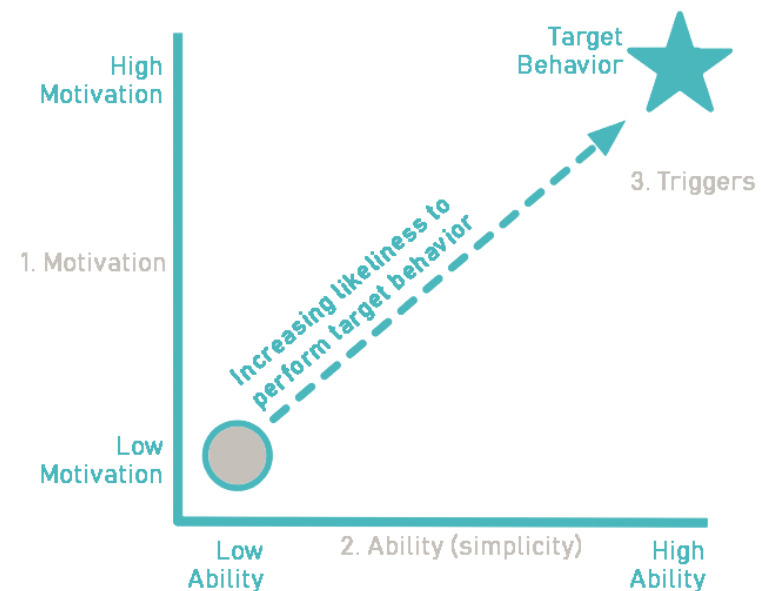


Figure 3. Fogg Behavior Model (Laja, 2012)

In a beach setting, for example, suppose tourists want to get tanned and they go to the beach. Getting tanned is a motivation while towels, tanning oil, and other essential tools are their ability to perform the activity. The trigger is the most important factor i.e. the sun because without the sun people cannot get tanned. Although some tourists may not want to get tanned (low motivation) but see that the sun is shining. They can be distracted by it and decide to go to the beach anyway. Alternatively, some people do want to get tanned but forget to bring the essential items and then feel uneasy and upset about it. Despite the trigger can take many forms, Fogg (2009) points out that it must fulfill three criteria: (1) the trigger is noticed by people, (2) the trigger is related to the target behavior, and (3) the trigger exists when motivation and ability are sufficiently high. By referring to the tanning example, the sun is noticed by tourists and is involved with the target behavior, getting tanned. Lastly, the sun presents when people want to get tanned and own sufficient tanning products. Thus, the space appropriation activity of people on the beach is performed after being triggered by a material setting i.e. the sun.

Gibson Affordance Model

In contemporary studies, attempts to understand how perceptions can tell a human about a physical environment has been separated into two major theories. Firstly, the inferential theory of perception describes that the meanings in items and events are not inherent but rather arise inside human. The other theory, the direct theory of perception, assumes that items and events have intrinsic meanings that can be detected by human without having been internally constructed (Chemero, 2003; Jones, 2003). Since this research focuses on how personal rights are negotiated at the beach and

what the main influences are, the direct theory of perception is chosen to explain the phenomenon. Affordance theory from Gibson (1977) is also introduced. 'the affordances of the environment are what it offers the animal (human), what it provides or furnishes, either for good or ill' (Gibson, 1979). For instance, the affordance of walking up a stair step in a bipedal fashion has been explained in terms of a stair riser's height taken with reference to the length of a person's leg (Warren, 1984). Because artefacts have an intrinsic meaning, if a stair riser is greater than 88% of a person's leg length then the person cannot walk up the stairs, at least not in a bipedal fashion. Nevertheless, if a stair riser is less than 88% of a person's leg length, the person can walk up the stairs (Warren, 1984).

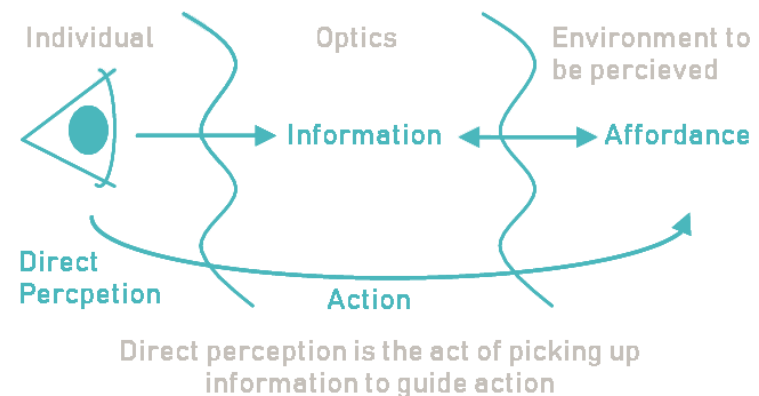


Figure 4. Affordance Model of Gibson (MgGrenere and Gibson, 2000)

Thus, a person's performance in claiming space is not only an action but is also influenced by the so-called 'affordance' of the physical environment so as to indicate the agency of that space or material to a person. For example, a tourist visits a beach and wants to sit somewhere and sees a space on a rock under a tree with no other

people around and another space in the sand, under the sun and among a crowd. The tourist decides to sit among the crowd. Each component of the material settings in this example (the rock, the tree, the sand, the crowd, and the sun) has inherent meanings that can be grasped by tourists. The tree provides shade while the sun provides heat, the sand is softer than stone, and crowds decrease the chance of isolation. Therefore, the decision of the tourist is influenced by the properties of the artefacts and the environments.

As such, there are several cases where the Fogg and Gibson models have been applied to. For instance, planners and designers often send implicit messages to the users of urban public spaces e.g. a walking pathway in a park is designed by the park's designers to direct and guide park users' behaviors. If park users choose not to follow the path, they may not end up at their expected destinations. Assuming that there is a demand to reach a pond located in the middle of a park, a user's motivation and ability to walk requires the pathway to be the trigger. Moreover, the affordance of different landscape characteristics in the park also influences park users' behavior. People who want to find the pond are following the path, while those who are walking on grass may already be aware that they might not reach the expected location.

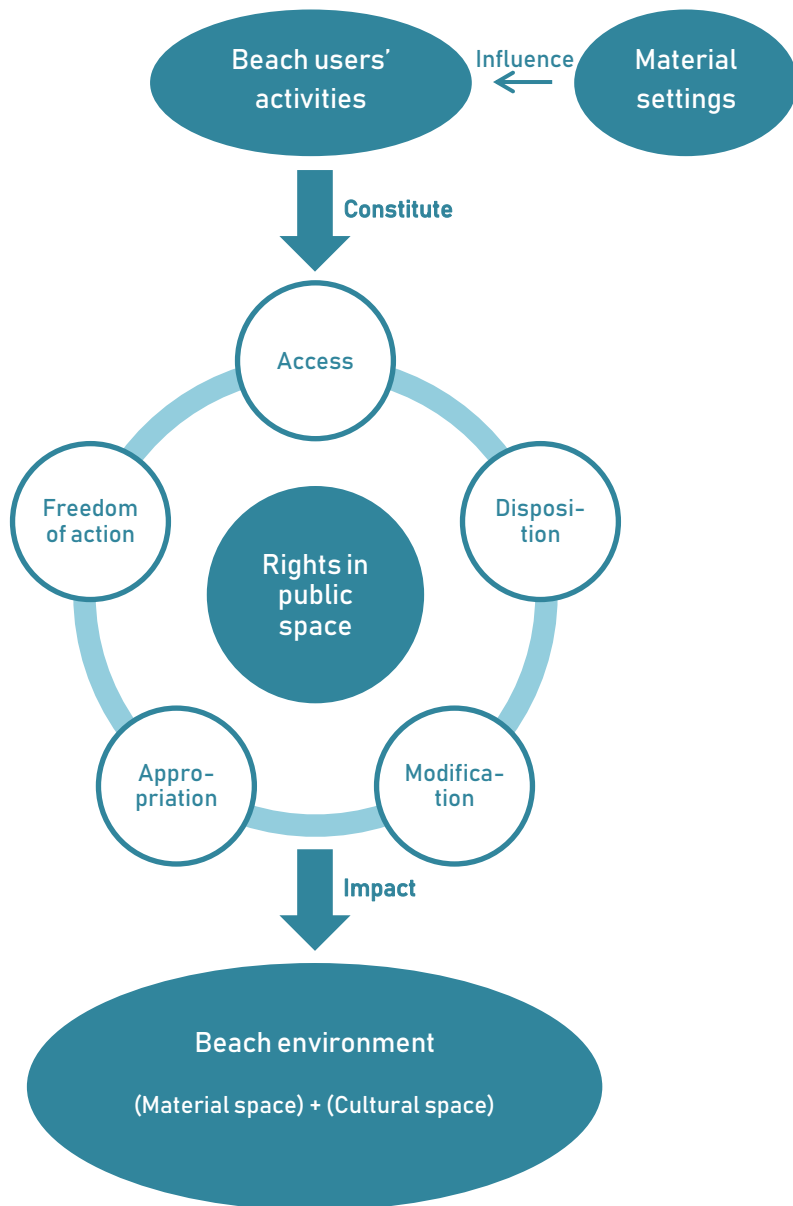
Unlike urban spaces, beaches may have interventions from humans via the use of regulations, though most beach spaces are of natural design and human interactions with a beach environment stem more from initiative as opposed to the relationship between people and urban public spaces. Nonetheless, artefacts are used widely to negotiate space on beaches (chairs, towels, etc.) and resulted in an impact on the beach environment and the satisfaction of beach users. In order to understand and guide people's behavior on the

beach, the relationship between beach users' behaviors and the use of artefacts on the beach settings must be explored.

2.5 Conceptual model

The conceptual model illustrates the main ideas that are explained and discussed in the conceptual framework. The theory of rights to a public space from Carr et al. (1992) as categorized into the five dimensions (access, freedom of action, appropriation, modification, and disposition) is applied to study the effect of beach users' activities on the beach environment. Each dimension of public rights is assumed to reflect beach users' activities and generate equal contribution to the model. Thus, the model will be able to answer the first research question, while answering question 2 will be based on another variable: the material settings which are the physical environments of that space. In order to answer the research questions, the models from Fogg (2009) and Gibson (1977) are applied to explain the phenomenon, where the material settings variable is added as an influencer to beach user's activities. At the end of the model, the beach environment which contains both material and cultural spaces is presented as the last variable that will be impacted by users' activities and by extension the material variables influencing those activities. The results gained from this model will help to answer the third research question and build the design principles for beaches.

Conceptual model: beach users' rights in public beach



3. METHODOLOGY

In this chapter, an overview of the research design steered by the conceptual framework from the earlier chapter is presented. Firstly, the epistemological approach (3.1) is explained, followed by the choice of research location (3.2). The method of data collection (3.3) introduces the observation (3.3.1) and the unstructured interview (3.3.2). The next section describes the process of data analysis (3.4). Lastly, the challenges of the study (3.5) are presented.

3.1 Social constructivism approach

The approach for this thesis is social constructivism paradigm. Since the main interest of this research, that focus on how people make sense of spaces through their behaviors conforms to the belief of social constructivism that the truth is established through human activities (Kim, 2001). Base on its ontology, the reality is subjective and does not exist without human, who is able to interpret and construct it. Epistemologically, social constructivists indicate that knowledge is acquired from interactions of individual to each other and with the environment that endures within society (McMahon, 1997: Shunk, 2000). Hence, knowledge is socially and culturally constructed within this paradigm (Prawat & Floden, 1994: Gredler, 1997). According to the objective of this thesis, the truth is intended to explore via studying the relationship of people's behaviors with the beach environment. The observation and interview methods are chosen to explore the reality of how people make meaning and what meaning they make (Denzin & Lincoln, 1994) on the beach by having a researcher as an observer and an actor of the event.

3.2 Study area

The city of Phuket, Thailand is chosen as a study area for this thesis. Thailand is one of the most popular tourist destinations of all time. In the meantime, Phuket is well-known from beautiful beaches and unique cultures. In addition, during the data collection period of this research (November) is also the start of the peak season in Phuket. Thus, the diversity of beachgoers on Phuket beaches is assumed to be better than other places that get through their low season time.

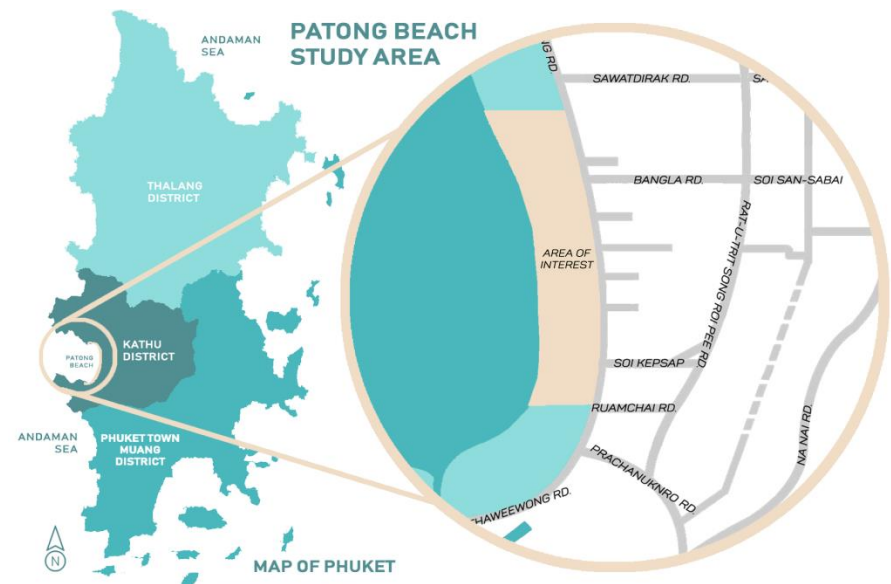


Figure 5. Patong beach study area (Siri-udomrat, 2018)

This study focus on Patong beach, the most visited beach in Phuket (Polnyotee & Thadaniti, 2015). The beach has about 3 kilometers length crescent shape with stone hills located at the end of two sides. Patong beach is approximately 15 kilometers away from Phuket city center and accessible by both public and private

transports. The shallow waves feature that allows tourists to swim all seasons and other water activities such as parasailing and jet-skiing are the main attractive points of this beach (Polnyotee & Thadaniti, 2014).

According to Gehl & Svarre (2013), the suitable size of the observation area is about 1x1 kilometer derived from the common size of many city centers. The estimated 1 km² space is determined by the biological standard of a decent human walking distance and also considered as a practical size to conduct a single observation. Therefore, the longitudinal distance of 1 km from about 3 km length of Patong beach parallel to the entrance of Ruamchai road to in front of Impiana resort is selected according to figure 5. The area is located in the middle of the beach away from two stone hills by the two ends that are not suitable for beach activities. Besides, the chosen area also occupies the main entrance from Bangla road that raises chances to get data from more beachgoers.

3.3 Methods of data collection

A qualitative approach is applied to explain a social phenomenon on Patong beach (Miles & Huberman, 1984). The approach offers an opportunity to get profound as well as descriptive data from human behaviors and experiences and how they make sense of it (Boeije, 2010). The observation method is chosen to study the way people negotiate space on the beach and the role of material placements through the perspective of the rights in public space concept. The interview is likewise integrated to garner a better understanding in beach users' activities.

3.3.1 Ethnographic observation

The ethnography observation is chosen as the main tool to investigate the focus of this research. Wiersma (1986 as cited in Nurani, 2008) indicates that ethnography involves revealing the truth about people's identities and their interactions. Wilson (1977), states two basic features of ethnography: (1) the observation should occur in natural settings and (2) researchers should comprehend how an event is experienced and interpreted by people. Thus, ethnographers are people who study sociocultural phenomena from the perspective of outsiders while also attempting to understand the context through the view of insiders (Nurani, 2008). Two types of observations are widely used, participant and non-participant. The participant observation requires researchers to take part as an insider in the daily activities of the observed events (Jennings, 2001). In the meantime, the role of researchers to watch and record the occurred event in non-participant observation is more an outsiders' perspective (Nurani, 2008). Both techniques are applied in this thesis on different contexts to explore the phenomenon from various perspectives.

Gehl & Svarre (2013) suggest that particular questions should be arranged systematically per each observation to guide the way of that observation. Simple questions like how many, who, where, what, and how long can be applied to gain direct answers for the research questions. However, this study is also aware that fixed questions may not be the best approach to explore the diversified and infinite characteristics of human behaviors. Unexpected events can happen and influence the change of the observation plan. The importance of designing efficient observation is not only to focus on proper questions but also the techniques. Gehl & Svarre (2013)

identify the available observation techniques: counting, mapping, tracing, tracking, looking for traces, photographing, keeping a diary, and test walks. Each technique is suitable for different questions and often more than one technique is used in one question. As an example, Gehl et al.'s (1977) study of the connection between the design of residential streets and the extent and feature of activities used mapping and a diary method. Activities in the single spaces were plotted on a map to garner its variety. Meanwhile, all activities in an entire day, as well as physical relationships of the streets, were noted in the diary method.

The preliminary observation guide in table 1 presents five features from the rights in public space concept listed as criteria of interest and type of activities or events are set according to the criterion and the research questions. In addition, suitable observation techniques are assigned for each criteria as listed below:

Mapping - to mark symbols representing type and amount of events and activities on a map of the studied area

Counting - to count the repetitive events and activities

Tracing - to keep track of access routes

Keeping a diary - to note details of events and activities for later use

Photographing - as a backup document in case other methods are not applicable or fail on the actual site

The observation is taken on Patong beach in November, the start of the high season in Phuket, at about four days per week (both weekdays and weekends) and three times a day (morning, early



Figure 6. the division of the study area on Patong beach (Siri-udomrat, 2018)

afternoon and late afternoon) to experience the use of space through different times. The 1-kilometer length of the studied area on Patong beach is divided into three areas named as A, B, and C in order to collect adequate details of events and lessen workloads in a single observation (figure 6). Each area is about 250 to 450 meter long. Area A is around 250x50 m² starts from the end of Ruamchai road to the entrance of Soi Dr.Wattana. Area B is about 450x50 m²

Table 1 Preliminary observation guide on rights in public space at Patong Beach

Research Question		1. How do rights in public space constituting from beach users' activities impact the beach environment at Patong beach in Phuket, Thailand?	2. How does the role of material settings influence beach users' activities to constitute rights in public space at Patong beach in Phuket, Thailand?	3. What kind of design principle can be drawn from the result based on constitutional rights in public space through beach users' activities at Patong beach in Phuket, Thailand?	Observation method (photographing is applied to all criteria)
Actors		Beach users (tourists/ locals)	Beach users (tourists/ locals)	Beach users (tourists/ locals)	
Point of interest		People's activities	Material settings (e.g. sun, trees, water level, objects, and people)	Repetitive and/or noticeable events	
Criteria of interest	Access (Where? What?)	Entry point to the beach	The physical/visual/symbolic aspects of the entry point	The most repetitive/ noticeable entry point to the beach	Mapping, counting
		Pattern of the access route	The physical/visual/symbolic aspects of the access route	The most repetitive/ noticeable pattern of the access route	Tracing and counting
	Freedom of action (What?)	Activities that make others uncomfortable and its reaction	The material settings of activities that make others uncomfortable and its reaction	The most repetitive/ noticeable activities that make others uncomfortable and its reaction	Mapping, counting and keeping a diary
		Reaction to warning signs and other restrict symbols	The material settings of reaction to warning signs and other restrict symbols	The most repetitive/ noticeable reaction to warning signs and other restrict symbols	Mapping, counting and keeping a diary
	Appropriation (What? Where? Who?)	Space occupying activities	The material settings of space occupying activities and locations	The most repetitive/ noticeable space occupying activities	Mapping, counting and keeping a diary
	Modification (What? Where? Who?)	Adding or taking elements activities	The material settings of adding or taking elements activities and locations	The most repetitive/ noticeable adding or taking elements activities	Mapping, counting and keeping a diary
	Disposition (What? Where? How long?)	Space occupying activities (more permanent – last longer than a day)	The material settings of space occupying activities (more permanent – last longer than a day)	The most repetitive/ noticeable space occupying activities (more permanent – last longer than a day)	Mapping, counting and keeping a diary

locates from the entrance of Soi Dr.Wattana to the entrance of Bangla road. Whilst area C covers about 300x50 m² from the entrance of Bangla road until in front of Impiana Resort Patong Phuket. Each area is aimed for observation in one day. However, after a few testing sessions, it is found that the divided area is still too big to conduct a single observation. Therefore, each area is split into 5 to 6 subareas to conduct a single observation session of 15-30 minutes per every subarea (the length of each session depends on the diversity of activities and the weather).

