CULTURAL LANDSCAPE OF HOT SPRINGSTOWARD HEALHT TOURISM AND RECREATIONIN KANCHANABURI, THAILAND

By
MS. Nuntana LADPLEE

A Thesis Submitted in Partial Fulfillment of the Requirements
for Doctor of Philosophy Architectural Heritage Management and Tourism
(International Program)
Graduate School, Silpakorn University
Academic Year 2020

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โดย
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By	Nuntana LADPLEE
Field of Study	Architectural Heritage Management and Tourism (International Program)
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MS. NUNTANA LADPLEE : CULTURAL LANDSCAPE OF HOT SPRINGSTOWARD HEALHT TOURISM AND RECREATIONIN KANCHANABURI, THAILAND THESIS ADVISOR : TIPPAWAN TANGPOONSUPSIRI, Ph.D.

The dissertation examined the significance and focused two hot spring sites: Hin Dad and Lin Thin hot springs in the watershed called '*River Kwai Noi Watershed of Thong Pha Phum*' in Kanchanaburi. The study connected between physical environment factors and socio-economic factors. Natural settings are physical environment factors which involved waterscape or/and landscape, animals or/and plants, and topography. Social settings are socio-economic factors that related to accessibility, community and culture within Thong Pha Phum, Kanchanaburi. Both natural and social settings around the hot springs determine good living environmental conditions for community that have the quality of health tourism and recreation in the area. Using its own advantages of natural and social settings, it may become the driving force of health tourism and recreation with concern on sustainable tourism development. The main purpose was to investigate the potential of the hot spring cultural landscape to cater for health tourism and recreation in Kanchanaburi. There were four research objectives: (1) to gather historical development of hot springs as tourism destinations in other continents, (2) to identify settings where natural hot spring and its surroundings are integrated in health tourism and recreation, (3) to explore the cultural landscape of hot spring as a tourism resource, and (4) to propose recommendations for sustainable development of hot spring destination toward health tourism and recreation. The significance was identified through five values: aesthetic, historic, scientific, social and spiritual values. The research studied by combination tools of qualitative research methodology: field study, semi-structured interview, focus group and participant observation. The author's personal interest on hot spring and spa sectors may motivate its tourism industry in some degree and gain more useful information to drive Thai hot spring tourism, spa business and community-based tourism as well. The *'Therapy Town'* model recommended for hot spring tourism destination could be as a signature of Thong Pha Phum or elsewhere in the future.

ACKNOWLEDGEMENTS

I would like to express my gratitude to communities and stakeholders in Thong Pha Phum, Kanchanaburi where I have pleasingly experienced throughout my research. Even though, facing COVID-19 situation during 2019-2021 sometimes disturbed my life and discouraged myself. Nevertheless, the success of this dissertation attributed to the support, inspiration and guidance from Professor Emeritus Ken Taylor, Ph.D., from the Centre for Heritage and Museum Studies, Research School of Humanities and the Arts, The Australian National University, Canberra. I also would like to express my deepest appreciation to Tippawan Tangpoonsupsiri, Ph.D. and my dissertation committee members of Silpakorn University, for their great support and precious advice. I indeed thank Ms. Thienrat Sakasuoarerk, who have facilitated me throughout the program of Architectural Heritage Management and Tourism. Importantly, I do appreciate my family members: Mrs.Winunta Ladplee, Mr.Preecha Ladplee and my sisters for their tremendous love, encouragement and understanding throughout my life, without them I would not have finished this dissertation.