Each subarea reaches three observations per day: morning (9-12hr), afternoon (13-15hr), and late afternoon (16-18hr) to probe as many overall images of the beach as possible. An independent variable is set by locating certain observation spots for every session to witness the beach use on the same location but different times. Ideally, 255 observations are supposed to take place. Nonetheless, there are several sessions that have been covered from the prior sessions or the subareas are divided differently from the other days. Thus, 242 observations are conducted in total. Both participant and non-participant practice are evoked on different situations. At the beginning of each observation, the non-participant approach is used and the participation approach is taken during some sessions in order to observe the reactions of people.

The data is recorded mainly from the field maps via mapping, counting, and tracing methods. Photographing is also applied to each area to ensure the accuracy of data from the maps. At the end of each day, all maps are revised and significant details are written down on the observation note. In the meantime, the information from non-complete sessions (due to the weather) is recorded by photographing for later use and analysis.

3.3.2 Unstructured interview

The interview method is not planned to apply at the beginning since this thesis' main interest is a physical expression rather than an opinion of people. However, verbal communications help to clarify several contexts on the fieldwork, so unstructured interviews are conducted. Even though guidelines are essential for an interview, DiCicco-Bloom & Crabtree (2006) state that some interviews can be as unstructured as guided conversations. This type of interview originates from an ethnographic tradition of anthropology. It is the process that ethnographers are able to indicate key informants and carry out some interviews during the field observations. Hence, the interview is applied to gain a better idea for the focused events. Five unstructured interviews are conducted during the observations. The selection of participants based on convenience and taking note is chosen as a recording mode. Most of the interview's context is related to the use of individual and arrangement of the beach. The majority of the interviewees are locals and one is a tourist. Their names and personal details remain anonymous, only their social professions and the time they have engaged on Patong beach are indicated on table 2 below.

Table 2 Overview of the study participants

Interview	Interviewee profession	Engaged time on the beach
1	Lifeguard	5 years
2	Beach vendor	8 years
3	Jet Ski rental owner	2 years
4	Tourist	4 days
5	Jet Ski rental owner	4.5 years

3.4 Data analysis

Primary data is derived from the ethnographic beach observation consists of on-site maps, observation notes, and photographs. The maps are real-time recorded, while photographs are used as back-up data. The observation notes are taken after the end of each day to review the maps and highlight remarkable events. As acquired from Wilson (1977), this research is looking for four main data: (1) nonverbal behaviors and activities of beach users (2) forms of action and non-action (3) material settings of the area (3) additional verbal interaction between beach users and with the researcher. All maps will be put together to extract only useful and relevant data. At the same time, photographs and notes will be applied to support the main information from the maps.

The data from every observation locations on different times will be analyzed and discussed. Thereafter, digital maps and infographics will be created to show significant results and the design principles.

3.5 Challenges of the study

As to every other research, some challenges occur in this research as well. First of all, the weather of Phuket Island is rather fluctuating according to its geographical characteristics. The observations are usually conducted during 9.00-18.00hr in one day and from 14.00hr to 16.00hr are the strongest sun hours of the day. Sometimes I have to avoid myself from sunburnt by giving up the targeted spots on the open space and settling in the shade areas. Fortunately, I get offers from many locals who owned booths for water sports businesses on the beach that I can stay under their umbrellas on the open sand. It is really helpful to get a better view of the space and

also not to get burnt. There are also few days with storm and the observations have to stop after one or two sessions have been done. This challenge is resolved by photographing method, the data is recorded from the pictures instead of maps. After all, the tidal phenomenon also impacts the observation locations. The high tides in the morning engage space along the shoreline and I cannot locate the sessions at the same spots as the other days. This limitation is fixed by taking photos and mental notes at the spots and recording on the field notes later on.

The next challenge is the difficulty of trying to stay undercover. I am on Patong beach with an A3 sketchbook to make maps as the field notes and several people both locals and tourists came to me to ask what am I doing or whether am I going to draw something. The questions sometimes last more than 10 minutes and affect my observation schedule. The next limitation is the beach has no clear boundary. Deciding where the end point is and the best spot to observe is can be quite challenging. I try to limit the 1km length observation area at first via the satellite map but the area is altered on the actual site to present more interesting and approachable space of the beach.

Finally, there are too many things to observe. Since beaches are diverse spaces with various events, one observer tries to witness and note every single detail is impossible. When I focus on a single activity, the sense for other events around can be declined. In the meantime, the details of each activity are not captured when I attempt to pay attention to all events happen simultaneously. This challenge also impacts the prepared observation guide which is not suitable for the diversity of events on the beach and only the A3 size field maps and a camera are practical.

4. BACKGROUND CONTEXT

This chapter offers information that revolves around public rights on the beaches. Firstly, global beach territory (4.1) explains the beach territory as well as the public-private space negotiation of beaches across the world. Secondly, Phuket: the Pearl of the Andaman Sea (4.2) provides an overview of how Patong beach has changed over time. Lastly, (4.3) the human dimension of public space that consists of needs and meanings is presented.

4.1 Global beach territory

Defining the boundary of beaches has always been complicated since the role of the state, private sectors and individuals are different in each country. This chapter presents the public-private boundary that each country's regulations offer to the public.

According to the Roman law, the public has the right to access the beach. Meanwhile, the public trust doctrine of the United States indicates that certain resources belong to everyone and cannot be privately possessed owing to their own intrinsic meanings to individual and society as a whole (Klass & Huang, 2009). However, not all beaches in the world adopt these laws and principles as most usually have certain physical characteristics that people interpret and use as territory indicators. Figure 7 illustrates the different levels of public access to beaches in several places across the world. According to the picture, most of the shown countries and states allowed public access until the wet sand while the dry sand is mostly can be privately owned. In New Jersey, people own the wet zone and have rights to access along the dry zone although it is private.

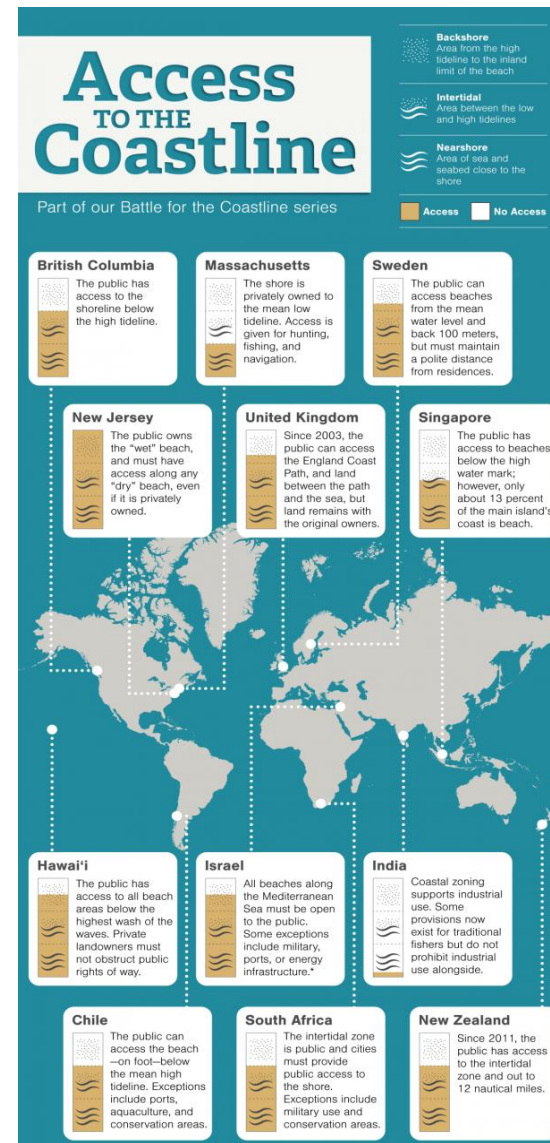


Figure 7. coastal access regulations around the world (Kingdon & Garrison, 2016)

Meanwhile, in India, even the public can legally be at the beaches, but priority given to industrial use resulting in infrastructure that obscures the public access (Kingdon & Garrison, 2016). In other countries such as New Zealand, South Africa, and Sweden, the wet sand belongs to the public while the dry sand can be privately owned but access to the wet sand must be provided.

Conflicts on the beach territory occur globally in various forms with different actors. Oftentimes, conflicts arise among private sectors. As an example, a high wall built across a beachfront by the Exiles Water Polo Club in Malta caused the public to walk on a rocky area which was inconvenient for the elderly and handicapped (Zammit, 2011). In the meantime, there is news about violence caused by drug trafficking of a certain area on Playa Encuentro beach in the Dominican Republic to make way for their business (Manon, 2011).

However, conflicts between the public and the state are also raised in many countries. In Thailand, some beach access is associated with land takeovers and garbage collections which lead to a protest. The protestors claimed that land had been taken even before the court and garbage was collected unfairly (Sidasathian, 2011). In Florida, public access to beaches arise conflicts between the state, inland administrations, and small beachfront cities over the state funding to beach development projects (Smart, 2010: Kelly, 2011a: Reid, 2011). In the meantime, the conflicts in California, as well as Hawaii, are mostly over reclaiming public space from private beachfront properties (Corrigan, 2011). In New Zealand, laws concerning the right of public access to all water bodies are launched to alleviate the dilemma among citizens (Saunders, 2011: Tahana, 2011).

The public-private precinct is a complex domain of beach management worldwide where the jurisdiction relies on the laws and regulations of each country. Although based on the same standard of beach access territory, different countries yield dissimilar operations. In places where the public is considered vital for the beach environment, access belongs to people. Alternatively, in countries where private sectors and governments get priority, then they get access instead.

4.2 Phuket: The Pearl of the Andaman Sea

Thailand is one of the most famous tourism destinations according to its diversity in culture and nature. Tourism increases the country's revenue, raises the local economic system as well as improves social development. Therefore, Thailand's revenue relies mainly on the tourism industry (Ministry of Tourism and Sport, 2010: Sakolnakorn & Naipinit). Phuket is a popular destination in Thailand located in the Andaman Sea, approximately 570 square kilometers big and 890 kilometers south of the capital Bangkok (Sakolnakorn & Naipinit, 2011). The landscape of Phuket is mainly mountainous (70%) on the western part of the city while the Eastern part is rather flat (30%). Several well-known beaches such as Patong, Kata-Karon, and Rawai situate in the flat area (Chupol, 2008). According to its unique physical features and popularity among tourists, Phuket island is also known as 'the Pearl of the Andaman Sea' (The guide Phuket, 2015).

Beaches are the main attraction in Phuket. Tourists congest along the coast especially at the most popular Patong beach (Polnyotee & Thadaniti, 2015). Patong beach gets popular after 1979 due to the

stagnation of Kata and Karon beaches among foreigners. Both beaches are popular destinations but have insufficient local services so the interest switches to Patong (Lauzon, n.d.). Furthermore, the tourism development scheme from TAT (Tourist Authority of Thailand) starting from the late 1970s also supports foreign investments on Kata, Karon, and Patong beaches. Consequently, Patong has experienced intensified and rapid growth particularly on infrastructures such as high-rise hotels, shopping malls, and the famous nightlife at Bangla road. Therefore, Patong usually faces overcrowding during the peak season (Nov-Apr) as well as severe environmental problems resulting from tourism e.g. pollution, waste, and sewage (Cohen 1996).

As a result, the National Council for Peace and Order launches the beach clean-up policy in 2014 to enhance tourists' satisfaction and restore the image of tourism in Thailand (Korkamnerkwin & Promsivapallop, 2016). Beach chairs and food vendors are all discharged from the beach while the multilingual signs of public beach regulations are set for beach users to follow. Consequently, Patong beach is claimed to have been restored to a state of almost 20 years prior. Nonetheless, the feedback from the public towards this policy is rather negative as more a hundred locals lost locations for their work (Patong beach reclamation, 2014) while many visitors do not agree with the idea of removing all beach chairs and umbrellas (Korkamnerkwin & Promsivapallop, 2016). Hence, from 2017, the government and local authorities decided to allow beach chairs on Patong beach again under certain regulations e.g. all beach chair operators have to cluster only in the provided zones and place a certain amount of beach chairs (Beach chairs return to Patong beach, 2017).

According to the context, Patong beach is significantly impacted by the overtourism and poor management. In addition, the adequate amount of research may also be needed to improve the policy and the development plan in order to preserve and restore the beach as well as satisfy beach users' experience.



Figure 8. Patong beach before the beach clean-up policy (2014)



Figure 9. Patong beach after the beach clean-up policy (9Mot, 2016)

4.3 Human dimension of public space

Human is considered as an essential factor to public space development. Thus, human-space interaction is involved. Even though the concept of rights in public space is used as the main approach in this research, it covers only the public-private situations while other dimensions related to the human-space relationship are yet clarified. Hence, two dimensions aside from rights, needs and meanings, addressed by Carr et al. (1992) will be explained in this chapter to give a better understanding on the importance of a human perspective to public space.

4.3.1 Needs

According to Carr et al. (1992), people go to public places for different reasons. Some people might have the need *to go to* perform any activities at the space e.g. to go to the plaza to hang out with friends. At the same time, some might have the need *to get away from* as the main reason to access public space. This could be to the park to get away from busy urban life. Public spaces in the urban environment are often designed to response such human needs and usually, places that do not meet those needs will end up unused and unsuccessful. As a result of a study by Carr et al. (1992), the basic needs of people in public places contains five dimensions; comfort, relaxation, passive engagement, active engagement, and discovery.

Comfort

This feature is considered as a fundamental need since some level of comfort should be satisfied in any human action. In public spaces, there are several issues identified to be vital for people's comfort. First of all, sufficient access to the sun can result in the popularity of

the space (Linday 1978: Bosselmann, 1983a & 1983b) while an area to escape from the sunlight is also needed to relieve people from getting too much sun (Becker, 1973: Rutledge, 1976). Another feature is seating, whether the place offers adequate and comfortable seats, as well as the function of the seats, are taken into account. The access to proper amenities is also mentioned as a necessary aspect for designing seating area and basic requirements of users should be of concern.

Social and psychological comfort is also an important issue since it helps to enhance people's experience in space. In particular, the sense of safety has a direct impact on the comfortable of settings. Paying attention to elements that reduce menaces to safety is likely to make places comfortable for users (Franck & Paxson, 1989). As a result, several public spaces enhance openness while avoiding barriers in its design. The last element in the comfort domain is the need for toilets, so the availability, cleanliness, and design of toilets are important for the public's convenience.

Relaxation

Although relaxation and comfort are apparently connected, there are a few differences between the two factors. Relaxation is more involved with the experience of people in the place rather than the physical setting. Public users, especially urban users often look for places to relax and pause from daily routines (Nager & Wentworth, 1976). Thus, the adjacent urban context of safety is often related to supporting relaxation in public space such as streets and sidewalks. The Paseo del Rio sidewalk along the river was considered unsafe until the 1960s, then cafés and restaurants started putting elements for commercial purposes so the space earnt greater users and became tourist attractions. Natural elements, particularly water also

play an important role to support relaxation in people as Project for Public Spaces (1978) states that waterfalls in parks draw people who seek to escape the urban life. A study from Buker & Montarzino (1983) also found that water was the most preferred outdoor space element derived from 98% of their participants.

Passive engagement

This dimension is involved with the interest and enjoyment of people from watching people passing by. Whyte (1980) indicates that the thing which attracts people the most is other people while Linday (1978) points out that the most popular sitting spaces were adjoining to the passage flows or the street corner. Pedestrians are not the only attraction for public observation behavior since people also enjoyed performances and other active activities. However, public spaces designed mainly to support active movements such as sports events occasionally failed to respond to the desire of indirect experience from those who came to watch the games.

Active engagement

Active engagement is related to more direct activities of people and places and also between people. Whyte (1980) finds out that extraordinary elements such as a sculpture or an entertainer can help to enhance interactions between people at the plazas. In the meantime, the size of that space also matters as the most successful squares should be less than seventy feet in diameter because it is a size that people are able to recognize the face and hear the talk (Alexander et al., 1977). There are certain groups that use public spaces as a center of their social life e.g. parents with kids and the elderly. Parks or playgrounds are not only for children to play but parents who came to look after them also develop their social interactions with other adults. While the elderly usually prefer

places with walkable distances and spaces that have a better chance to socialize such as benches along sidewalks or an entrance of the parks. The bigger scale of social events such as celebrations and festivals assist the presence of active engagement as well. As an example, the farmers' market, that allows direct interaction between producers and customers, is found to help develop communication in people better than the supermarket (Sommer et al., 1981).

Discovery

This feature represents the wish for stimulation (Lynch, 1963) and the pleasure we earn in a new and delightful experience. The sense of discovery can be evoked from two main ways: when items of interest brought by people to the place (books to read or music to listen) or if the space offers the stimulation that allows the users' experience to endure. From this, there are basic senses that public space design often aim to enhance. Pleasurable surprises that can happen from elements with juxtaposition and contrast (Lynch, 1963), as well as a sense of mystery (Cullen, 1961), are found to be essential.

4.3.2 Meanings and connections

From Appleyard (1979) and Rapoport (1982), experiences in public space result in meanings that accumulate over time and when the meanings are positive, connections are endured. To make a space meaningful for people, the basic elements of the place must be legible. In other words, they should be able to tell what is available for users (Lynch, 1963). Besides, the space must be comfortable enough for people to commit any action. Therefore, the physical elements such as design and location are crucial to build ones'

meanings to the space. The connections between people and place can happen either on an individual level where needs should be satisfied or at a cultural level where a place must be in harmony with sociocultural norms and practices. Therefore, meanings and connections are presented on five levels: individual, group, the larger society, biological and psychological, and the other worlds.

Individual connections

Individuals can develop meanings to public space from any occasion. Carr et al. (1992) describe four types of meanings that one can possibly develop towards space. Firstly, *childhood space* as a part of daily life in children and they often recall to it when they are grown up. Next is *personal space* which progress over time, it can be a safe and secure site that one considers as his sanctuary in the outside world. Any kind of place can be a personal space, from a local street that becomes a playground to the storefront of a shop that is used for hanging out with friends. Then *nurturing space* as the recollection and livelihood enhancing from people or services to certain spaces which can be meaningful to people. For example, the existence of a recent local market triggered an individual's memory of a prior grocery area in the neighborhood that has been replaced by another building. Lastly are special event spaces like family picnics, ethnic celebrations, or weddings which put all meaningful pieces together in the places and evolve as part of an individual's history.