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CHAPTER 1
INTRODUCTION

1. Introduction

Hot spring known historically as the first 'spa' with roots tracing back to 3,000 B.C., alongside the beginning of ancient civilizations (Erfurt-Cooper & Cooper, 2009). Ancient health and spa were frequently linked to *'natural hot springs'* and this association was often based on belief in the healing power of water. Many early civilizations were well aware of the benefits of water both heated and mineralized, the Romans, Egyptians, and Greeks engaged in bathing practices that were well ahead of their time and that then largely declined in the following centuries. The population of China, Japan and Eastern Asia, however, has long recognized the use of hot springs as a healing and health resource and their use continued throughout. In 21st century, the health tourism still continued moving in the good direction, according to the awareness of personal wellbeing, improving their health, life style management and preventive therapies on a personal level, unless facing an unexpected COVID-19 pandemics. Surprisingly, even though during COVID-19 pandemics, new '*health tourism*' trend currently reveals as '*Vaccine Tourism*' (Kucheran, T., 2021). Vaccine tourism is a part of health tourism that skyrocketing lately. More travelers around the world going to the United States to receive the COVID-19 vaccine due to slow roll outs in their home country. "*U.S. citizenship is not a requirement for vaccination, and the goal was to ensure that everyone can receive vaccines without barriers.*" (Texas Department of State Health Services, 2021). Backward to tourism trends on health, wellness and indulgence in a relaxing environment, which according to Foster and Keller (2008) began after World War II has turned into a global movement. However, there was a significant departure from the original concept of health resorts and spas that mainly specialized in rehabilitation or recovery from illness and/or injury in America. In the 1950s the pioneering work of Dr. Halbert Dunn (1961, cited in Erfurt-

Cooper & Erfurt, 2009) started a new ambitious health movement in the United States and the term 'wellness' became a catchphrase (Erfurt-Cooper & Cooper, 2009). The new emphasis lied in prevention of disease and maintenance of good health more than the cure of illness. Holistic approach employed to create harmony through alternative healing therapies such as aromatherapy, herbal remedies, detoxification, and more traditional water-based therapies. Water is a very vital element in the contemporary world of health and recreation. This research studied 'natural hot springs' where can be found around the world, which can be developed for both tourism and a source of geothermal energy. The potential use of hot springs largely depends on temperature and volume of the reservoir as well as the amount of water flow within the reservoir.

Unfortunately, Thailand hot springs tourism may be not as popular as waterfall or beach among both domestic and international tourists due to its tropical climate. Nevertheless, due to energy crisis in the 1980's, Thailand started searching for renewable energy. Many organizations collaborated for geothermal exploration. This might be called 'hunting period' that more works have been searching for hot spring manifestations and performing preliminary exploration (Raksaskulwong, M., 2011).

1.1 Statement of Research

In Thailand after the economic recession (between 1997-1999), the Tourism Authority of Thailand (TAT) has launched the strategy of health tourism to attract more international tourists. They promoted Thai Traditional health care in 2015 such as Thai massage and Thai spa together with the Thailand's Natural Hot springs campaign. The values and benefits of hot spring draw to study its significance in relations of health tourism; the natural hot spring may act as a key of successful development of health tourism to attract both domestic and international tourists to choose Thailand as their destination for health and recreation on holidays. Hence, many tourism stakeholders may enhance their tourism destination for the ideal combination of the health-care and cultural landscape with leisure activities.

Ministry of Tourism and Sports was assigned to plan and study for promoting the '***Hot Springs Tourism***' in Thailand as '***Hot Springs Village***' ***and*** '***Spa Town***' (Jumnongrasami, S., Kiratipongpiboon, T. and Chompunya, K, 2015 p.21). The working group had been formed by 6 Ministries; Ministry of Natural Resources and Environment Ministry of Interior Ministry of Science and Technology, Ministry of Public Health, Ministry of Science and Technology and Ministry of Commerce to carry on the project (Jumnongrasami, S., et al, 2015 p.24). Hot springs in some provinces of Thailand have been developed as health tourism destinations to provide health products and services for both Thai and foreign tourists. Furthermore. the decision was made at a meeting of the Committee on the Development and Promotion of Thailand to be a '*Medical and Wellness Tourism Hub*', held at the Ministry of Public Health on 1 February, 2016. Participating with Minister of Tourism and Sports and representatives from other government agencies and the private sector in the meeting.

Rising customer expectations concerning health and wellness among many groups is the foundation on which health resort and spa are building and increasing supply of facilities for the health and recreation visitors. Although reliable estimates of the annual number of people travelling to purchase health services are difficult to identify, there has been a rise in this type of tourism in the past decade. Yulian (2017) reported that Asia's medical tourism industry has undergone rampant growth, Thai government in particular promoted the country as a major medical hub of ASEAN. Tourists have visited to Thailand for a wide variety of treatments. Aside from medical treatments and curative medicines, the country is also popular for health and wellness checks, massages and both alternative and traditional medicines. Health tourism is a key component of the market strategic national plan to increase the numbers of tourism and spending in Thailand. To stimulate this sector and attract more tourists to stay longer period, this research could help expanding tourism destination to a

countryside like Kanchanaburi. This will assist local tourism stakeholders pointing out their cultural landscape hidden in Thong Pha Phum of Kanchanaburi. The hot spring cultural landscape and its associated surrounding natures will support in tourism of Kanchanaburi then further will impact on national level.

Due to landscape efficiency, it will be able to develop for meeting the criteria of Spa Town, there are 7 provinces of hot spring sites in Thailand selected to participate in '*Hot Spring Tourism Projects*'; (1) Klong Thom District, Krabi, (2) Meung District, Ranong, (3) Suan Pueng District, Ratchburi, (4) Pan District, Lumpang and (5) Fang District, Chiang Mai (6) Thong Pha Phum District, Kanchanaburi and (7) Kapong District, Pungnga, respectively (Jumnongrasami, S., et al, 2015 p.22). The Klong Thom hot spring site in Krabi has been started developing in progress to achieve the Spa Town criteria since July 2017 (The Ministry of Public Health, 2017). In Thailand, the analysis of the role of hot springs in health and recreation was inhibited by the lack of hot spring specialists to assess this resource. The limited advice of hot spring tourism management may be one of the problems toward Thailand hot spring tourism, as well as, none research has been done in terms of 'hot spring cultural landscape' in Thailand. Therefore, the author's personal interest on hot spring and spa sectors may motivate its tourism industry in some degree and gain more useful information to drive Thai hot spring tourism, spa businesses and community-based tourism as well.

Furthermore, Thai government decided to choose Hin Dad hot spring as one site of '*Spa Town Model*' among 7 hot springs around Thailand. It also expected to develop to meet international standards in the future. However, the researcher concerned about '*Spa Town*' international concept. This project will definitely raise national revenues but how the local people handle new coming things, as well as, how they retain their way of life, belief and religious practices. In addition, changing way of life may impact on the significant values. This study may help to point out their values that some locals may not realize during the field trip, as well as help alerting people to

conserve their natural and cultural values to be able to sustain hot springs and associated surroundings.

Furthermore, the researcher reviewed Thailand Hot Spring Quality Standard (2014) and not found explaining in details what natural or/and social settings should be taken part and evaluated for health tourism. It shows only criteria to measure but no guidelines in details providing for hot spring developer or site manager how to achieve highest level of standard. As well as, the researcher has seen potential that cultural landscape could be one element of standard criteria because its identity could be one outstanding point that may drive its tourism. Apart from hot spring itself, its associated physical natural environment and social settings will be other factors that drive hot spring tourism destination. However, some risks to the cultural landscape may likely be the combination of specific environmental impacts (dam, flash flood and earth quake) and commercial development pressures (hotel, resort, restaurant and tourist behavior). These may be its existing threats, on the other hand 'spa town' new future project of Government will probably come to the area as a threat if the project not systematically involving local opinions and cooperation. As a consequence, it must also understand existing levels of administrative preparedness, political will and technical know-how to apply in the future situation.

1.1.1 Research Objectives

The research question was what is potential of the hot spring cultural landscape to cater for health care and recreation tourism in Kanchanaburi? The resulting research objectives are as follows:

1) To gather historical development of hot springs as tourism destinations in other continents.
2) To identify settings where natural hot spring and its surroundings are integrated in health tourism and recreation.
3) To explore the cultural landscape of hot spring as a tourism resource.
4) To propose recommendations for sustainable development of hot spring destination toward health tourism and recreation.