Group connections

Meanings can be shaped within a person but also in a group. Ties between group members can be built through co-experience which makes that space meaningful and the group connections to a space is thus built. Francis et al. (1984) declare that user participation in

decision making and site development raised the place attachment in related people. Besides, group connections can be encouraged via activities which are performed repeatedly and constantly by a certain group on a certain site, in turn developing affiliation to the place. Sometimes the physical features such as signs in a group's jargon or wall paintings are placed in that space to form and sustain the bond of the group.

Connections to the larger society

Public spaces such as public monuments or historical sites can also connect people on a cultural and subcultural level. For example, the Western Wall in Jerusalem is meant to be a sacred site for prayers yet also a political and religious symbol for Jews around the world. The meanings of places remind old wound of an area or group like the Boston's West End Urban Renewal Area (Gans, 1962) or are used as a historical progression and an economic revival symbol. Another type of larger group bonds is cultural and educational settings which are often neglected according to its impact towards the smaller group in society (Carr et al., 1992). Nevertheless, open spaces in college campuses are created as public sites in many parts of the world and plenty of activities are taken place there. Many public areas possess meanings which are apparently significant to link people together. In order to create any meaningful place to people, the design of space should be capable to be detected and widen meanings that connect people in a larger society.

Biological and physical connections

Connections do not occur only from the past to the present of a person or in groups as there is a possibility that people are attracted and can be bonded to places that stimulate human spatial prototypes. The arched hallways and overhanging cornices set on an

open plaza represent habitat and security like caves and the overhanging cliffs that sheltered our ancestors (Carr et al., 1992). In the meantime, public buildings and monuments are often designed at the center and place higher than the environment not only to gain attention but also to symbolically rule the surroundings. Besides, space design usually borrows natural elements both in parks or other open area and those features (the forest, the beach, the mountains, etc.) are proved to have special meanings to people. Human experience in natural environment tends to have a restorative value that helps to revive people and to sharpen their sense (Kaplan & Kaplan, 1990).

Connections to the other world

This dimension of bonding is highly involved to serve human imagination which can be categorized into two realms: the fantasy world and the cosmic world. Fantasy sites like Disney Land or any amusement parks are built to nourish and connect humans through the world of unreal. At the same time, bonding to the sun, the stars, etc. are considered as cosmic and universal domains of connections. The well-known example is Stonehenge in England that believed to be created according to the sundials or the Egyptian Pyramids that built to connect to the sphere of death.

In order to understand human-space relationship: needs, rights, and connections of people towards space are suggested to be explored. The needs illustrate that people can be impacted physically and psychologically by the elements of the spaces. Many successful public spaces are designed base on the concern of human needs (Carr et al., 1992: Gehl & Svarre 2013). After being in the space that responses the comfort, relaxation, passive engagement, active engagement, and discovery aspects, people also create rights and

meanings towards that space. The creation of meanings within individuals or groups on spaces usually involves with the rights. Claiming or modifying spaces creates bonding between people within the spaces as well as between people and the spaces. Thus, the three human dimensions can be applied as tools in the design and management process in order to guide and shape public space. In addition, Carr et al. (1992) recommend that space users should be included in the creation process of their public space. This approach not only empowers the users but also offers a more in-depth idea of the human dimensions most suitable to the space.

5. RESULTS

The results are organized in five main phases. Firstly, the daily beach situation (5.1) presents results from different locations and times. The next section demonstrated beach user's behavior of space negotiation in five dimensions (5.2). The role of material settings (5.3) is presented in six aspects, followed by the rights negotiation to environmental impact (5.4). In the final section, the design principles are introduced (5.5).

5.1 The daily beach situation

According to the beach clean-up policy on Patong beach in the past, artefacts are assumed as pollution to the pristine and beauty of the beach environment. This section shows the daily beach events need both natural and artificial elements. In addition, people negotiate space differently on different sites and times. Hence, this part of the result presents two dimensions: location and time. The location refers to the divided area A, B, and C that illustrate daily events within the area. The time is periodically split into morning, afternoon, and late afternoon to describe the events in different period of a day.

The instructions for the maps are given to avoid the confusion. The direction towards the sea is always a reference. The right side in the results below means the right side when facing the sea as well as the left side. The front refers to the front of the beach near the shoreline, while the back is the space on the vegetation line.

5.1.1 Location

Area A

Size: 250x50 m² from the end of Ruamchai road to the entrance of Soi Dr. Wattana

This area is accessible from most of the entry points along the vegetation line. The rows of beach chairs located in the middle of the observation area A are a reference spot to indicate the locations of other matters on this area. The area is quiet from the morning till afternoon and gets busier during the late afternoon. Beach users usually gather around the front area on the left side of the beach chairs. The middle area is left empty with few people occupy the space and mostly for passengers. The shade along the vegetation line is permanently filled up with locals' wooden chairs and tables but tourists often hang out in this area as well.

The four rows of beach chairs are not busy in the morning. The front row is the most occupied while the rest of the rows are rather empty. The chairs are getting crowded during the afternoon, more than half of the seats on each row are taken. However, the number of people on chairs decreases in the late afternoon. The area in front of the chairs is mostly for passengers. It is also constantly filled with few tourists for activities such as photographing and building sand castles. The chairs are gathered in piles from about 5.30pm by locals, which give empty space for people to use it for other activities. Interestingly, this space is left unoccupied by people although without chairs. At the same time, the area behind beach chairs along the vegetation line is engaged by tents from local services e.g. massage and drinks.

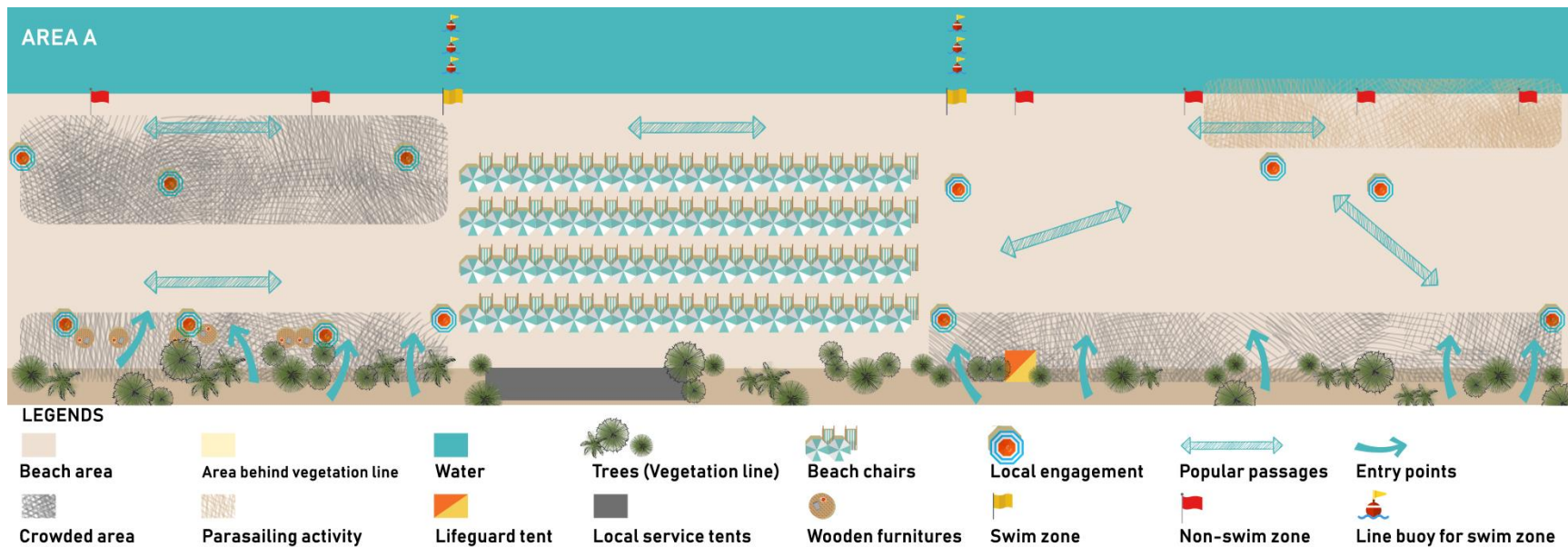


Figure 10. Result of area A on Patong beach (Siri-udomrat, 2018)

The area on the right side of beach chairs is used by individuals as well as the municipality. Two out of five days of observations, the space around the vegetation line is filled up with restaurants and bars for the Beach Opening Festival. After the festival, the space under tree shades is often occupied by both tourists and locals while the open space is used as a passage. The middle till front part of the area is varied on different days. It is busy on the first three days and nearly empty in the last two days of the observations.

Area B

Size: 450x50 m² from the entrance of Soi Dr.Wattana to the entrance of Bangla road

This area can be accessed easily from the back along the vegetation line. The rows of beach chairs located in the middle of area B are used as a reference for the locations of other matters on this area. The open area on the left side of the beach chairs continued from area A is often crowded under the tree shades in the morning. Nonetheless, people engage space on the open sand in the middle till front part of the beach during the late afternoon. The area B is also occupied by restaurants and bars along the vegetation line for the Beach Opening Festival. Meanwhile, the middle of the beach is often busy with passengers and the front part is engaged for longer activities e. g. sunbathing. The area along the shoreline is occupied by the parasailing activity during the festival from the afternoon till the sunset. This activity affects the individual use of the beach because people can no longer stay in the same space they could as

in the morning. However, the parasailing is gone after the festival and the amount of people in the area is not significantly higher.

The middle area is filled up with five rows of beach chairs that are empty during the morning. The most occupied row is the first row while the next two rows have most seats available. More people use the chairs from the afternoon and often the number of users decline in the late afternoon. The space along the shoreline in front of the chairs is mainly for passengers. Tourists barely stay in this area during the morning because the high tides limit the space between the front row of the chairs and the shoreline. However, the area is getting busy in the afternoon and the late afternoon. Beach chairs are always gathered in piles and put along the vegetation line by locals from about 5.30pm. The space to the back of the beach is taken by local services e.g. public toilet and massage.

The space on the right side of beach chairs is under local control more than other areas. A lifeguard tent located by the end of chair rows and in front of the tent in the middle of the beach is a local booth for water sport activities. The space between the lifeguard tent and the local business is a regular meeting point for locals who work on the beach. Tourists usually stay under the shades along the vegetation line especially next to the lifeguard tent. Meanwhile, other shaded spaces are usually engaged by local settings. The front part along the shoreline is mostly for passengers and parasailing. The middle area of the beach is likewise for passengers with few people scattered around during the morning and the afternoon. The number of people in this area goes higher in the late afternoon. The space on the right end of area B connects to the main entrance of the beach from Bangla Road. Thus, it is often engaged to organize local events. The stage with steel structure and a large outdoor canopy is set on the sand in that area for the Beach Opening Festival

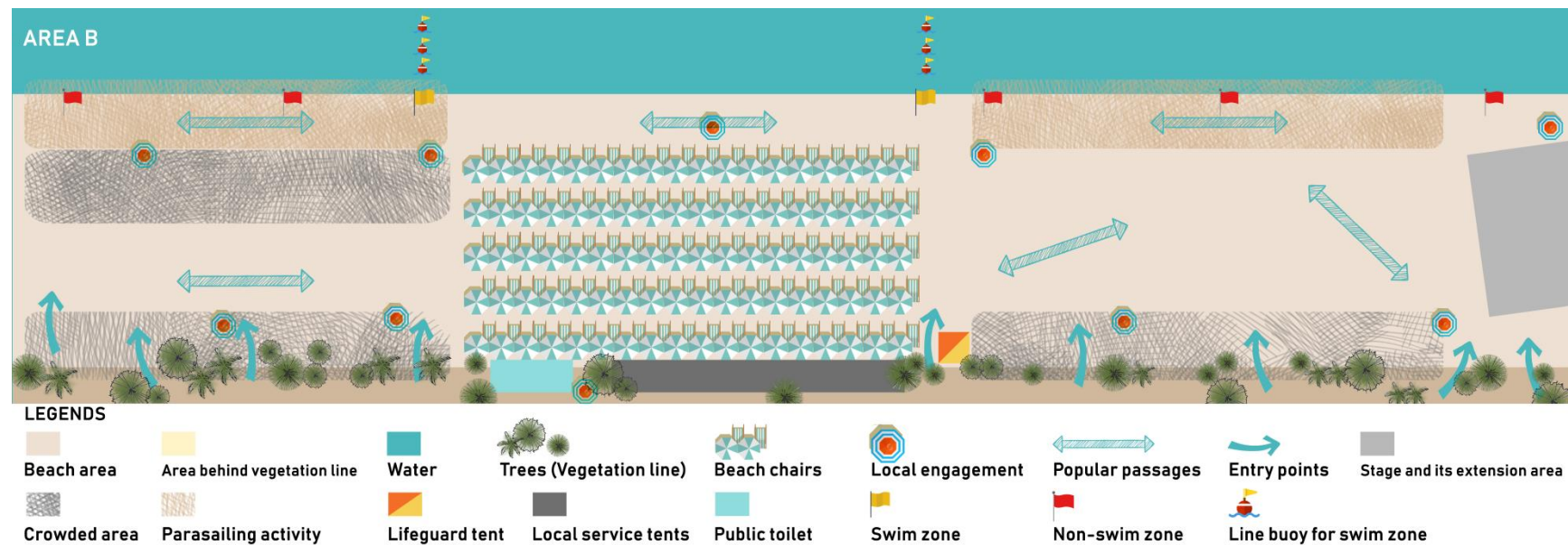


Figure 11. Result of area B on Patong beach (Siri-udomrat, 2018)

from the beginning of the observation. The stage is gone after the festival but the canopy is still there and becomes a popular shelter amongst beach users. The stage is back on the last day of the observation for Loy Krathong (Thai floating lanterns) event along with numerous tables and chairs all over the area.

Area C

Size: 300x50 m² from the entrance of Bangla road until in front of Impiana Resort Patong Phuket

The entrance to this area is limited by resorts, spas, and restaurants located along the back of the vegetation line. Thus, it is not possible to enter anywhere except for the two main accesses. The first entrance is the main point from Bangla road on the left end of the area and another point is from Sawatdirak road on the right end. A public toilet located in the middle of area C is a reference spot to indicate locations of other matters on this area. The main entrance

on the left side of the public toilet leads people into the beach space that is usually used for local events. The space is a passage as well as for other activities (e.g. sunbathing and reading books). The area after the entrance (the beginning of private properties' walls) is busy throughout the days while the back of the area in front of the walls is engaged by local services e.g. massage and braiding. The right side of this area is a location of beach chairs that are usually arranged into four and a half rows. The chairs are nearly empty in the morning and get more crowded during the afternoon. Then the number of people on chairs drops in the late afternoon. The space in front of the first row of beach chairs along the shoreline is mainly used as a passage. Nonetheless, two days out of five days during the observation period, the space is occupied by people particularly in the morning and late afternoon. The chairs are usually collected in piles and put by the back of the area (in front of private properties) by locals from around 5.00-5.30pm.

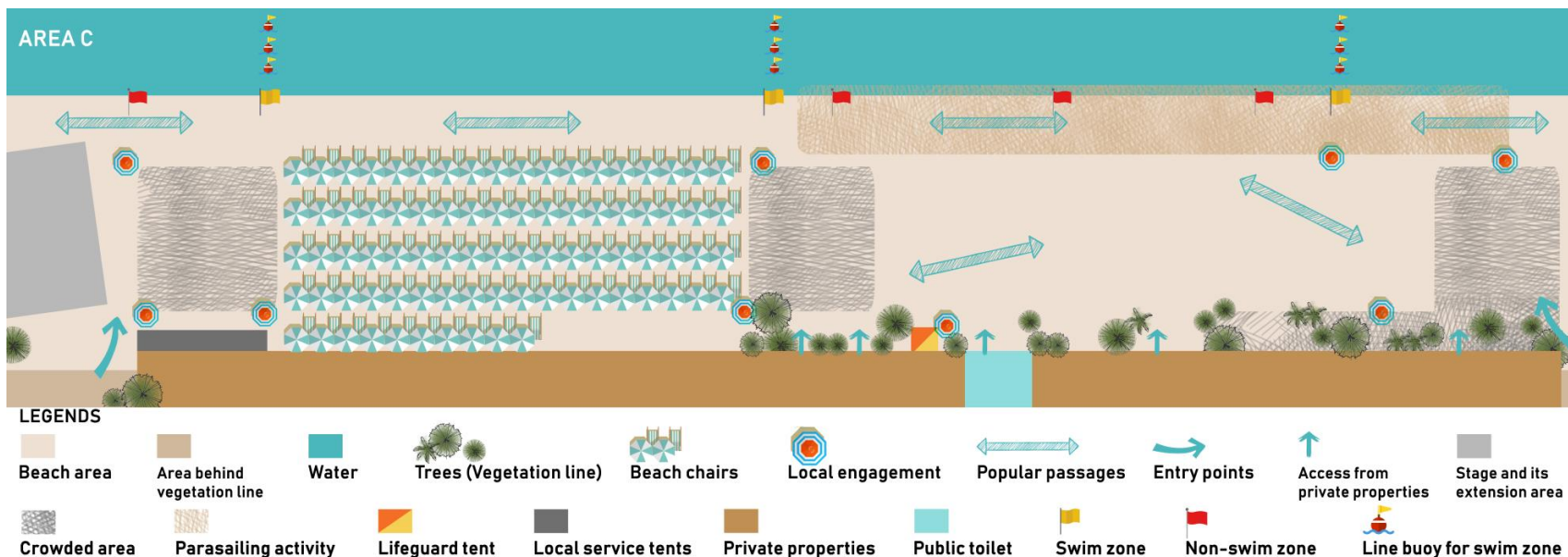


Figure 12. Result of area C on Patong beach (Siri-udomrat, 2018)

The middle area is mostly open sand with a slope from the middle to the front. People mostly stay under the tree shades and some on the open sand area next to the beach chairs. The space in the middle from in front of the toilet until in front of Impiana resort is often empty and only used for passengers. In addition, the front part of this area is constantly engaged for paragliding activity.

The area on the right side of the toilet is usually empty and get more crowded from in front of the Impiana resort. People prefer to stay under tree shades on the vegetation line and only a few stays under the sun on the open sand space. Nevertheless, the area is busier in the late afternoon especially on the front of the beach and under the shades while the middle area is left for passengers.

5.1.2 Time

Morning

The morning refers to 9-12hr which is the timeframe that people start coming to the beach. People regularly stay on the sand rather than on beach chairs especially to the front and back of the beach. The middle and the far front along the shoreline are often left for passengers. Local businesses e.g. water sport activities and massage are usually set their places on the same spots during 9-10hr either along the vegetation line (shaded, attract passengers, and accessible to the road) or the shoreline (attract passengers and accessible to the sea). The number of tourists support local services is quite low during this period. People often come to the beach and do their own things (e.g. sunbathing) rather than go for massage or Jet Ski.

Afternoon

The afternoon is between 13-15hr which is also the strongest sun hours. The numbers of people under the shaded spaces (tree shades

and on chairs with umbrellas) are much higher than in the morning sessions. Hence, the amounts of beach users on the open sand area are expected to be lower. However, only in some areas that people under the sun are less than under the shade during the afternoon. The open area around the beach chairs and the main access points usually have a constant number of users in the area from the morning to the afternoon. Meanwhile, the far-out space between two areas of beach chairs and between the main access and beach chairs often have a lower amount of people on the open sand in the afternoon than the morning sessions. Moreover, local services are more popular in the afternoon as the numbers of tourists buy goods and services as well as join the water sport activities are higher.