This study planned the process to investigate four objectives by the workflow below:

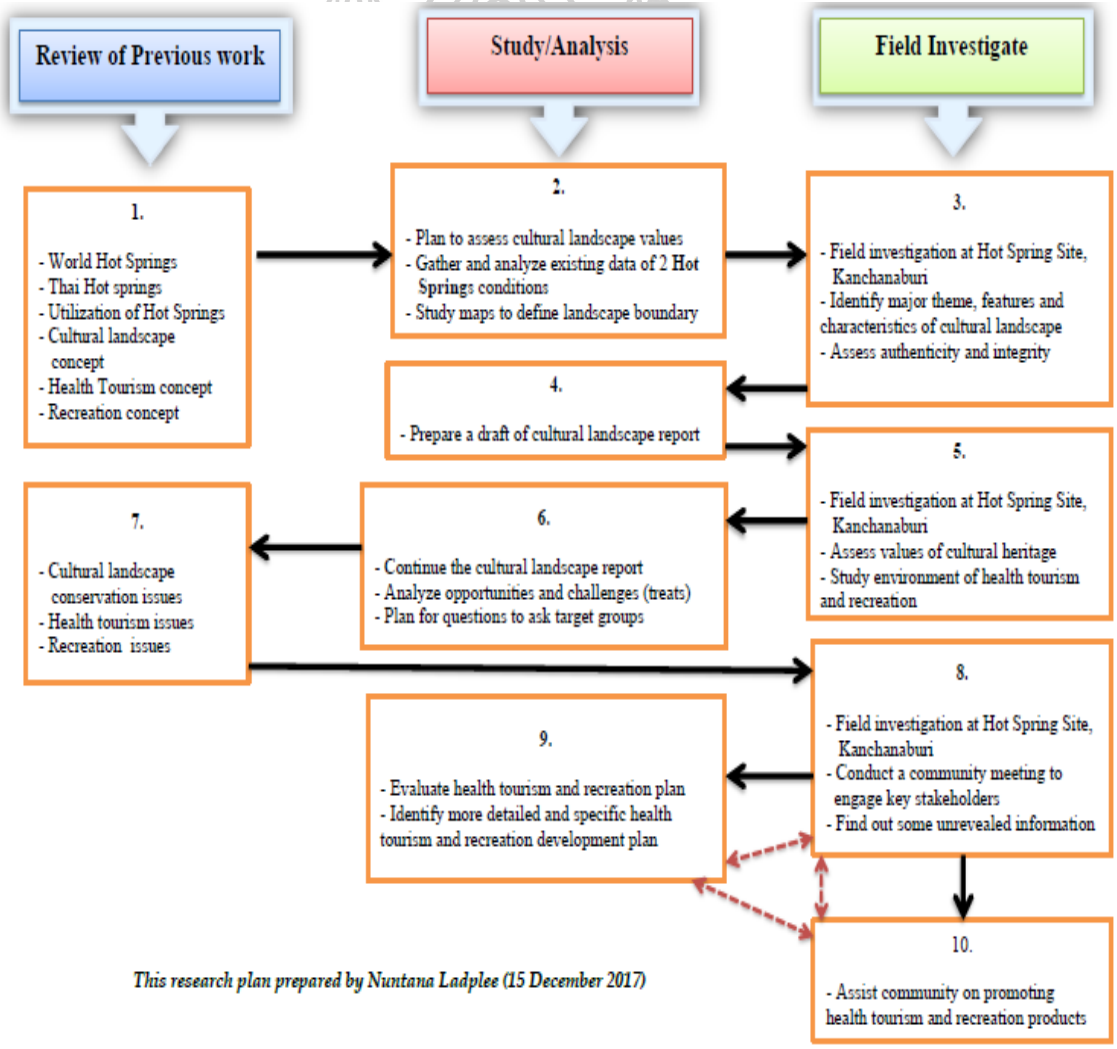


Figure 1 Research Planning
Source: Author (2017)

1.1.2 Scope of Research

The scope of the study explained the extent to which the research area was explored in Kanchanaburi. This specified the purpose of the study, the population size and characteristics, geographical location, the time period conducted and focused on.