Late afternoon

This period is around 16-18hr from the weaker sun hours until the sunset. The open sand area is usually crowded and has more people than in the afternoon. Water sport activities especially parasailing are also more popular than other times. Unsurprisingly, people occupy space under tree shades are significantly less than in the first two sessions. The beach chairs are still as busy as in the afternoon. Locals start collecting things of their businesses (e.g. signage chairs, and umbrellas) from about 17.30hr then put them in certain places regularly on the back of the beach along the vegetation line. Beach chairs are also gradually gone by this period and huge spaces are left in all area A, B, and C. Those spaces are sometimes occupied by few people but most are for passengers.

From the current data, two dimensions are related and have a direct impact on the number of beach users. Consequently, the bar charts are created in order to demonstrate the relationship between location and time. Figure 13 shows that the number of people come

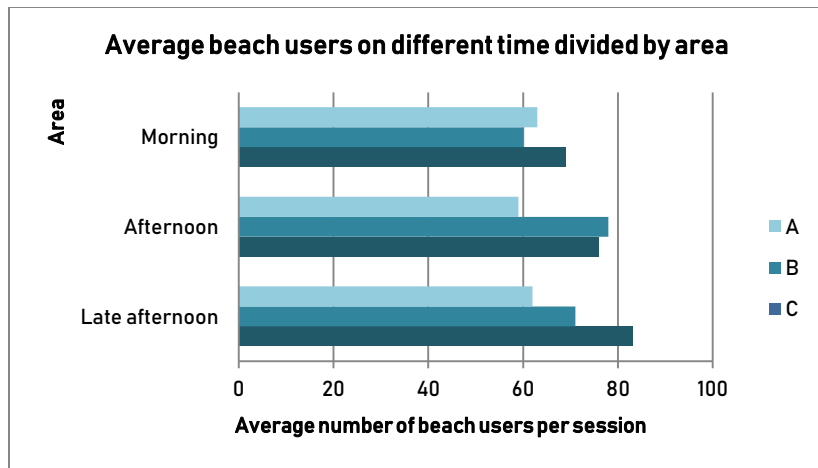


Figure 13. Average beach users on different time divided by area (Siri-udomrat, 2018)

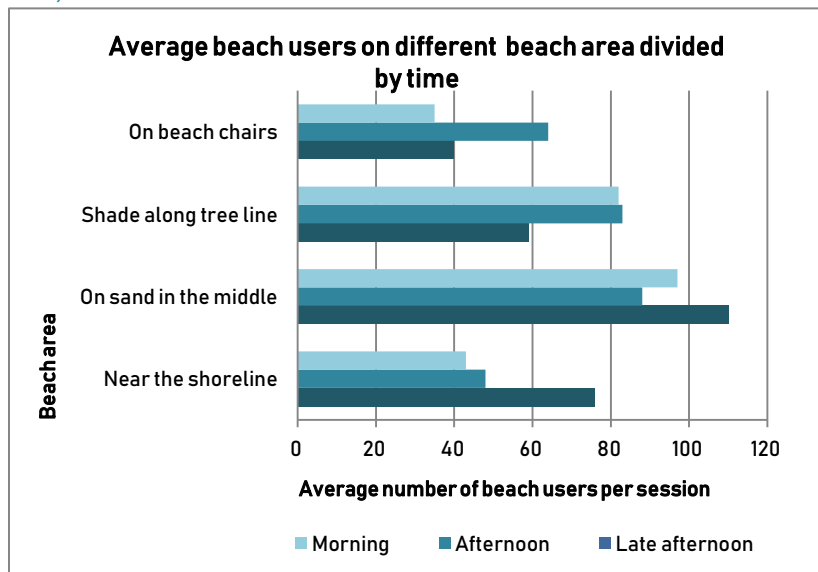


Figure 14. Average beach users on different beach area divided by time Siri-udomrat, 2018)

to the beach are equally distributed: the average users per session of each area (each session is about 20-30mins) in the morning, afternoon, and late afternoon are 64, 71, and 72 respectively. People spend more time on the beach in the afternoon than in the morning. The best hour that people stay on the beach is after 4 pm. In addition, area A gains the constant number of people throughout the day yet less popular compares to the other two areas. In the meantime, area B and C earn greater and more fluctuated people in a day than area A.

To be more specific, the different areas of the beach (on beach chairs, under the shade along the vegetation line, in the middle of the beach, and at front of the beach along the shoreline) in different times are presented as well. According to figure 14, people stay on beach chairs during the afternoon the most due to the number of people is double to other times of the day. Meanwhile, the space under the tree shade is more popular throughout the sunny hours and the popularity decreases in the late afternoon. The middle area on the open sand seems to be the most crowded area throughout a day, while the space along the shoreline gets more popular during the late afternoon. Therefore, not only the different times of the day can affect the appropriation behavior of people within a day. The distinct features in each area on different times also have a significant contribution to navigate the performance of beach users.

5.2 Beach users' behavior of space negotiation

The reality of how space is claimed and how freedom on the beach is negotiated among tourists, locals, and the state will be presented in this section on five dimensions of rights in public concept (access,

freedom of action, appropriation, modification, and disposition) as listed below.

5.2.1 Access



Figure 15. Stairs and ramps to access the beach (Siri-udomrat, 2018)

According to the three different observation areas, A and B can be identified as easy to access. The spaces along the vegetation line of both A and B are mostly opened with provided stairs and ramps (figure 15) that can be seen and reached from the main street. Meanwhile, area C has two main entrances at both ends of the area when resorts, spas, and restaurants with fences and walls (figure 16) locate in the middle. Permission is needed in order to access the beach via those places. Thus, area A, B, and C illustrate different signs of entering ability which are physical access, visual access, and symbolic access.

The stairs and ramps are considered as the physical access elements for area A and B. Meanwhile, the physical access of area C has

limited by fences and walls as well as security guards by the private properties. The visual access is rather positive in area A and B since most spaces on the back of the beach along the vegetation line are open and can be seen from the main street. Therefore, people can



Figure 16. Tourists engage the area in front of local properties (Siri-udomrat, 2018)



Figure 17. Patong Beach sign at the entrance from Bangla road (Siri-udomrat, 2018)

enter and leave anywhere. Although the visual access in area C is confined with obstacle items and guards, the privacy of people is kept better than in area A and B. Besides, the sign of Patong Beach (figure 17) that is the connection from Bangla road to the beach is considered as a main welcome symbol to area B and C. Even though area A has no tangible symbolic access, water sport activities that can be seen from the entry spots give sort of emblematic impression to people that this beach has various activities to support different demands.

The three areas do not only have different features of entry points, but the access routes of people are also distinctive. People enter area C from the two ends due to the obstacles in the middle while in area A and B are quite random since people can access anywhere. Furthermore, people, particularly tourists, normally enter from the access points and walk over the sand towards the shoreline to avoid the crowd on the back till the middle of the beach. Hence, the front part of the beach is often the busiest passage amongst all possible routes. Meanwhile, local vendors usually attempted to walk through as much crowded space as possible to gain better chances to sell their goods and services.

5.2.2 Freedom of action

The finding on the freedom of action is divided into two parts following the theories: activities that make others uncomfortable and its reaction, and response to warning signs and other restrict symbols. As an example, local vendors approach tourists with importuning way and frequently get rejected. Tourists enter the area and either walk along the beach or lay on the sand. Then locals suddenly appear and repeatedly ask them to buy services or

products. Tourists are sometimes interested but most of the time they reject those offers verbally or gesturally. The comfortable of being on the beach among tourists is intruded by actions from local vendors and the reactions are not positive. The space claiming or appropriating activities also play a significant role in the freedom of action. For instance, the locals often claim the space that is already taken by tourists for certain activities (parasailing). The tourists are often asked to give away that space. Another case is a certain group of locals that regularly come to play beach volleyball (figure 18) and they often move inattentive belongings out of the space they want for their game. The two examples give different responses of locals to the situations. The freedom over space is negotiated via communication between actors in the first case. Meanwhile, the volleyball group performs a non-communicative action. They obtain the freedom from their own decision which may restrict the rights of other users.

The freedom to act is not only limited and negotiated in individual level because rules and regulations from the state are also launched to control freedom of individual in a public area. Patong beach has some basic rules as well. First of all, there are a swim and non-swim zones for water sport activities (e.g. Jet Ski and parasailing) with red and yellows flags and line buoys (figure 19) used as identification to the restricted and permitted swimming space. However, many tourists are noticed swimming in the non-swim zone and the lifeguards approach them to tell it is not allowed. Although Patong beach is labelled as a smoke-free (figure 20) beach with restricted signs and provided smoking spaces (which are apparently quite popular), tons of cigarette butts are still found on the beach. In addition, many locals and tourists smoke on the beach.



Figure 18. Space appropriations from beach volleyball activity (Siri-udomrat, 2018)



Figure 19. Flags and line buoys indicating swim and non-swim zones (Siri-udomrat, 2018)

Interestingly, after being told that smoking is not allowed on the beach, tourists are willing to stop and say that they do not know that the beach is smoke-free. This situation presents an attempt from the administration to control freedom of action in beach users via beach regulations that are violated by neglect and disobey behaviors. In other words, the control of the state on the beach



Figure 20. Smoking Area sign on Patong beach (Siri-udomrat, 2018)

space is vague and weak to beach users. Those who have the most rights to limit others' action on this beach are locals. The power of freedom in locals over the space has often crossed the freedom of the state and tourists, even attempt to overrule. Nevertheless, tourists also perform resistance actions towards locals to retain their rights of space usability.

5.2.3 Appropriation

Appropriating or claiming space always happens on the beach via normal activities such as putting towels to reserve space or putting flags to declare territories. Tourists on Patong beach usually come and put their belongings to reserve space. Some people stay for less than half an hour while some stay for a day. The space under tree shades (figure 21) is usually very popular because people want to avoid the heat. Many people come early to occupy the certain shaded area for the whole day. Meanwhile, the open area under the sun is also busy but mostly during the morning and the late afternoon. From the theories, claiming space often reflects privacy



Figure 21. People stay under the shade during the strong sun hours (Siri-udomrat, 2018)

and territoriality practices in human that can be explained through four different states of privacy: solitude, intimacy, anonymity, and reserve.

Patong beach is known as the most popular and busiest beach on Phuket. Thus, seeking for privacy on this beach is quite challenging. Nonetheless, lots of people come across ways to create their own private space despite being surrounded by others. Two main modes are applied to create one's own private space on Patong beach: focusing on one activity and creating self-boundary. Several people focus on doing their own activities and forget about surroundings. For instance, one guy is doing yoga on a beach towel among other people under the tree shades (figure 22). He does not seem to be bothered about the idea that people may look at him. Nevertheless, the most popular activity to build privacy amongst beach users is reading books (figure 23). People often concentrate on the story of the books and surroundings become indistinct. Meanwhile, lots



Figure 22. The guy doing yoga among other people (Siri-udomrat, 2018)



Figure 23. The guy reading a book among the crowd (Siri-udomrat, 2018)

of people create their own boundary via wearing headphones that automatically switch the outer world off and let others know about their privacy. Those practices show that the state of anonymity and solitude can be reached despite being surrounded by crowded environments. The intimacy state is also discovered on the beach mostly in group activities (e.g. burying someone in the sand). The

reserve state is acted mainly by locals who work on the beach varies from lifeguards to vendors. The areas of locals businesses from the ground (sand) to artefacts are usually taken care of by locals. This state of privacy also interrelates with the practice of disposition and modification which are explained later in the next sections.



Figure 24. The usual space appropriations by tourists (Siri-udomrat, 2018)

The practicing of appropriation also generates private territory for individuals or groups because one's privacy is highly related to territoriality behavior. Beach users create their territory from basic beach elements like sand and belongings (figure 24). Many people play with sand and end up building sand walls which automatically turn into boundaries. The altered sand space is not only any area on the beach but trademarks for the existence of certain people in that area. Personal belongings such as towels and bags are also applied as territories. Nonetheless, one of the simplest and most interesting tools for building boundary amongst Patong beach users is music. From the observations, music is used in ways: playing via speakers and via headphones. The first way generates an invisible territory to

others and results in a tangible outcome as space is left around the radius of music. In the meantime, the headphones create an inner territory for an individual since those without headphones might not aware of the activity at the same level as those who perform it.

5.2.4 Modification

The diversity of users and activities on Patong beach especially from the locals impacts an alteration of the beach. Different artefacts vary from swim rings to a stage are added to and taken from the beach every day for tourism purpose. Locals habitually put items for their businesses (chairs, advertising boards, flags, etc.) on certain areas in the morning and collect it back around sunset. This type of change happens daily and seems to be temporary because items are not always in the same places. However, it can also be seen as permanent because locals perceive certain spots they use every day as their spaces and claim rights over it. For instance, the sand area in front of massage tents (figure 25) is occupied by tourists then local masseurs come and ask the tourists to move because they want to put chairs and signs for their business. Even though the existence of items on the beach is temporary to tourists but the masseurs treat it in a permanent way. Lifeguard and massage tents as well as wooden chairs, tables, and swings are the permanent artefacts on Patong beach. Those items are permanently installed on the ground, unlike other temporary items that are added and taken daily. However, some items that are supposed to be impermanent like the bamboo tower and the giant swing (figure 26 and 27) can be last for a longer period. The items are put for Beach Opening Festival along with other furniture and decorations from



Figure 25. The massage and other local service tents (Siri-udomrat, 2018)



Figure 27. The bamboo tower (Siri-udomrat, 2018)



Figure 26. The giant swing (Siri-udomrat, 2018)

the bars and restaurants. Other items are taken out after the festival while the bamboo tower is still on the beach for a few more days. The giant swing is on the same place throughout the observation and becomes a popular photography spot. The temporary and permanent states of modification can be ambiguous.



Figure 28. The kids building sand sculpture (Siri-udomrat, 2018)

From the massage tent example, the local masseurs treat the sand in front of the tents as their own working space although it belongs to the public. The giant swing example shows that public perception can change the temporary decoration item into a rather permanent tourist spot. Thus, people's perception plays a more important role than the physical existence of artefacts.

Tourists tend to play a less influential role on beach space alteration than locals due to their short stay. Most of the changes from visitors are temporary. As an example, people put their belongings to transform a regular sand area to the relaxing space. People leave with their belongings and the sand space is back to its normal. Moreover, sand castles or any form of sand (figure 28) built by people is a modification. People normally build the sand forms and leave it the way they are rather than reverse it back as before. The sand forms are often gone by waves in several days. Although sand structures are not meant to be permanent in this situation, people leave it longer than usual. Not only individuals carry out activities of changes, but the state also performs this practice through events and festivals. A stage with a large canopy and steel structure along with chairs and tents are placed on the space at the main entrance from Bangla road to celebrate local events. Everything is uninstalled in a few days after the festivals.

The perspective towards Patong beach can be totally different amongst individuals. Even though most locals on the beach use the area as their work space, some locals may use it differently. The third place concept can be developed in those who do not work but spend their leisure time on the beach. For instance, a group of volleyball players usually start their game in the late afternoon do not work on the beach, but gather after work and play the volleyball together. Hence, that certain area of the beach is considered as their third place. The concept is not necessarily applicable for only locals since visitors tend to develop the concept of third places on the beach as well. Many tourists come to the beach to occupy a specific area or to put objects to claim the space. These practices tell that tourists also perceive the beach as their (short-term) third

places. The crucial practices that imply whether any location is the third place are the modification and appropriation. Claiming the space creates an idea that the place belongs to someone while alteration is to create meanings of the space.

5.2.5 Disposition

The former four dimensions present the space negotiation between individuals. However, claiming space often exists on an institutional level. Patong beach is governed by the Patong municipality, so rights to control the beach belong to them. Two events are held by the municipality during the observation: the Beach Opening festival and Loy Kratong festival. The first event is to announce the beginning of peak season in Phuket. It is last for five days (1st to 5th of November) with different events happen every day. The outdoor restaurants and bars on the beach along the vegetation line about 300-500 meter length are settled. Those places are usually not allowed to set decorations along the area without municipal permission. Besides, the stage with large canopy and steel structure (figure 29) from the municipality is located on the sand at the entrance from Bangla road is for broadcasting and performance of the events. The stage is gone after the festivals but the canopy and steel structure are still at the same location. The canopy ends up as a bunker from the heat of the sun for people. The activities of space alteration from the authority are quite arbitrary. The permit for restaurants and bars only depend on the state power since all shops have to be gone after the festival. However, the stage is left longer than the festivals. Besides, people accept the existence of the canopy and use it as a shelter.



Figure 29. People stay under the remaining canopy of the stage (Siri-udomrat, 2018)



Figure 30. The wooden tables and chairs (Siri-udomrat, 2018)

Nevertheless, not all items from the restaurant are gone after the festival. The giant swing and bamboo tower are on the beach longer than other items. It can be from either the permit of the authority

or violation from the shops. Private sectors or locals also attempt to negotiate the disposition with the municipality over the space. Furthermore, the area for local businesses (e.g. massage, Jet Ski) is also assigned by the state. According to the information from one of the interviewee, all activities including Jet Ski, parasailing, long-tail boat, massage, beach vendor, and beach chair have an association specifically for each activity. Those who wish to run any business on the beach need licenses from both Patong municipality and the unions of that activity. Besides, the Jet Ski business also requires a license from the Marine Department. Locals arrange an agreement to divide space for each business at the beginning. Afterwards, the municipality takes control of the quantity and the space division on the beach when more investors appear in the businesses.

Locals garner rights on the beach by habitually taking care of a certain space. Besides, each business has different idea to modify their spot (e.g. wooden palette decorations in figure 30) and the authority allow this practice to happen. This phenomenon is known as 'community disposition' that right on the place is gained from the state and is gradually developed to habitual action of ownership.

Individual rights engage in most of the dimensions from rights in public space concept (access, freedom of action, appropriation and modification). Meanwhile, disposition and ownership relate mainly to the association level. Activities of people through the perspective of rights in public space concept reveal the power relations of space negotiation on Patong beach. However, beach users may perform their behaviors differently without the affordance of the materiality. Hence, the influence from material settings to human activities is presented in the following chapter to provide the perspective from different factor to this phenomenon.

5.3 Role of material settings

According to Fogg behavior model, the trigger is needed to perform behaviors in people. At the same time, Gibson affordance model indicates that human behaviors happen following the affordance of the items and events. Therefore, the role of non-human actors via the rights in public space concept is concerned. This section displays the role of material settings under six themes: stairs and fences, signage, natural settings, the unseen power, local items, and tourist items.

5.3.1 Role of stairs and fences

There are two signals sent from beach materials to people in term of access: welcome and unwelcome. Two-third of the studied area of the beach is connected to Thawewong road via concrete plaza (figure 31) with ramps and stairs. People can step over the concrete border to get to the plaza that leads them to the beach or use the stairs and ramps to enter the plaza to the beach. Those who come with motorbikes can access the plaza via ramps and park at the provided spots before entering the beach. All presented items are utilized to indicate that the area is accessible. The concrete border tells people that the plaza is ended and the road is started, while the plaza informs people to be prepared to enter the beach. Thus, the process of a person entering the beach consists of several variables aside from only one's motivation and capacity to go to the beach. People can enter the beach differently without those items.

Simultaneously, people can enter only from the left and right ends at one-third of the studied area. This area is adjacent to private properties (e.g. spas and resorts) with built walls and fences to indicate territory and block the access (figure 32). Each property has



Figure 31. The concrete plaza as a transition space from the road to the beach (Siri-udomrat, 2018)



Figure 32. Walls and fences from the private properties along the vegetation line (Siri-udomrat, 2018)

a beachside entrance on the vegetation line for its customers. Walls and fences inform the public that the places are private and only those with permission can get in, while beachside entrances notify people to keep space free for passengers. Although people prefer to stay under the shaded area, they usually leave the space in front of the properties' gates empty. The affordance of voids, steps, and

shades of the entrances gives universal meanings to human without further signs or explanation.

5.3.2 Role of signage

Patong beach has lots of signage and each of them is designed for different goals. The features of signage are significant for people to realize which sign is for which purpose. The signs for a business like Jet Skis or massages are designed mainly for advertisement. Thus, the signs are usually colorful with only important texts (e.g. price, opening hours) and portable. The small and fixed plates inform the location of the toilet (figure 33). Meantime, the large and noticeable Patong Beach concrete sign is created to welcome tourists. The signs for the smoking area are also distinctive and durable. Nonetheless, the smoke-free signs (figure 34) are small and full of texts which can be neglected easily by people. Thus, the signage is largely design to inform and guide people's behaviors in the same direction in order to keep places nice and organized.

The signage use on the beach is quite positive. People approach and read the advertisement while the smoking spots are quite popular amongst tourists. However, lots of people choose to smoke on the beach rather than the provided spots. Some of them tell that they do not know Patong beach is smoke-free. Therefore, the design of smoke-free signs may have a vital impact to people's behaviors. Even though signs are created for certain aims, it can be used differently. For instance, business advertising signs are used as a sunshade by tourists. People often see potential to use artefacts that can be beyond its purposes.



Figure 33. The sign directing to a public toilet (Siri-udomrat, 2018)



Figure 34. The smoke-free sign on Patong beach (Siri-udomrat, 2018)



Figure 35. Tourists mostly stay under the shades (Siri-udomrat, 2018)



Figure 36. A guy covered in the sand by friends and random tourists coming to take picture of them (Siri-udomrat, 2018)

5.3.3 Role of natural settings

Natural settings (the sun, sea, sand, trees, rocks, etc.) are different from other artefacts on Patong beach. Human has less control over this type of settings. For example, when people want to remove the flags or signs they can just take it. Nonetheless, when people feel

the strong heat from the sun, they can only cover themselves with clothes or hide under the shaded area (figure 35) because they cannot do anything directly to the sun. Therefore, nature is not a tool to mediate space like other materials but rather act as a space claimer like a human. As an example, the high tides in the morning impact the lifestyle of beach users. During the time that the water level is too high, locals cannot put beach chairs and visitors cannot occupy the space. The beach space is claimed by the tides and beach chairs are the tools that locals apply to perform an attempt of negotiation.

The role of nature is also diverse and its affordance can evoke different reactions in people. For instance, people can use sand on the beach for many purposes. Some people build sand walls as a self-territory, some express their creativity through sand sculptures, and some promote their social relations via covering someone in the sand (figure 36). Therefore, natural settings tend to have many benefits for beach life activities. It acts either as a space negotiator with human or as an influence to people's behaviors.

5.3.4 Role of the unseen power

The objects or events that impact human activities on the beach are not only can be seen or touched, it can also be heard. Music is used widely on Patong beach to indicate an individual's territory as already explained in the prior chapter. The power of music is not only to create awareness within a person but also let others experience its unseen boundary. People understand immediately when seeing someone with the headphones that those people need boundaries. Meanwhile, people who play music through speakers may want to be noticed or to expand self-territory. Therefore, not

just the affordance of music has the power to influence human activities, but the way people apply it to negotiate space also have a significant impact on self and others' perception.

Music is not used only for territorial purpose since many strangers are bonded through music. For instance, a group of tourists plays music from a speaker with another group of family nearby. Then a kid from the family start dancing followed the music, and tourists from the first group come to the family to dance with the kid. In this case, music creates a boundary for one group unexpectedly bonds them with others. Furthermore, the music is not applied for the territorial purpose only among individuals, but also on the level of organizations. Many beachside bars and restaurants as well as the stage for the local events also play music to declare their territory and attract people.

5.3.5 Role of tourists' items

Tourists normally appear on the beach with an all-in-one package: towels or mats, bags full of beach surviving gears, and sandals. The items are essential for participating in beach life. Interestingly, tourists indicate one's boundary from the size of fabric. When someone put a piece of rectangle cloth on the sand, it is universally perceived that the area is already taken. The affordance of those fabrics tells people that it is the identity of someone, so passengers try to not step on it. However, people are not aware of that idea while they are walking through a hundred towels, their intuitions and the affordance of towels lead them to do so.

Tourists' objects do not last longer than a day on the beach like locals'. People come to the beach and claim the space by putting

belongings that they take it with them when they leave (figure 37). The certain space that is occupied by certain people today is definitely engaged by newcomers tomorrow. The tourists' items are temporary and not perform the practice of disposition. Hence, the freedom of others to claim the same spot at different times is greater than locals' items. In other words, the existence of tourists' artefacts is not as influential to rights in public space of people on the beach as its local counterparts.



Figure 37. .Several items are used by tourists to claim space (Siri-udomrat, 2018)

5.3.6 Role of locals' items

Locals engage the beach space more permanent than tourists. Due to the duration of staying (longer), the distance of travel (shorter), and financial ability (less afford). Unsurprisingly, several settlements on the beach are made by and for locals. Most locals are aware of those objects, that are either temporary placed (e.g. umbrellas and flags in figure 38) or permanently installed (e.g. wooden decorations in figure 39), more than tourists. Many artefacts have special

meanings that are assigned by locals. As an example, different country flags on several spots of the beach are used by different water sports businesses to indicate their boundary as well as to notify their customers from the offshore. In addition, artefacts are



Figure 38. A common local water sport activities placement (Siri-udomrat, 2018)



Figure 39. Local decorations located between the concrete plaza and the beach (Siri-udomrat, 2018)

also applied as a condition to gain privilege. For instance, locals advertise in the hot afternoon day that those (tourists) who support their services are welcomed to sit on the shaded spots from them. Consequently, some tourists buy juice from them and are able to stay under the shade while others are still under the sun. Although most of the local items are gone by the end of the day, the rights of certain groups on certain areas still exist on the next day. Hence, artefacts from locals are not perceived as just appropriating instruments. It also declares a group's ownership over that space.

5.4 Rights negotiation to environmental impact

The attempt to negotiate the rights of individuals and groups on Patong beach also generate a significant impact on the beach environment. As an example, people smoke on the beach despite it is smoke-free is a result of rights negotiation between the state and the public. The state's disposition is demonstrated via the use of smoking spots and smoke-free signs. Nevertheless, many people both tourists and locals still smoke freely in the smoke-free area of the beach. Even though the signs indicate that the act of violation will be fined or put in jail, nobody has ever paid the fine or arrested by the officers during the observation period. The poor execution opposes to the legal claim of warning signage has abated the trust of people in the power of the state result in the public neglect of the rules. Therefore, the freedom of people on the beach increases when the disposition power of the state decreases.

Smoking is not the only behavior that people perform to negotiate their rights with the state, littering is also counted. The 1km length of the studied area on Patong beach has about eight trash dumping

spots. There is one trash spot per a group of beach chairs and the other spots are placed randomly along the vegetation line. Due to the elusive location and insufficient amount of dumping spots, some of them are loaded within a few hours (figure 40) and people leave trashes dispersedly. Thus, this problem has an influence on people's choices of dumping trashes. The freedom of people to leave trashes in the provided spots is confined, while the right to dump it anywhere else is exceeded. This contradictory practice results from the uncertain disposition power of the state. If adequate and notable garbage spots are available, the consequence might be different.

According to the example of smoking and garbage spots, the beach environment is affected by the imbalance power of the individual to the state. Right to act on the beach is not completely on the public but rather a reflection from the power of the authorities. The negligent of the power can result in excessive and insufficient freedom of individuals that carry to the environment afterward.



Figure 40. The overloaded trash bag on Patong beach (Siri-udomrat, 2018)

5.5 Design principles

Referring to the aim of this research is to explore the relationship of beach users' activities and beach environment through the concept of rights in public space at Patong beach, then the design principle is intended to develop based on the findings. However, the complexity of beach settings results in infinite actions of beach users and not all of them matter to settle the principle. Thus, only noticeable and repetitious activities that are related to the concept of rights to public space are taken into account.

Consequently, the preliminary beach design principles are created. Three principles are drawn from the significant results of beach users' activities and the impact of materiality on those activities as well as some elements from Carr et al. (1992) & Project of Public Spaces (2008) are presented in figure 41 and are explained below:

1. Access and connections

The first impression of the beach is the entrance. The design of access and connections of the beach contribute to people's perception of the beach space. The multiple entry points versus the limited access points on different areas of Patong beach shows that characteristics of the entrance influence the access behaviors and choices of access routes in beach users. This principle proposes four features that are considered vital to people's behaviors of access: welcome, accessibility, convenience, and continuity.

- **Welcome:** the access should make people feel welcome. This aspect is highly involved with people's impression of the beaches. The visual and symbolic access plays an important role in the perception of beach's users. Thus, the

use of fences and guards can make people feel unwanted, while signs and photography spots enhance people's appreciation of coming to the beaches.

- **Accessibility:** physical access is important to this feature. People feel welcome to the beach from visual and symbolic features but in order to the access, the physical attributes are needed. The stairs and ramps can be applied to make the area accessible. In the meantime, barriers are used to limit the access of people to the beach.
- **Convenience:** this aspect is related to accessibility. The design of location, as well as the facility of the entrances, is

vital for the convenience to the beaches. As an example, locating a parking lot far away from the beach can limit the number of tourists accessing the beach. Owing to it is inconvenient for disabilities and also minimizes the amount of belongings people carry to the beach.

- **Continuity:** the access routes should be continuous and the linkages are important. According to people's behaviors on Patong beach, along the shoreline and the area behind the vegetation line are the most popular routes for passengers. People choose both routes because they are simpler and easier to connect with other areas than any other routes. However, it also makes both areas more crowded than others. Thus, the thoughtful design of the access route can help to control the congestion of passengers on the beach.

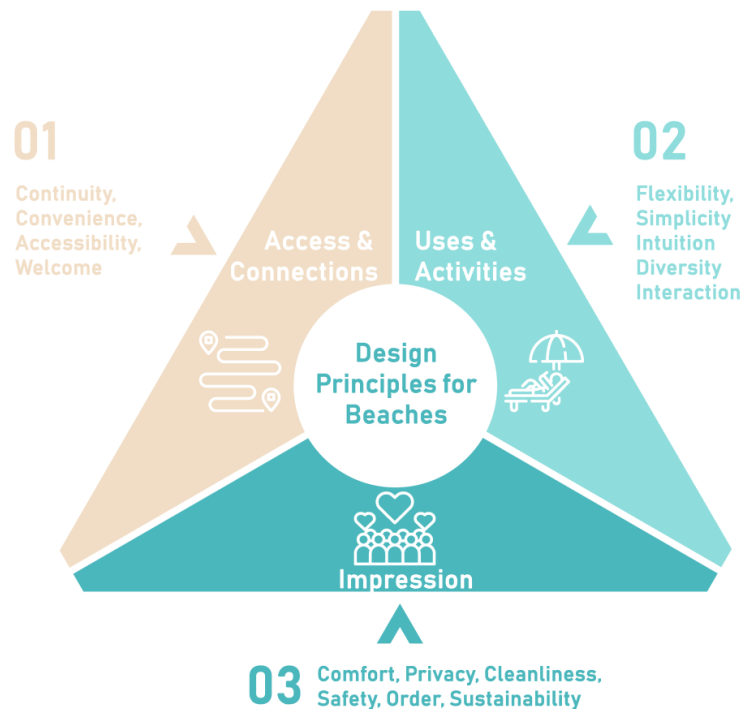


Figure 41. Design principles for beaches (Siri-udomrat, 2018)

2. Uses and activities

This principle is created according to the freedom of action, appropriation, and modification dimensions. People come to the beach to use its space and to perform activities. The development of beach design that concerns this principle can offer the most beneficial beach space for people. Therefore, five significant aspects to uses and activities on the beach consist of flexibility, simplicity, intuition, diversity, and interaction are presented below.

- **Flexibility:** the space that is able to be modified usually gains better attention amongst users. The beach is the natural space that has been altered to suit human's interests and needs. Therefore, the beach is quite flexible in terms of use and can offer various kinds of activities to its users.

- *Simplicity*: this aspect explains that the simpler the better of the design on the beach space to people. Signs and symbols should be notable and straightforward to the audience, while other artefacts should be created as clear as possible to support people's activities and to avoid unnecessary confusions and conflicts.
- *Intuition*: the affordance between space and people can evoke people's intuition on that space. For instance, the existence of wooden logs on the beach makes some people want to sit on it. The affordance of logs to people creates another activity on the beach. Hence, the design of artefacts on the beach is also significant to people's perception and the creation of activities.
- *Diversity*: beach usually gains various kinds of users since it is reserved for the public. The diversity of beachgoers influences the use and activity of the beach. Some people may like to engage in passive activities e.g. sunbathing, while some look for more active exercises e.g. running. Therefore, the availability of activities is the key to enhance diversity on the beach.
- *Interaction*: humans are by nature social animals. Although many beach users seek for privacy, others might want to enhance their social interaction on the beach. However, few activities on Patong beach are actually created to support sociability in beach users. Thus, a strategic plan to promote social interaction such as the daily beach exercise can be applied to enhance tourists' satisfaction as well as local economic.

3. Impression

The positive impression of people to the beach is as important as the two prior principles. The good access and diversity of activities can impress people on their first visitation but the impression can influence the return of tourists and the settlement of locals. In addition, the corporate disposition practice from the municipality and locals will play an important role since this principle is greatly related to beach management. Hence, six features related to the impression are listed and explained below.

- *Comfort*: the comfort of people on the beach can be met via many aspects. The sufficient sunlight, as well as shaded area, is offered. The availability of seating and toilet are also the main components to enhance the comfort of beach users. In addition, the proper use of artefacts such as chairs and umbrellas to provide more shaded space can also heighten people's comforting experience.
- *Privacy*: many tourists come to the beach and expect to reach solitude during their stay. However, Patong beach is usually busy and hard to find any private area. Furthermore, some actions from locals like overselling goods and services also disturb tourists' privacy. Thus, the movement of locals is important to create a proper space for one's solitude and raise one's satisfaction.
- *Cleanliness*: although cleanliness is crucial for ecological and sociocultural dimensions of the beach space, littering still one of the main problems probed on Patong beach. The increase of garbage spots, as well as local supervision, can help to enhance this feature. Educating people through some activities can also apply to enhance beach cleanliness.

- *Safety*: beach already owns many features that enhance people's sense of security. As an example, any events happened on the beach can be noticed easily because of the openness of the beach space. However, human intervention to space also appears in many forms of activities and benefits to the safety of people. The user-friendly designs of artefacts e.g. smoking areas or ramps for disabilities as well as the presence of lifeguards and police ensure the safety concern of the state in beachgoers.
- *Order*: this feature is highly involved with the safety and cleanliness aspects since the space can be in order easily when it is safe and clean. Hence, the use of signs, artefacts, and local corporations can help to steer people's behaviors to make the beach more organized.
- *Sustainability*: the on-site power of locals over the state is shown in the result. Thus, giving authority to support local disposition under the state's supervision would make the way towards sustainability in beach management. Besides, encouraging both tourists and locals to aware of the impact of their activities to the beach environment will also useful to beach sustainability and people's impression.

The design principles are created to be the preliminary guidelines for further beach development. Each principle shows the significant relationship between the beach users' activities and the beach environment and how to embrace it. In addition, empirical research should be conducted on any beach that wishes to apply the principles to the scheme in order to ensure that the principles are suitable on that beach.

6. DISCUSSION

The discussion starts with beach as a public space: the individual's use perspective (6.1), followed by the role of artefacts on space negotiation between beach users and with the state (6.2). Finally, another step further: the application of design principle on Patong beach (6.3) is discussed.

6.1 Beach as a public space: the individual's use perspective

This research has been presented beaches as a public space that can be accessed by the majority of people. However, the public-private precinct of beaches especially in tourism purpose is still unclear and hard to measure. According to the standard of publicness (Németh & Schmidt, 2011), most beaches are known as public and managed by the government with collective users rather than being under private control with limited access (Cartlidge, 2011). As an example, the public can freely access the beach in Chile until the dry sand area. Meanwhile, the access to some beach areas using for ports, conservation and aquaculture is limited to the public (Kingdon & Garrison, 2016). Nevertheless, the same public standard in Chile cannot be applied to other beaches that accessing priority is given to others but the public. For instance, the shore in Massachusetts is privately owned till the intertidal zone and access is usually allowed for hunting, fishing, and navigation (Kingdon & Garrison, 2016). The publicness scale can be beneficial to investigate the reality of privatization on the organization level. However, the major focus of this study is the individual level of privatization so other standards must be applied.

As already mentioned, most public spaces are noticed to be in urban settings in which space users usually receive concerns in the design and management process (Gehl & Svarre, 2013). Although beaches are also known as the public space, the certain standard should be applied to ensure this thought, especially on the personal level. According to the concept of human dimension of public space from Carr et al. (1992), a good space should be able to satisfy basic needs of human (comfort, relaxation, passive and active engagement, and discovery). Patong beach offers maximum comfort to visitors from the sunny days along with the shade areas (e.g. umbrellas and trees) during its peak season. The seating spots can be anywhere on the sand and safety aspect is met from its open feature. Nature of the beach definitely enhances the sense of relaxation and discovery within people. In addition, several activities both passive (e.g. watching people) and active (e.g. selling food) constantly happen. Hence, the needs of space users are fulfilled by the characteristics of the beach itself with also the help from human interventions. It can be either said that nature is a skillful public space designer or basic needs of people are drawn from natural space features. Since most of the elements to human needs in public space from Carr et al. (1992) seem to be discovered effortlessly in the human-nature interactions.

Those delightful elements are difficult to find in the cities that a priority is given to industrial and economic development. Thus, the majority of urbane loss touches with nature and the design aspects of needs in public space respond to those demands. However, it can be argued whether the nature-based idea is also suggested to the features of rights and meanings in public space. Due to those two aspects are also considered crucial to creating a good public area. In

my view, the rights and meanings in public space (Carr et al., 1992) are more related to the social and cultural rather the natural criteria. Besides, the features of rights and meanings cannot occur in the space without elements of basic needs. For instance, a person is supposed to reach a certain point of comfort and relaxation in that space. Then either passive or active actions that can also meet one's sense of discovery are performed. A similar situation can be applied in the concept of meanings and connections, the space that lack a sense of comfort and discovery can hardly create meanings to individuals or groups. Imagining a beach with no shaded area and full of rocks that people are not able to relax from the sun and sit properly. They decide to not enter the beach because their needs to sit comfortably are not meet. Thus, the right to access is denied and the connection is yet built.

Patong beach tends to meet the needs of beach users and offers sufficient materials for people to build and negotiate rights on its space. However, meanings and connections are yet investigated and the conclusion is difficult to make just from the field observation. Consequently, the study of individual use of the beach is helpful to discover the significance of the beach as a public space. In addition, a psychological-based study in beach users should be done to probe the connections between human within the space and between human and space.