1.1.2.1 Scope of Area

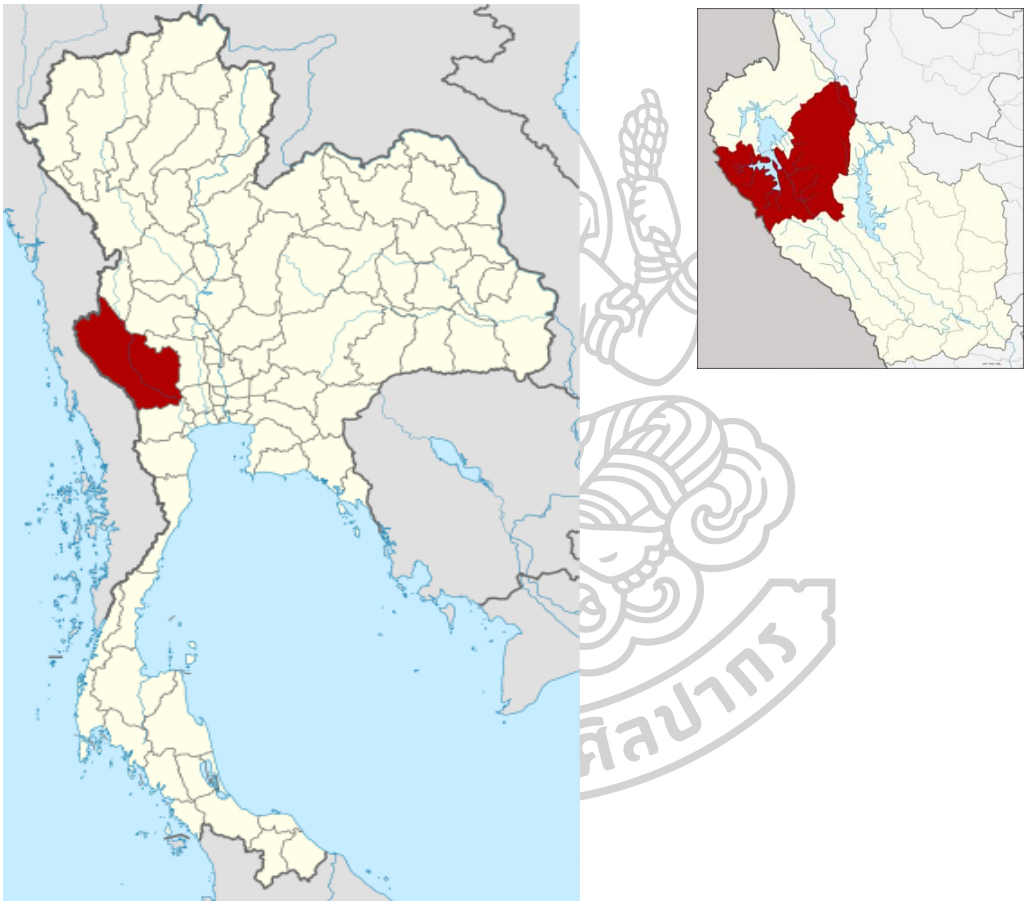


Figure 2 (Right) Map of Kanchanaburi Province, Thailand
Figure 3 (Left) Map of Thong Pha Phum District
Source: https://th.wikipedia.org/wiki/อำเภอทองผาภูมิ

In Kanchanaburi, there are seven sites of natural hot springs (Department of Mineral Resources, 2017):

(1) Hindad Hot Spring, Thong Phaphum District

(2) Linthin Hot Spring, (or Nong Jareon Hot Spring), Thong Phaphum District

(3) Wang Kanai Hot Spring, Ta Mueng District

(4) Ban Khao Pang Hot Spring, Saiyok District

(5) Ban Tong Chang Hot Spring, Saiyok District

(6) Ban Pong Chang Hot Spring (or Ban Ton Lumyai Hot Spring), Nong Prue District

(7) Ban Kaow Hot Spring, Mueng District

Even though seven hot spring sites found in Kanchanaburi province, only three sites are operating as usual; (1) Hin Dad hot spring and (2) Lin Thin hot Spring were studied in this research. However, (3) Wang Kanai Hot spring was not examined because it located in a Buddhism temple, private religious property. The other four sites are neither functioning nor operated well as tourism attractions. As a consequence, the researcher examined the significance and focused only watershed of Thong Pha Phum in Kancanaburi due to the fact after assessing the secondary data and visiting the hot spring sites in Kanchanburi, Two hot spring sites in Thong Pha Phum fit the cultural landscape concept.