6.2 The role of artefacts on space negotiation between beach users and with the state

According to the result, materiality is noticeably important for rights negotiation on Patong beach. The phenomenon simply happens on

an individual level. People arrive at the beach and start putting their items to declare territory before doing anything else. Those who come after notice the space that is already occupied and continue finding other spots that are available. Proshansky et al. (1970) indicate that this appropriating practice often reflects privacy and territoriality behavior. However, personal items not always assure the spots for everyone. For instance, the beach volleyball group who moves tourists' belongings out of the space they wish to play the game. This behavior shows that the continuity of space claiming and modifying practices could evolve the space into a 'third place' (Pine & Gilmore, 1999), while the habits of individual or group turn into an ownership behavior (Carr et al., 1992). Nonetheless, the power of ownership or disposition on the site reflects less control over the artefacts. According to the observation, locals' items like wooden furniture are allowed to be engaged by tourists. In the meantime, tourists would not let anybody but themselves to touch or move their objects on the beach.

Certain groups of tourists usually come to the beach early to engage spaces under the shade along the vegetation line. Thus, the tree shade is not used as a tool to claim space but influence the decision-making of beach users and also act as a space negotiator. In other words, the tree shade is a non-human actor on the beach that cannot be applied to appropriate space because it is immovable and belong to nobody. The shade engages certain spaces of the beach that can be noticed by human and wherever the shade goes people choose to either follow or avoid it. This event can be explained via Gibson Affordance concept (1977) that the shade performs its daily practice and people find the meanings and react to its affordance. In addition, people could react differently rely on one's motive and

capability towards the tree shade which is considered as a trigger (Fogg Behavior model, 2009). Tourists who wish to get tanned must see the shaded area as an obstacle, while those who prefer to stay away from the heat are certainly comfortable with the shaded spot.

Material settings are not widely developed to negotiate space just among individuals since private sectors and the state also declare their power via using artefacts. Most of the permanent objects such as ramps, signage, and flags are on Patong beach to guide people activities. Therefore, people might behave differently without those items. Nonetheless, some resistances from individuals particularly tourists happen towards those forces. As an example, few people swim in the no-swim zone indicated by boundary markers (flags and line buoys). Hence, the markers do not achieve the result that they are designed for. The affordance of the markers informs people to either keep out or get in the area. In addition, the markers can also be seen as a trigger for those who either want to follow or violate the rules. Although facing resistances, the power of the state and private sectors on the beach space is still superior to the individuals according to the artefacts. Items from tourists and locals are mostly placed temporarily, while the items from the state and private sectors are located permanently.

Although Patong beach seems fine without any artefacts, some beach visitors still need it to enhance their experience on the beach. According to Korkamnerkwin & Promsivapallop (2016) and Patong beach reclamation (2014), many locals' businesses involve with artefacts (vendors, beach chairs, etc.) and some visitors (e.g. elderly, handicapped) need physical support on the beach. Furthermore, the artefacts are also utilized to minimize the unnecessary works of human. From the no-swim zone violation example, the situation can

be solved by the existence of lifeguards to explain people to follow the rule. However, most of the people still follow the designed affordance of the markers and swim in the swim zone, so the lifeguards are not needed. Hence, the use of artefacts on Patong beach is found to decrease workload and communication in human. To conclude, artefacts are created as the space intermediary that people either the individuals or the organizations use to negotiate the space on Patong beach.

6.3 Another step further: the application of design principle on Patong beach

After being polluted by overtourism (Cohen 1996), Patong beach is under an attempt of the Thai government to resolve the problems and restore the beach's image. Consequently, beach clean-up policy is launched in 2014 to erase most artefacts, reduce the power of the private, and bring the former stage of the beach (Korkamnerkwin & Promsivapallop, 2016). However, the reaction from locals and tourists is unfavorable and result in the return of items and events for tourism purpose. In accordance with the result of this research, people attract to artefacts, so removing them can create negative feedback. In addition, material settings of the beach also affect the way people appropriate the space and their rights on that space. Several scholars inform that artefacts have a significant impact on human activities particularly on a sociocultural dimension (Gibson, 1977: Whyte, 1980: Franck & Paxson, 1989: Fogg, 2009). However, abundance pieces of artefacts on Patong beach nowadays are still utilized inefficiently. Thus, the design principles are created from the research's finding which correlates to these conflicts around the use of artefacts on the beach. In the meantime, the concept of

rights to public space (Carr et al., 1992) reveals the reality of beach negotiation during the observation. Hence, its dimensions are also adopted in the design principles to help to enhance the experience of beach users as well as sustaining the beach environment.

The well-designed items on the beach can improve one's impression of entering the beach which is explained in the first principle, access and connections. The features and locations of artefacts can impact the individuals' sense of welcome, accessibility, convenience, and continuity to the beach. These five features are created following the physical, visual, and symbolic accesses from Carr et al. (1992) together with the concern of artefacts. The existence of artefacts as barriers makes the access less welcome and convenient, while the continuity feature may be disturbed. The access and connections principle has a direct relationship to the privatization practice. The access to beaches privatized by the state or private sectors is definitely limited. As a result, the level of accessibility in privatized beaches would be different from public beaches. In addition, this principle can be also applied to investigate the privatization stage of the beaches.

The second (uses and activities) and third (impression) principles also suggest artefacts as a tool to manage tourists' behaviors. According to Preston-Whyte (2004), beaches are the space that unites the physical attributes (material space) and human activities (cultural space). Thus, it is reasonable to have a human intervention on the material space in order to enhance the cultural space. In addition, Gehl & Svarre (2013) suggest that successful public spaces often concern about the users' behaviors and needs in their design and management. Thus, the features of flexibility, simplicity, intuition, diversity, and interaction that can be already found in the

nature of beaches are aimed to be heightened for people's needs and experiences via the principle of uses and activities. The same thought is applied to the six features in the principle of impression (comfort, privacy, cleanliness, safety, order, and sustainability). The application of these two principles is not only taken the artefacts to enhance people's experience on the beach, but the social activities are also utilized as an intervention. For instance, the interaction and privacy aspects among beach users cannot be built without the local community and the tourists' corporation. Putting artefacts on the beach may create chances to interact and keep privacy in beach users. However, the meanings of objects can be grasped differently base on the affordance between a person and the objects (Gibson, 1977). According to observation, the lifeguards are necessary when the line buoys and flags fail to keep people out of the no-swim zone. Hence, human actions are sometimes needed to clarify and guide the situation when the artefacts cannot.

Considering beach is not a homogeneous type of places for specific activities or certain people. Various events happen from different groups at different times on subspaces of the beach. The complexity of the beach environment has a significant contribution to beach quality management (Ariza et al., 2008; Lozoya et al., 2014). Each beach has its own uniqueness and also needs a different management approach. As an example, the principle applied to Indian beaches cannot be the same as to beaches in Sweden due to the difference in laws and the level of publicness (Kingdon & Garrison, 2016). In order to apply the principle taken from findings on Patong beach to other beaches, empirical research should be done to explore the current situation and the feasibility in the future.

7. CONCLUSION

The thesis explores the interesting phenomenon based on the belief that an individual user of the beach space is important and needs better attention. Besides, the unclear public-private realm of public space that often leads to privatization and conflicts between multi-actors on the beach is also concerned. Therefore, three research questions based on this approach are answered below.

RQ1: How do rights in public space constituting from beach users' activities impact the beach environment at Patong beach in Phuket, Thailand?

To answer the first research question, the five dimensions of rights in public space concept from Carr et al. (1992) is applied. The results from the observation show that people's activities have a significant effect on the beach environment. The material space is impacted when both tourists and locals appropriate any area (e.g. putting umbrellas and towels) or modify any substance (e.g. building sand models and a stage) on the beach. Meanwhile, activities of people also affect the beach on the cultural dimension. The excessive or limited freedom of action is one of the most prominent issues and usually occurs between locals and tourists. Claiming and modifying the space can also influence the way others use the beach e.g. the giant swing that turns the regular beach area to the popular photography spot. Nonetheless, this study finds that the disposition of the state and private sectors has the ultimate power above all dimensions when it comes to space negotiation.

RQ2: How does the role of material settings influence beach users' activities to constitute rights in public space at Patong beach in Phuket, Thailand?

The findings from the observation prove the theories from Gibson (1977) and Fogg (2009) that materiality has a meaningful influence on people's activities. Furthermore, the influential role of material settings can be divided into two main categories: the artefacts used as a tool to negotiate the space and the natural settings that act as a space negotiator. On one hand, artefacts are applied to restrict or allow the presence of certain people's activities on the beach space (e.g. signage, fences, flags, etc.). Most of those items are locals and rather perpetual, while tourists' items (e.g. towels and bags) are temporary. In addition, the material is unnecessarily tangible as long as it can be efficiently used as a tool to negotiate the space (e.g. music). On the other hand, unlike other materials on the beach, nature is regarded as a space negotiator along with people.

RQ3: What kind of design principle can be drawn from the constitutional rights in public space through beach users' activities at Patong beach in Phuket, Thailand?

The design principle is created according to the finding and relevant theories aiming to improve beach design and management. The use of artefacts and the concern of social activities as well as local disposition are applied in the principles. Lastly, the ultimate goal of the design principles is to enhance the beach environment and beach users' satisfaction.

To conclude, it is apprehended that human activities can generate a significant impact to the beach environment via space negotiation practice. Moreover, those activities have material settings as the main influence. Hence, this data can be useful for the government and involved private sectors e.g. planners. It is also suggested to conduct a similar study at other beaches in the future.

8. RECOMMENDATIONS

In this section, first of all, practical recommendations (8.1) are given about the application of the design principles in the research area. Furthermore, recommendations for future research (8.2) are shown in the following section.

8.1 Practical recommendations for the research area

This section demonstrates cumulative thoughts drawn from the results and the design principles as practical recommendations. It offers a tangible and flexible idea that can be applied specifically to Patong beach but also possible to be modified to any beach tourism scheme. The recommendations are presented to help to enhance the beach environment and also to retain tourists' experience as well as locals' quality of life on the beach.

1. **Entry points are the first impression** as it can be designed to control the number of tourists and to get people's attention before entering the beach.

From figure 42, the numbers 1-4 in the circle are used as indicators to define potential use of a different type of access points. Point 1 and 4 are open so that people can enter anywhere, while the entrances at point 2 and 3 are limited. Controlling people at point 2 and 3 are easier than point 1 and 4. Nevertheless, the chance that people will disperse around the beach is higher from access point 1 and 4, while point 2 and 3 can result in congested behavior in people. Besides, point 1 and 4 are better for safety reason. In case of accident or natural disaster, people do not overcrowded at one

exit like in point 2 and 3. However, limited entry points benefits to announcement signs or advertisement boards than open space with alternative access choices. The perspective of people is confined when entering the beach space so there is a better chance that they pay attention to the signs.

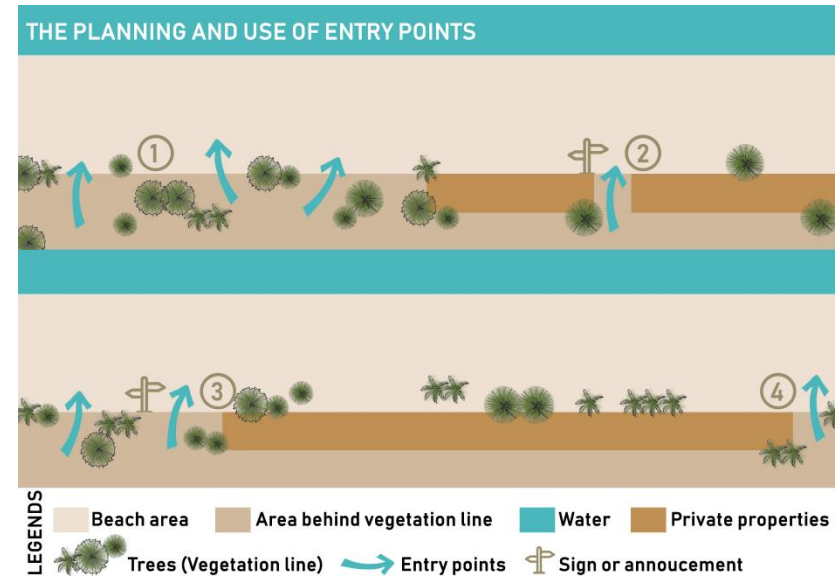


Figure 42. the suggested planning and use of entry points (Siri-udomrat, 2018)

2. **Prominent and simple warning signage** to reach a greater audience. The design and location of signage are the most concern aspects to gain people's attention.

According to figure 43, the before and after version of signage illustrates that design matters to send message to audiences. The one on the left side is the actual sign on Patong beach and the right one is the redesign version. The present sign has lots of texts in

different sizes along with logos on top, white background and a big photo of used cigarette. All of those features make the sign less noticeable and less attractive to read. Besides, the picture of used cigarettes which is the most notable thing on the sign sends an unclear message. Hence, the right one has fewer texts with only clear picture and red background to gain better attention.

Moreover, the location of the signs and symbols is also important as stated in the prior section. Putting signage at the entrance strikes higher opportunity to reach the crowd than behind the trees. Not only the smoke-free sign should be redesigned, but other signage and warnings are also needed reconsideration for its design



Figure 43. the suggested redesign of a smoke-free sign (Siri-udomrat, 2018)

3. **Using artefacts as a tourist management** people tended to gather around local settings like beach chairs rather than being isolated. Therefore, the layout of local facilities can impact the image and use of the beach.

Owing to the observation, people usually stay on the sand around beach chairs and along the vegetation line with local settings. Most of Patong beach users prefer to cluster together rather than being alone. Thus, this research proposes that the way local facilities are

on the beach. In figure 44, two models illustrate the influence of different local settings' layout on the settlement of the majority of

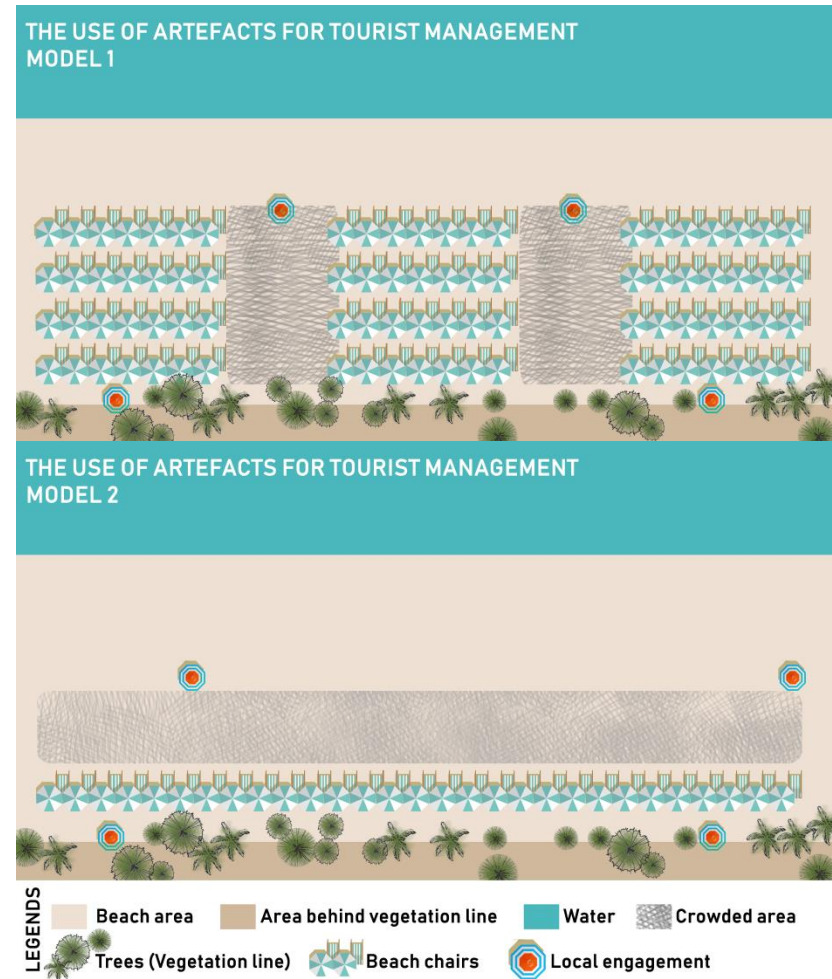


Figure 44. the suggested models of using artefacts for tourist management (Siri-udomrat, 2018)

tourists. According to model 1, the beach chairs are set in several small rectangle zones with the engagement of locals (e.g. chairs and umbrellas set as a booth for their services) in between. Tourists will eventually assemble on the space between beach chairs. At the same time, model 2 shows beach chairs that organized in a single row along the tree shades with local services in the back and middle of the beach. Thus, people will end up engaged in the area in front of the chairs yet no further than the local settings. This suggestion can be applied when some area of the beach need to be empty for preservation, restoration or other reasons.

4. *Promote activities that support social interactions* between beach users. This aspect can be beneficial to local economic and tourists' sociability.

Although it can be argued that people come to the beach mainly for relaxation and not communication. However, it cannot be denied that humans are social animals by nature. Tourists' satisfaction, local tourism revenues, and local-tourist relationship can be developed by using this approach. For example, morning exercise on the beach can be arranged every day by locals. During the activity, ground rules of the beach can be introduced by lifeguards or any advertisement e.g. special events or workshops can be announced. The local-tourist interactions will be enhanced during this moment, while broadcasts are made for the state and locals' benefits.

5. *Official community disposition* an agreement can be made between the state and locals to endorse and control local authority and responsibility on the beach.

The ultimate power on Patong beach currently belongs to the state. However, locals perform several resistances via appropriating and modifying practices. Thus, offering more authority for locals to take care and be a part of the decision-making of the beach will enhance locals' trust as well as lighten the workload of the state. Although community-based management seems to be an approach towards sustainability, the supervision from experts and the state is still required. According to the local-tourist conflicts that constantly happen from the space appropriation practices, the role of local may need better discipline and well-considered agreement.

6. *Enhance environmental awareness* among beach users via tangible and practical means such as monthly events.

According to the observation, the majority of people are not aware that their behaviors can have negative impacts on the beach. The main problem is the lack of basic knowledge so a long-term method like educating people should be applied. Activities like workshops or environmental-based events can also be held to develop awareness on beach environment preservation amongst locals and to generate basic understandings for tourists. However, the most effective way for a short-term execution would be serious fine and inspection to those who violate the rules.

8.2 Recommendations for future research

As a continuation of this study, various suggestions can be made for future research about people activities on the beach and how it can affect the beach environment. First of all, further study on space negotiation activities on Patong beach should be conducted. Other methods e.g. interviews and surveys can be applied to gain a better

idea of what people think about something related to the topic. For instance, surveys can be made and ask people whether they notice the smoke-free sign then it can help supporting or contrasting the findings from the observation. The difference of time and season also matters. The research can conduct at nighttime or off-peak season to obtain better understandings of the phenomenon.

In addition, other beaches in Phuket such as Kata and Karon can also be investigated to see whether there is any difference or similarity to Patong beach. The comparison of outcomes can be made for the next step of beach research and development scheme. Extending the study to beaches in other countries should also be considered. As already mentioned in the latest section that every beach has its own characteristics, thus, different management plans are required. In many beaches e.g. Jonas Beach and Riss Park, two large beaches in New York, groups with different demographics using particular parts of beaches are being aware of (Carr et al., 1992). Hence, the existing data of each beach, as well as regulations, should be taken into account while conducting the study.

Despite the concept of rights in public space is extensively applied in this thesis, there are two more factors from the human dimension of public space theory: needs and meanings that should be explored to see the connection of all three factors under the main concept.