In this study, the researcher selected the area that everyone can access as a proper tourism destination in the future. The watershed called 'River Kwai Noi Watershed of Thong Pha Phum' was selected. 'Watershed' is defined as the area of land united by the flow of water that drains into a single outlet, often a stream or river. The network of drainage pathways may be underground or on the surface. The distinctiveness of the watershed area is crucial to be selected as identity of land form where River Kwai Noi is the main waterways that discharge from Vajiralongkorn Reservoir (Khao Laem Reservoir) and flow down into various small rivers called 'streams'. The starting point

of scoped area was measured by the natural borders where the stream named 'U Long' begins and other relevant streams such as 'Kui Meng' stream and 'Lin Thin' stream respectively. The scope area also studied only community zones using these streams, River Kwai Noi and Watershed for their lives. The two hot springs are situated near Kui Meng stream and Kwai Noi River.

1.1.2.2 Scope of Study Content

Due to the availability of natural hot spring tourism in Kanchanaburi, the main focus of this research was to assess the cultural landscape of hot springs, Kwai Noi river, and 7 streams within watershed area for health tourism and recreation. The research neither attempts to cover the use of mineral spring water for internal consumption (drinking cures) nor examines the psychological basis for cures. The scope was to understand connections between physical environment factors (landscape & waterscape, aquatic animals and plants and topography) and socio-economic factors (accessibility, community characteristics and culture). As well as to reflect the tourists or visitors in perceiving their experiences as their health and recreation destinations. The research studied by combination tools of qualitative research methodology; Field Study, Semi-structured Interview, Focus Group and Participant Observation and ensures whole process involving local people's perspectives as necessary stakeholder. Methodology will be described further in chapter 3. This research had started since the end of 2018 before unexpected COVID-19 pandemics, therefore during collecting data between 2019 and 2020 there were some difficulties along the way due to restriction of COVID-19 situation such as grouping people and having a meeting. The alternative methods took place some times

1.1.3 Contribution of the Research

1.1.3.1 The hot spring sites will meet the health tourism standard and harmonize with Thai local culture.

1.1.3.2 Cultural landscape concept will ensure community involvement and benefit via health tourism concept.

1.1.3.3 Locals and visitors will learn to conserve their ways of life and enjoy their changing life styles via recreation concept.

1.1.3.4 Health tourism and recreation management strategy may be applied by concerning sustainability.

1.2 Definitions of Key Terminology

It is essential to introduce key terminology to guide for this research. Some of these elements can have a number of meanings which differ from country to country. Each element is clearly defined to avoid confusion of terms in this research. The main elements of hot spring tourism are:

1.2.1 Hot Springs

The International Union of Tourist Organizations (IDOTO, 1973, p.7) interpreted health tourism as the provision of "*health facilities utilizing the natural resources of a country or region, in particular mineral water and climate*" which referred directly to the use of natural hot springs in tourism. It means that geothermal springs fall into the category of natural resources, and are commonly known and defined as hot springs, mineral springs, mineral waters or geothermal waters. The differences among them are their varying temperatures and mineral contents. However, for the time being this

definition may be changed gradually. A lot of definitions are varied considerably worldwide but a simple definition from Allaby and Allaby (2003, p. 267) describes as *'a continuous flow of hot water through a small opening on to the Earth' surface. The water is usually groundwater heated at depth by hot rocks and recycled to the surface by convection'*. In this paper, the word 'hot spring' means 'natural hot spring' due to only natural ones were examined. The artificial hot mineral bathing where are imitatively built and hot water diluted with mineral-rich bath salts, are not investigated.

1.2.2 Spa

The term 'spa' is associated with water treatment, also known as balneotherapy (Erfurt-Cooper & Cooper, 2009). Spas typically offer various health treatments. Spa products are often based on regional resources, including local and indigenous treatments and traditions, mineral water sources, seas, rivers, or mountains (Smith & Puczkó, 2009).

The spa industry has enjoyed rapid growth and development in Asia, and has become an industry that is the hallmark of the tourism industry of many ASEAN member states, despite having its roots firmly in traditional healing and health care practices, which have been handed down from generation to generation. However, there is still no defining generally accepted standard of what a Spa is or what services it provides; something that is now limiting the potential for further industry growth and development (ASEAN Secretariat, 2016).

Depending upon the goal of customers, and what they are looking for in a spa experience. Below are the primary types of spas. International Spa Association (ISPA, 2012) categorized 7 types of spa as follows;

1) *Club Spa;* A facility whose primary purpose is fitness and which offers a variety of professionally administered spa services on a day-use basis. provides services in a club environment, where a membership is payable. Tend to focus on exercise to strengthen the body, plus wet areas, but also including yoga or other treatment. Accommodation is not available.