Lastly, the experiment based on the design principles should be carried out as a testing phase on Patong beach. For example, the improvement of signage according to the principles can be made and the observation can be taken to check whether the change of signage can actually alter behaviors of people on the beach. Then

the outcome of the experiment can be used for developing the next version of the design principles.

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APPENDICES

Appendix 1: Observation notes

An observation note for one day on each area is presented below. Each note for each area represents the practice of the full note. In order to read the full note, please contact: ntysrudr@gmail.com.

Area A

- The area of 250x50 m² on Patong Beach is explored → from the end of Ruamchai road to the entrance of Soi Dr.Wattana
- The observation is divided into 3 session → morning (9-12hr), afternoon (14-16hr) and evening (16-18hr) to see different beach practices on different times of the day
- The observation point is divided into 4-6 points (the time of each session alters the location and amount of the observation points)

02.11.18: DAY 1

From 9.00-18.00 (Lunch break from 12.00-14.00)

1st point: the wooden bench along the vegetation line

1st session (9.00-9.35) → general notification: tourists that come to the area mainly for sunbathing usually occupy the space by themselves. When they go swimming, belongings (e.g. towels, sandals) are used as space occupying. The wooden chairs and tables near observation point along the vegetation line are mostly engaged by locals. Various objects such as beach toys, umbrellas, chairs, and advertising signage are tools for local businesses to occupy the space more permanently. There are several access locations to the beach, mainly from the back of observation point. REMARK: most of the beach users are with their belongings, not so many of items are left inattentively.

2nd session (14.25-14.55) → general notification: local engagements are still at the same place, tourists are slightly less than in the first session. The access locations and routes are quite busy around the observation point. REMARK: A group of people is playing beach volleyball in front of the beach

3rd session (18.25-18.40) → general notification: This area of the beach is still quite busy although the sun is already gone. Tourists usually come with food. One group of tourists plays music through a speaker while walking. About half of the people leave during the observation session. REMARK: Some items (local businesses belongings e.g. umbrellas and chairs) are taken from the area. The red flags are also one of that.

2nd point: between two red flags near the vegetation line

1st session (9.35-10.15) → general notification: Groups of locals gather around this area on the vegetation line. People often access from the back of the observation point and go along the way in front of beach chairs. Most people stay on site with their belongings. REMARK: -

2nd session (--) → this session is skipped because it is already covered from the first observation point.

3rd session (18.15-18.25) → general notification: Local groups are gone (with umbrellas, chairs, etc.) About half of the visitors leave the area during the observation. REMARK: The red flags are gone. Most of the visitors have no belongings and stay for not so long.

3rd point: In front of the first row of beach chairs

1st session (10.15-10.30) → general notification: Most people stay with their belongings. There are inflatable toys and sand castles next to an observation point. REMARK: -

2nd session (14.55-15.10) → general notification: Most of the visitors stay on the left side of the front of the beach chairs row (left side of the toys). The old sand castle is gone and the new one is created also on the left side area. REMARK: -

3rd session (18.00-18.15) → general notification: Beach chairs are kept in piles near the vegetation line. Therefore, the area is free to use for other activities, but only a few people stay in that area while most of the people stay around the front part of the beach. The Jet Skis are taken by a car, and there is a local motor cargo bike come from the area between beach chairs and soccer group, and then park in front of the observation point, then leave at between piles of beach chairs. REMARK: Two sand castles from the first two sessions are gone but there is another sand castle near the shoreline created by a family of tourist. A group of a mix between locals and tourists plays soccer on the right side of beach chairs near the vegetation line.

4th point: In front of a row of Jet Ski (first session) and in front of outdoor restaurants and bars area

1st session (10.30-11.00) → general notification: There are two groups of local Jet Ski for rent near the observation point. The first group parks their Jet Ski near the vegetation line and the second group parks close to the shoreline. Tourists mostly stay with their belongings around the

middle of the area. On the right of the observation point is the start of private tents with decorations and sitting area. REMARK: One sandcastle next to the beach chairs.

2nd session (15.10-15.35) → general notification: the location for this session is changed due to there is nothing to observe at the location of the first session as well as the sun is too strong to sit in that area. Some of the outdoor restaurants play music and some put photo point for visitors to take pictures. About half of people leave their belongings on the area and half stay. Around a quarter of people leave during the observation. Some visitors access through the restaurant area. REMARK: A group is leaving then another come at the same spot at almost the same time.

3rd session (17.50-18.00) → general notification: Only one among five outdoor bars and restaurants play music. The entry point with decoration attracts some visitors for photographing. Some visitors access through the restaurant area. REMARK: -

5th point: In front of the group of trees near the vegetation line

1st session (11.00-11.40) → general notification: people are likely to stay in the middle area of the beach. There is a big group of tourist stay under the shade of trees with music behind the observation point. Although some people stay under the shade, the greater number of people stays under the sun. One outdoor restaurant plays music, noticeably, there are no tourists stay for long around that area. REMARK: A group of beach user moves into the shade during the observation.

2nd session (15.35-16.00) → general notification: The big group under the trees still there, the number of overall beach users is less than in the first session. There are two groups building the sand castle near the shoreline. The music from the restaurant is still playing. REMARK: -

3rd session (17.30-17.50) → general notification: Groups of tourists scatter over the area except next to the outdoor restaurant (the music is already off). A group of locals Jet Ski for rent moves to the right side of the area. There are two groups of beach users play beach ping pong near the shoreline. There are more remarkable items e.g. paragliding kite and baskets. REMARK: A group next to an outdoor restaurant is leaving then the second group comes at the same time.

***REMARK: two unstructured interviewed were conducted**

1) Point 5, first session with a local vendor → he informs from his experienced that about 80% of tourists on Patong beach are Russians and they rarely support local products from beach vendors. The space on beach chairs is mainly occupied by European visitors.

2) Between session 2 and 3, I have a talk with the local owner of rental Jet Ski named Teng. He tells that in the past, beach chairs for tourists are provided from various private local businesses and occupied the majority of the beach area. Because each business has to compete to get

customers, also there is not much space for visitors who come but do not want to sit on chairs. Thus, the government decides to get rid of all the chairs. However, local businesses negotiate and yield a deal that beach chairs will be provided by the government then locals take care and make business under the regulations. As a result, beach chairs on Patong beach are divided into five zones (the observation covers two zones) and consists of twelve local businesses take care of the area. Moreover, he indicates that all outdoor restaurants and bars are located as a consequence of Patong beach opening event. After 5th November, all stalls and decorations will be gone.

Challenges: the weather, the sun is really strong especially during 14.00-16.00 / interrupt from both locals and tourists who interested in my activities / too many to observe, only one person might not get all details out of the observation as well as beach area has no distinct boundary.

Area B

- The area of 450x50 m² on Patong Beach is explored → from the entrance of Soi Dr.Wattana to the entrance of Bangla road.
- The observation is divided into 3 session → morning (9-12hr), afternoon (14-16hr) and evening (16-18hr) to see different beach practices on different times of the day
- The observation point is divided into 4-6 points (the time of each session alters the location and amount of the observation points)

11.11.18: DAY 7

From 9.30-18.00 (Lunch break from 12.15-13.00)

1st point: on the wooden log next to the smoke-free sign

1st session (9.30-10.00) → general notification: the area is quite, some people stay under the shade of the stage roof. People access mostly from the back of the observation point. The area in front and on the left of the observation point is empty. However, people stay in the area beyond the middle of the beach till shoreline instead. Locals stay mostly along the vegetation line. REMARK: A group of tourists comes from the left side of the observation point then stop at the middle of the beach for a while, then move on to the right. There is a tourist first lie down and read a book, then stand and read a book. A pile of beach chairs is transported by a cargo motorcycle from behind the observation point to the right side of the beach. Several man-made sand dunes are noticed near the shoreline.

2nd session (13.00-13.20) → general notification: It is sunny and under the shade of the roof is really crowded while the outdoor area is still some people but not as busy as under the shade. Few more decorations from local businesses such as flags and umbrellas just appear at this time. REMARK: A local waves the Portuguese flag and moves to another spot and waves it again (assumably for advertising their Jet Ski business). The observation point is quite popular for other tourists to sit on. About 5-7 people are hanging out at the area. The small sand dunes are gone.

3rd session (15.40-16.00) → general notification: The area under the roof shade is still popular among beach users. Some people stand outside the shade near the shoreline. There are some people stay in the outdoor area in front of the observation point but not as busy as under the shade. REMARK: The area around the vegetation line on the left side of the observation point, full of locals during the first session and almost empty during the second session, is now full of tourists again. A Local brings a tourist to the front of the beach to explain about Jet Ski. However, it is too close to one woman who is lying down on the sand because she gets up and gives them an unsatisfied look before lying down again. Those two men do not notice her expression.

2nd point: on another wooden log next to the local area

1st session (10.0-10.30) → general notification: There are a few people on the beach in this area and most of the people use the area as a passage. REMARK: The smoking area is quite successful since many people go there to smoke. Some tourists bring their own umbrella to sit on the beach, also they support local services. A group tour from India appears between the beach morning glory plants and local engagement area. At first, they stay there and after the tour guide finishing her talk, they spread to the front area of the beach, some are taking pictures, some are trying water sport activities.

2nd session (13.20-13.40) → general notification: A few people stay on the beach in this area. Most of the Jet Skis are parked along the shoreline. REMARK: People are swimming in the red flags zone, suddenly the lifeguard whistles and go to tell them it is not allowed. Some people still smoke in the smoking area.

3rd session (16.00-16.20) → general notification: People stay in this area is even less than the first two sessions, the beach is almost empty. REMARK: The smoking area is still popular. Some people stay on the beach come to the smoking area to smoke and go back to their spot. A big group of people stands in front of the beach to watch the launch of paragliding.

3rd point: on the lifeguard chair

1st session (10.30-11.00) → general notification: The area is not busy. Some people stay at the front of the beach near the shoreline. One group stays on the vegetation line on the right of the observation point. REMARK: The group of visitors on the vegetation is Russian. They stay under the tree shade and hang their clothes and belongings on the trees as well. Most people who swim in the sea, in general, do not pay much attention to the red-yellow flag zone since lots of people still swim in the red flag zone. However, they will not swim near the boats or any water vehicles.

2nd session (13.40-14.00) → general notification: More people are on the beach than in the first session. The group on the right of the observation point on the vegetation line is still at the same spot REMARK: many people come to throw trashes into the bin in front of the observation point. A group of tourists comes and settles next to the lifeguards' surfboard, they also hang clothes and bags at the surf for a while before putting it out. Two kids are digging holes in the sand.

3rd session (16.40-17.00) → general notification: Some people are on the beach, not really busy and no one stays around the beach morning glory. The group on the right of the observation point on the vegetation line is still there. The area in front of the beach along the shoreline is reserved for paragliding activity. REMARK: There are two trash bags (it is only one during the first two sessions) and one local comes to take metal cans from the bags. One red flag is spotted at this time (no present of this flag during the first two sessions). Locals start gathering beach chairs and pile it up near the vegetation line. Only the chairs with people are not collected.

4th point: In the middle front of rows of beach chairs (at local Jet Ski for rent)

1st session (11.00-11.30) → general notification: The area is not busy and most people leave their belongings on the beach. The front row of beach chairs is already busy while three rows behind are still empty. REMARK: -

2nd session (14.00-14.20) → general notification: More people stay on the beach in this area than during the first session mostly on the left and right ends of beach chair rows. The front row of beach chairs is busy and other threes have more people than in the first session. REMARK: The local engagement at the observation point appears (no umbrellas and chairs during the first session). Two tourists bring their own umbrella to sit under the shade on the sand. A kid put her feet into the sand hole when she is passing by. One guy walks pass in front of the observation point with music.

3rd session (17.00-17.20) → general notification: The area is busiest at this time compares to the first two sessions. People scatter everywhere on the sand while still some on beach chairs. REMARK: About ten locals start playing football (lifeguards, Jet Skis people) at the right end of beach chair rows. A group of tourists comes from the right end, taking pictures and making noise. They move along the shoreline until about in front of the observation point. A guy next to the observation point is smoking then I approach him and tell it is not allowed, so he stops.

5th point: near the vegetation line in between Chinese and Thai flags

1st session (11.15-11.45) → general notification: Most people sit on the front of the beach near shoreline while the area in the middle is empty. A group of visitors stays under tree shade on the vegetation line on the left of the observation point. REMARK: Two tourists come and settle in

the middle of the beach with a tent. One is standing and eating at the same time. A group next to the observation point plays music. Some people swim in this red flags area.

2nd session (14.20-14.40) → general notification: The area is almost empty (the sun is really strong), only a few stays on the beach. People stay mostly under the tree shade along the vegetation line, so that area is quite crowded. REMARK: The tent is still there.

3rd session (17.20-17.40) → general notification: People stay mostly to the front of the beach and a few under the trees along the vegetation line. About half of the people leave during the observation. REMARK: The tent is still there.

6th point: in front of inflatable boats

1st session (11.45-12.15) → general notification: People stay mostly to the front and far right of the beach. REMARK: A big group of tourists stays under the trees on the left side behind the observation point. Belongings such as towels and bags are left on the ground while some are hanged on the trees; also they have three outdoor inflatable chairs. A group on the right side of the observation point, a girl wants to take a picture with a shade of coconut leaf so the guy holds the leaf to make shade on her back and try to take photos. One sailboat is parked on the shoreline with an opened sail. (It is normally parked at the vegetation line with other twos). One group is drinking beers. One guy is alone with no one around him. Some people swim in this red flags area.

2nd session (14.40-15.00) → general notification: More people than the first session mostly scatters around the area. The passage behind the observation point is quite popular. REMARK: The big group under the trees is still there. The coconut leaf is left on the sand there. A group brings their own umbrella. Another group drinks beers and has an outdoor inflatable chair; one guy also starts playing with a ball. One group near the shoreline far from the observation point plays music with the noticeable but not loud volume.

3rd session (17.40-18.00) → general notification: People stay mostly to the front of the beach and a few scatter around the middle till vegetation area. Some people stand and look towards the direction of the sea REMARK: The coconut leaf is still there and is sat on by one guy. A group under the tree shade is already gone. A big group at the front of the beach covers one of them in the sand dune and another group is watching. One guy enjoys watching it so much that he suggests the group to make some fun shapes and walks to another spot to watch it. Finally, when they finish, a girl comes from another group and volunteers to make pictured for them. Two kids are playing sand behind the observation point; one goes to the shoreline area and takes more sand with a leaf.

Area C

- The area of 300x50 m² on Patong Beach is explored → from the entrance of Bangla road until in front of Impiana Resort Patong Phuket

- The observation is divided into 3 session → morning (9-12hr), afternoon (14-16hr) and evening (16-18hr) to see different beach practices on different times of the day
- The observation point is divided into 4-6 points (the time of each session alters the location and amount of the observation points)

23.11.18: DAY 15

From 9.00-16.00 (Lunch break from 12.00-13.30)

1st point: In front of local massage and braiding services

1st session (9.00-9.30) → general notification: People scatter around the area; it is busy yet crowded. Lots of people (more than half) are standing. The tents from Loy Krathong festival are now being cleaned up. Although the tents obscure access to the beach, most people still enter from the point next to the tents. REMARK: One guy walks with his music playing on a speaker from the back of last row beach chairs through the area and moves towards the front part of the beach. While he is walking, several people stop whatever they are doing and stare at him instead especially the guy who is reading and do not seem to care about what is happening around him before. There is a pole with CCTV on the corner of the entry point next to the observation tower.

2nd session (13.30-13.50) → general notification: people stay in the area is significantly less than during the morning session (The sun is seriously strong). Some people settle under the shade of tents that are still there. Umbrellas and chairs from massage and braiding services are put in a row for customers. REMARK: One woman lies down on the sand with her belongings e.g. a bag but there is nothing like a towel to indicate the long stay (she might also stay for a long period). The red-yellow flag is moved from the front end of beach chairs to further on the shoreline.

3rd session (16.00-16.20) → general notification: People stay in the area is more than in the second session and slightly less than the first session. The passages along the shoreline as well as from the access point to the back of beach chairs row are popular. The tents are all gone and now the stage is being deconstructed. REMARK: Some people swim in the red flag zone on the left side of the observation point.

2nd point: in front of rows of beach chairs

1st session (9.30-9.45) → general notification: There is no space for sitting in front of the beach chairs so I walk pass by and take a mental note instead. There are only 3 rows of beach chairs (it is normally 4 rows). The first row is 20% full, the second is 10% full, and the last row is 5% full. REMARK: One chair is rotated 180 degrees in order to get the sun.

2nd session (13.50-14.00) → general notification: There is no space for sitting in front of the beach chairs so I walk pass by and take a mental note instead. Now there are 4 rows of beach chairs (the front one is added) and the front one is not completely full. There is a gap between the main

row and a few chairs at the right end of the row. The first, second, and third rows are 80% full while the last row is 40% full. REMARK: beach toys and swim rings are moved further front to the shoreline. Two tourists on the second row of beach chairs also put their towels on the sand.

3rd session (16.20-16.40) → general notification: Busy passengers along the shoreline. The first and second rows are 80% full, the third row is 60% full, and the last row is 30-40% full. REMARK: Two tourists on the second row move their chairs out of the row. A few kids play with sand along the shoreline on the left front of the observation point.

3rd point: in front of one resort (name it later)

1st session (9.45-10.15) → general notification: The area is really crowded especially under the shade. Several people are moving from the open area to under the shade during the observation. Few umbrellas from tourists are spotted in this area. The right end on the back of beach chairs is occupied by locals for massage and other business. REMARK: One elderly tourist settles at the end of beach chairs row with his own beach umbrella and chair. The popular pose of standing people is putting hands on hip. Even though many people stay under the tree shades which are actually in front of a resort, most people leave the entrance space of the resort empty (either from knowing that they should not stay on the access area or there is no shade there).

2nd session (14.00-14.20) → general notification: People under the shade are still crowded while people on the open sand are less than during the first session and they mostly stay on the front part of the beach near the shoreline. The access behind the beach chairs is a popular route. Several umbrellas from locals that do not exist in the first session appear in the session. REMARK: The elderly man with his own beach things is still there. One tourist smokes on the beach.

3rd session (16.40-17.00) → general notification: The area is crowded both under the shade and open space especially in the middle front part of the area. Some people leave and some move to the front part of the beach. Most people use the space along the shoreline to travel. REMARK: The elderly man with his own beach things is still there. A group of local starts setting the volleyball net although no one play yet.

4th point: Under the trees on the right of beach morning glory (in front Swasana spa)

1st session (10.15-10.45) → general notification: Few people stay on the front part of the beach and some under the shade of trees. The space along the shoreline is the most popular for passengers. REMARK: There is open signage on the front part of the sand. Few people stop there to check it out. There is a security guard in front of the Swasana spa.

2nd session (14.20-14.50) → general notification: The open area on the sand is nearly empty and most people settle under the tree shades. REMARK: One group of tourists from the morning session is still in the area but moves from open space to under the shade. The paragliding is

moved from under the shade to open space for a tourist to play. The area on the front of the beach near the shoreline is reserved for paragliding activity. The open signage near the shoreline attracts many tourists (at least four people go there to have a look).

3rd session (17.00-17.20) → general notification: The open space on the sand is empty while few people stay under the tree shades. Passengers use the way along the shoreline as well as around the middle of the area. REMARK: The same Russian girl (assumably from the tour agency) walks along the shoreline towards the left. The area on the front of the beach near the shoreline is still reserved for paragliding activity.