2) *Day Spa;* A spa offering a variety of professionally administered spa services to clients on a day-use basis. It is a stand-alone spa business in a house, commercial building, mall, or airport terminal. Accommodation is not available at the day spa.

3) *Destination Spa;* A destination spa is a facility with the primary purpose of guiding individual spa-goers to develop healthy habits. This lifestyle transformation can be accomplished by providing a comprehensive program that includes spa services, physical fitness activities, wellness education, healthy spa cuisine and special interest programming. Most of them provide accommodation for night-stay over.

4) *Medical Spa;* A facility that has a full-time licensed health care professional on-site, which is further defined as a health professional who has earned a degree of Doctor of Medicine (M.D.) as defined by the authorized organization.

5) *Mineral Springs Spa;* A spa offering an on-site source of natural mineral, thermal or seawater used in hydrotherapy treatments. It can be the natural or man-made hot spring or mineral spring where one can benefit from the healing waters.

6) *Resort / Hotel Spa;* A spa located within a resort or hotel providing professionally administered spa services, fitness and wellness components. Resort and hotel spa properties offer a wide variety of recreational facilities, including a full-service spa. Spa treatments and services generally complement a hotel stay or vacation activities at a resort.

7) *Cruise Ship Spa;* Spas on cruise ships provide travelers a chance to indulge in spa experiences amid the high seas. Most spas feature salons, full-service fitness

facilities, and extensive menus, with treatments offered on deck, on shore, or in the water. Some ships feature spa suites and cabins for extra comfort and amenities. Health-conscious passengers can rejuvenate on board specialty-themed cruises or voyages that offer special wellness programming.

After evaluating the above spa types, the hot spring site could be counted as *'Destination Spa'* or *'Mineral Spring Spa'*. Therefore, it is not wrong, if some international tourists or spa goers will call *'hot spring'* as *'spa'* as long as it provides other treatments available on site.

1.2.3 Cultural Landscape

The term *'cultural landscape'* has broadly been used, with different places in different contexts. The world cultural landscape has its specific meaning according to different part of the world and needed different interpretation. Here are some definitions about cultural landscape that are compatible with this research. Cultural landscapes are found throughout the national park system, where they are preserved for the benefit of present and future generations. When the national park firstly defined 'cultural landscape' as a type of cultural resource in 1994 defined below;

"cultural landscape is a geographic area, including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, person or exhibiting other cultural or aesthetic values" (National Park Service, the Department of Interior, 1994).

Recently, cultural landscape's definition of Yellowstone National Park in USA where there is a number of hot springs included in it, was updated as;

*"Cultural landscapes are settings that **human beings** have created in the natural world. They are geographic areas that have been shaped by **human manipulation** of*

natural and cultural resources and are associated with historic events, people, or activities in the park." (National Park Service, the Department of Interior, 2020).

The difference of both is adding the importance of ***human beings and human manipulation*** into the updated definition that leads its meaning even better clear. The researcher agrees and considers this updated meaning match well with the study area of Kanchanaburi, Thailand because above relationship have been seen around the hot springs and surrounding environment in Thong Pha Phum. Asian cultural landscapes also have special characteristics and features. The research had been investigating in Thailand as a part of Asia, that cultural significance was guided by **Hoi An Protocols for Best Conservation Practice in Asia: Professional Guidelines for Assuring and Preserving the Authenticity of Heritage Sites in the Context of the Cultures of Asia (2005)**.

Groups of people all over the world have their own definitions on what a cultural landscape is. This research redefined to make it simple as, 'Cultural landscape' was defined by the author '***human way of life through relationship between culture and landscape involving some period of time***'. It should generalize its definition to be able to simply assess the site without pressure on definition itself. Because the main purpose of the study was for promoting the cultural landscape as tourism destination and local community participating required during the study. To sustainably manage the hot spring sites, the researcher found the good practices from Secretary of the Interior's Standards for the Treatment of Historic Properties and the Guidelines for the Treatment of Cultural Landscapes (1996) that recommend for 'Water Features Cultural Landscapes'; Preserving, Rehabilitating and Restoring that could be a guideline for local representatives to apply within the area. This study may apply some practices in chapter 5 to the cultural landscape of hot springs and water courses within the scope area where its problem has occurred or will possibly occur.