5th point: In front of Impiana resort on local Jet Ski chair

1st session (10.45-11.15) → general notification: The space on the left of the observation point is empty with only a few people stay on the open sand and most people cluster under the tree shades. On the other hand, the right side of the observation point is busy with people scatters around the area both under and outside the shade. Along the shoreline is the most popular way for passengers. REMARK: A tourist starts covering her friend's body in the sand. Two adults sit near the shoreline and start digging sand. A local succeed selling mangoes to one guy on the sand and he is eating it immediately. A group of coconut branches next to the observation point that a local told it is for squid fishing activity.

2nd session (14.50-15.10) → general notification: The space on the left of the observation point is empty and most people cluster under the tree shades, while the right side of the observation point has more people scatter over the area but still less than during the first session. The shoreline has been moved further to the sea. REMARK: There are several sand dunes/castles in the area on the right of the observation point.

3rd session (17.20-17.40) → general notification: The space on the left of the observation point is empty with only a few people stay on the open sand and cluster under the tree shades. Meanwhile, the right side of the observation point is busy with people scatter around the area both under and outside the shade. REMARK: One local starts playing with a ball then he places it in front of the observation point (a Jet Ski booth), after that the ball falls towards the and a random tourist kicks it back and it falls again and a random guy kicks it back to a local. The sand dunes/castles in the area are still there.

6th point: at the middle of the beach in front of the massage area

1st session (11.15-11.45) → general notification: The area is busy with people scatter around the open space on the sand and quite crowded under the shade of trees. About one-third of people in the area (mainly under the shade) are sleeping. REMARK: One woman on the right front of the area is trying to squeeze water out of her swimsuit. One Russian woman in the area approaches a group of Russian tourists that lie down under the shade and starts talking to them. She has a pen and paper in her hands for taking notes.

2nd session (15.10-15.30) → general notification: The area under the tree shade is busy while on the open space is significantly less busy and about half of the people leave their belongings inattentively. There are three different types of umbrellas used in this area: locals' own umbrella put for their businesses (Jet Ski, massage, etc.), locals' umbrella for rent which tourists can pay 100 baht a day and put wherever they want (this area does not have beach chairs), and tourists' own umbrella which is smaller than first two types. REMARK: One guy is walking slowly with music playing. His activity gets lots of attention from people on the beach. The set of wooden chairs and table behind the observation point is the spot for smoking. Although no signage indicates that this place is allowed to smoke but a plastic cup full of leftover cigarettes and people constantly come for smoking eventually made this place a smoking spot.

3rd session (17.40-18.00) → general notification: The area under the shade is not as busy as during the first two sessions and several people are leaving. More people stay on the open sand space and shoreline is busy for passengers and other activities (soccer, taking pictures, and parking a car). REMARK: Two pickup cars come along the shoreline to take all Jet Skis from different companies. Few locals start playing football along the shoreline then more people join and the space of this activity is expanding.

Appendix 2: Observation maps

The maps below present the use of Patong beach on each session at the difference times (morning, afternoon, late afternoon) of each area (A, B, and C) within five days. Each map is the combination of 4-6 subareas of each main area. The maps with black lines refer to the morning sessions, the maps with red lines refer to the afternoon sessions, and the maps with blue lines refer to the later afternoon sessions. All maps below are done by hand. The digital version of each map is available on: <https://www.dropbox.com/sh/niwx97j46islyuy/AAA8MCAWTfXfSi4DUaKO1j-za?dl=0>. In order to request the hard copies of the maps please contact: ntysrudr@gmail.com.

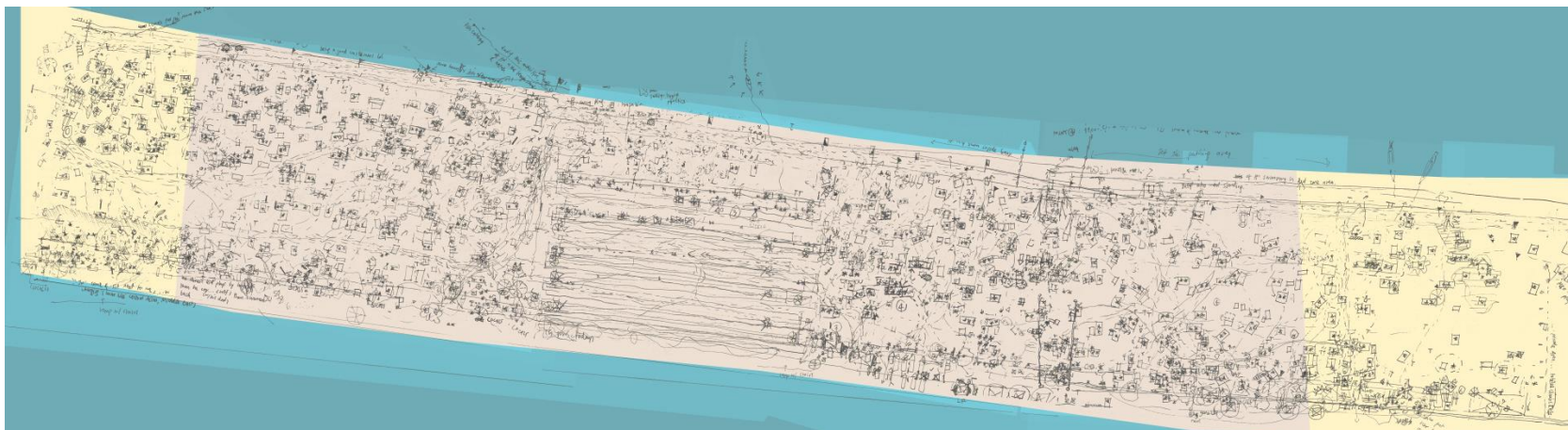


Figure 45. Area A, Morning sessions of five days (Siri-udomrat, 2019)

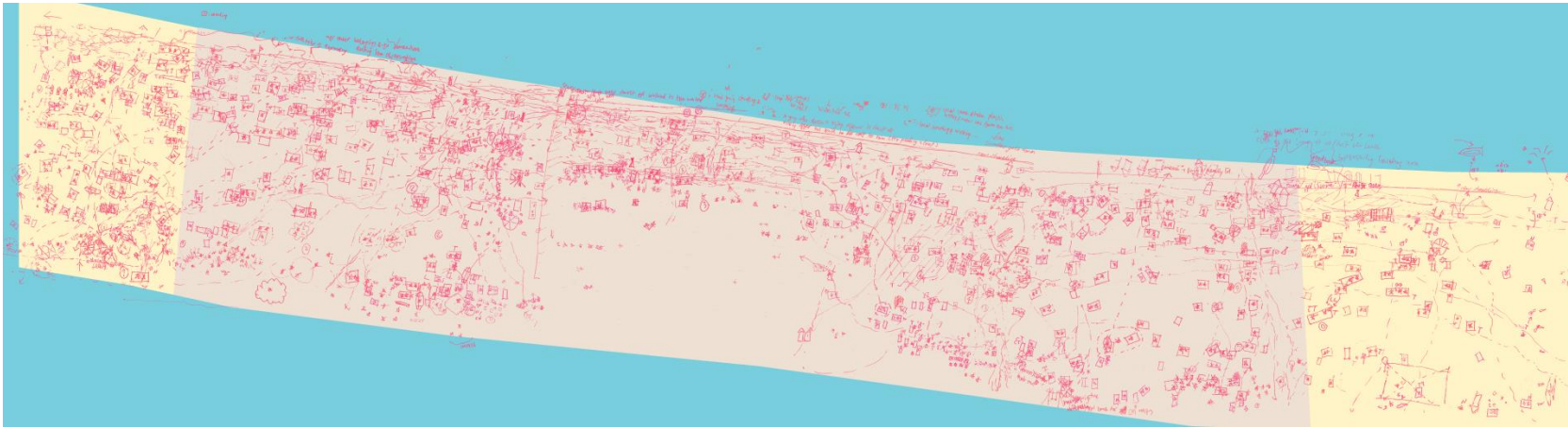


Figure 47. Area A, Afternoon sessions of five days (Siri-udomrat, 2019)

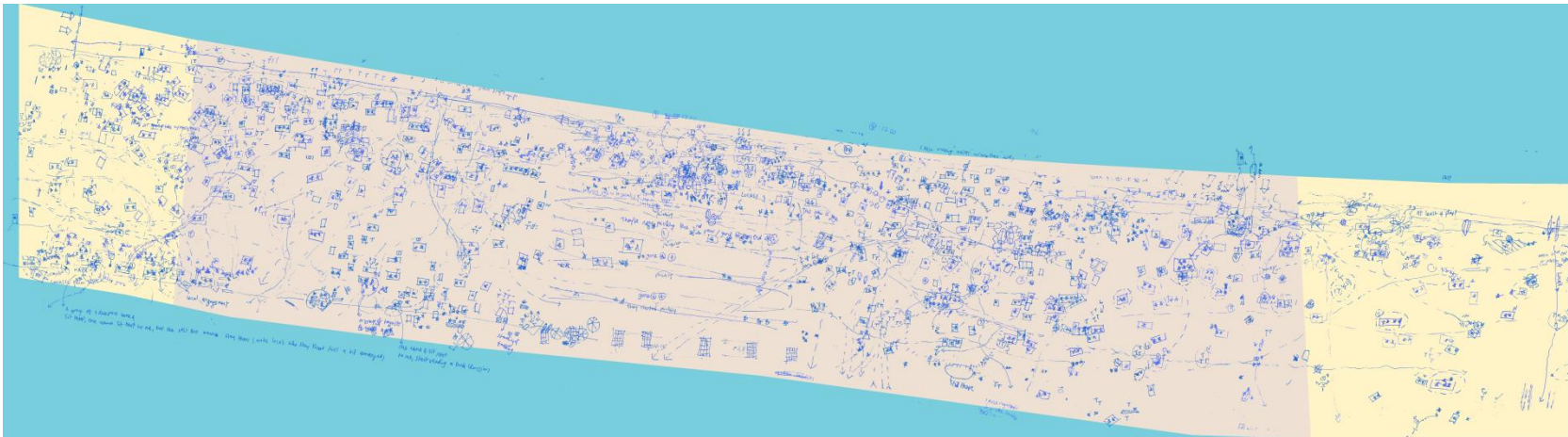


Figure 47. Area A, Late afternoon sessions of five days (Siri-udomrat, 2019)

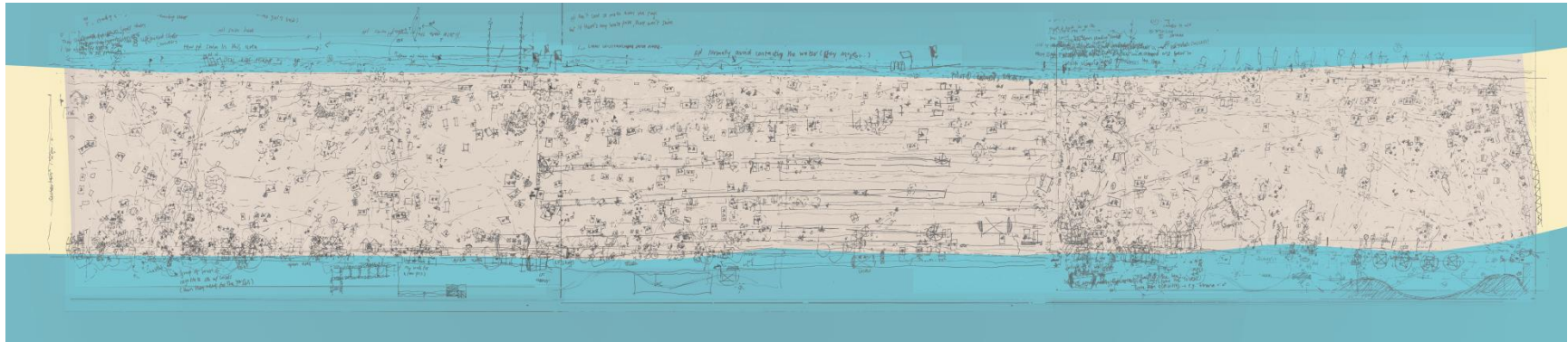


Figure 50. Area B, Morning sessions of five days (Siri-udomrat, 2019)

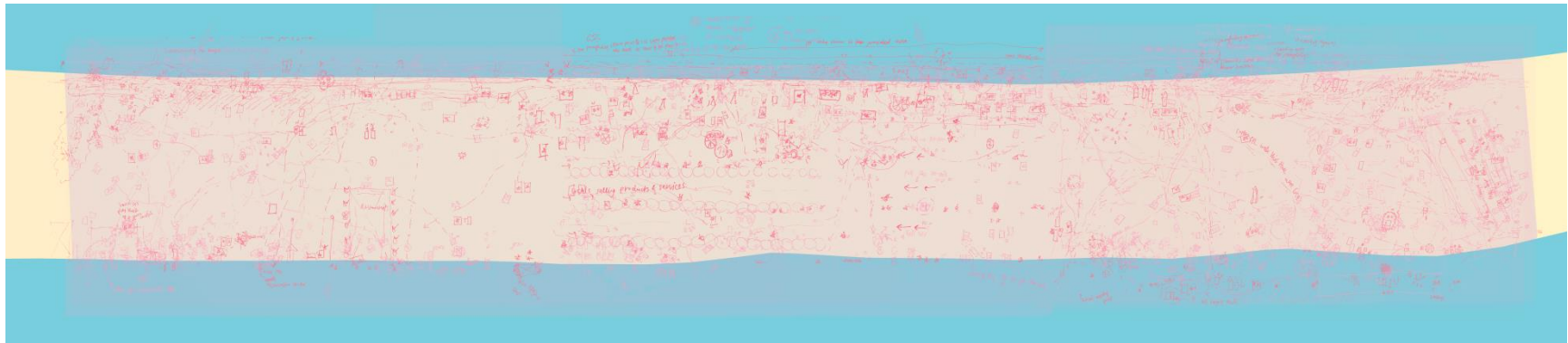


Figure 50. Area B, Afternoon sessions of five days (Siri-udomrat, 2019)

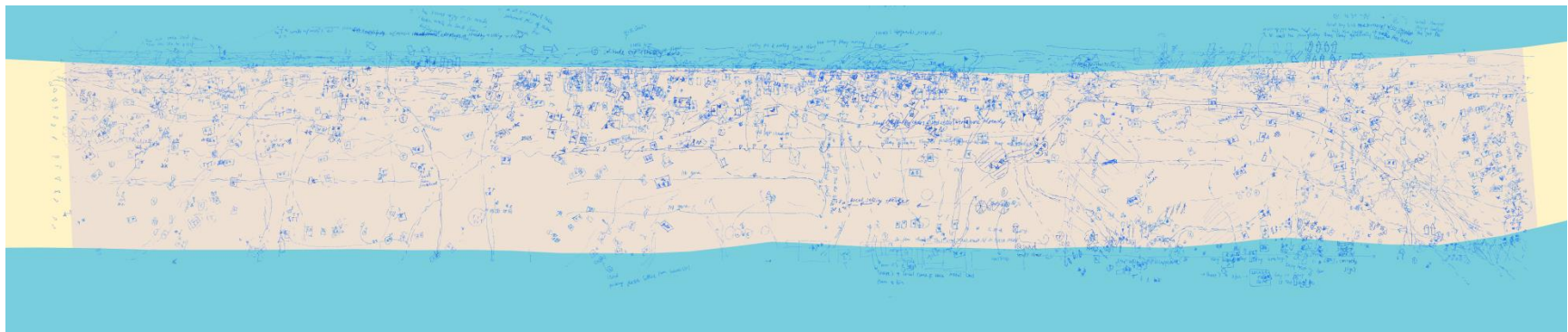


Figure 50. Area B, Late afternoon sessions of five days (Siri-udomrat, 2019)

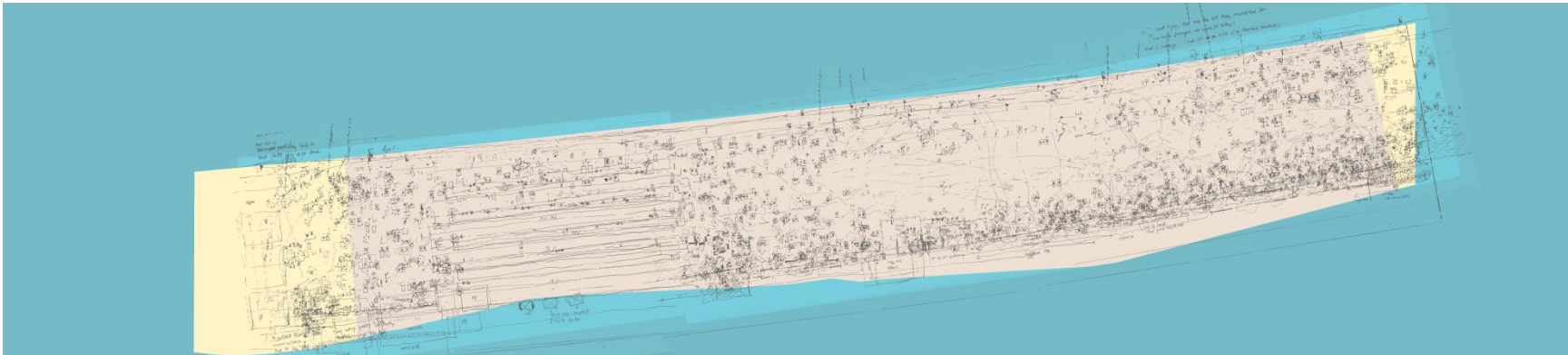


Figure 53. Area C, Morning sessions of five days (Siri-udomrat, 2019)



Figure 53. Area C, Afternoon sessions of five days (Siri-udomrat, 2019)

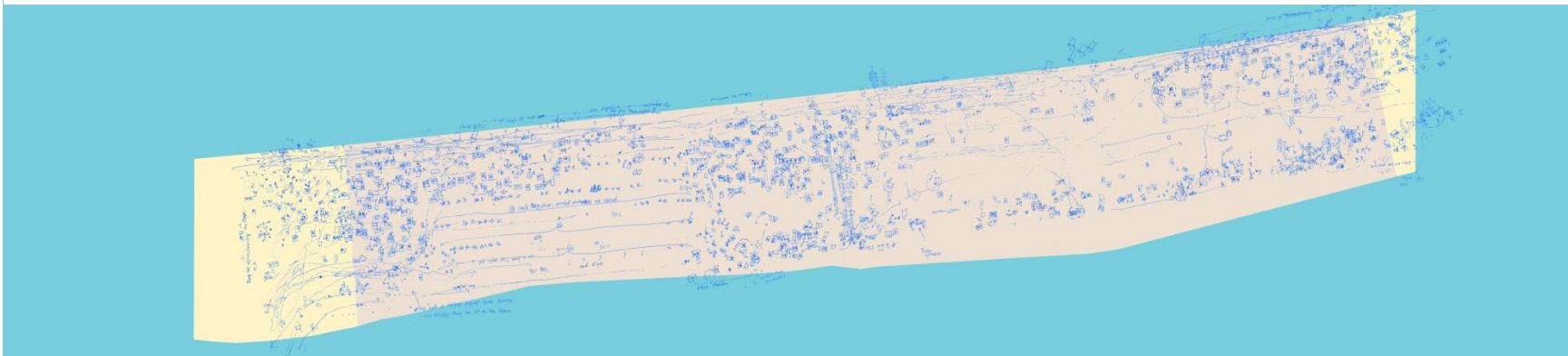


Figure 53. Area C, Later afternoon sessions of five days (Siri-udomrat, 2019)