1.2.4 Health Tourism

Health tourism is a branch of general tourism foreseeing tourists travel with the aim of receiving specific healing treatments or enhancing their mental, physical, or spiritual well-being (Chang, L.; Beise-Zee, R., 2013; Yang, J.Y.; Paek, S.; Kim, T.; Lee, T.H., 2015). Health travels can include rewarding elements of beauty, indulgence, and regeneration, and more demanding elements such as stimulating activities and sports (Laesser, C., 2011). According to several scholars, health tourism comprises a continuum of medical, wellness, and spa tourism (Hall, C.M., 2011). Medical tourism is associated with curing a form of illness and foresees tourists traveling to other countries to access medical treatments (Connell, J., 2013); wellness tourism is devoted to maintain or enhance the tourists' health and well-being through services provided by 'wellness centers' (Hritz, N.M.; Sidman, C.L.; D'Abundo, M., 2014). Spa tourism positioned in between the previous ones, focused on healing and relaxation by exploiting curative medical techniques (Smith, M.; Puczkó, L., 2014).

Different sources also highlight that health tourism services can be strengthened by some key determinants as natural resources (Ivanišević, G. Marine, 1999; Kušen, E., 2002): certain destinations, in fact, can leverage resources such as mineral waters, clean air, or a peculiar microclimate to promote health tourism and enhance the local economy. By definition, natural resources are intended as encompassing both the destination physical features (i.e., mountains, lakes, rivers, sea, forests) and their related by-products (such as local food and remedies), together with their traditional cultures and heritage (World Tourism Organization and European Travel Commission, 2018). Some works underline that natural resources constitute a necessary condition for the improvement of wellness and also for the formation of the health and wellness destination's image (Moreno-González, A.A.; León, C.J.; Fernández-Hernández, C., 2020)

To summarize, 'health tourism' defined as an activity that offers health products and services to the target market, as well as frequently takes advantage of natural surroundings and recreations, such as hiking trails, running, biking, swimming, kayaking, canoeing, meditating or eating local good food or dining in quality restaurants and so on. Additionally, health tourism tends to utilize local wisdom, tradition and culture.

This approach proposes the relationships between the various subcategories of health tourism. Two points of view can be observed in health tourism:

1) The therapeutic point of view – associated with medical tourism, that includes surgery and/or therapeutic treatment for cure, heal and/or prevent diseases;

2) The recreational point of view – which makes up what is known as wellness or wellbeing tourism, focusing on relaxation, leisure and escape from the routine (Jallad, 2000).

1.2.4 Recreation

Dictionary Definitions

Refreshment by means of some pastime, agreeable exercise, or the like. (Macquarie Dictionary)

Re-create: to renew or enliven through the influence of pleasurable surroundings; to refresh after wearying toil or anxiety, usually by change or diversion; the act of recreating or the state of being recreated: refreshment of the strength and spirits after toil; diversion, play; a means of getting diversion or entertainment. (Webster's Third New International Dictionary)

Any form of play, amusement, etc. used for refreshment of body or mind. (Collins Australian Pocket English Dictionary)

Definitions from the Literature

*'Simply defined, recreation refers to **experiences and activities chosen and pursued** by the individual in his/her free time; the basis being that the experience sought and activities pursued, in the real sense of the word, 're-creates' the individual so that he/she may be refreshed to enable him/her to resume daily obligations, whatever those may be.'* (John, A., 1986)

*'Recreation is considered as an **activity through which leisure** may be **experienced** and enjoyed but it is also seen as a social institution, socially organized for social purposes.'* (Grant Cushman and Allan Laidler, 1990)

*'Recreation is an emotional condition within an individual human being that flows from a feeling of well-being and satisfaction. It is characterized by feelings of mastery, achievement, exhilaration, acceptance, success, personal worth and pleasure. It reinforces a positive self-image. Recreation is a response to aesthetic **experience**, achievement of a person's goals, or positive feedback from others. It is independent of **activity, leisure** or social acceptance.'* (Gray D.E. and Pelegrino D.A.,1973)

*'Recreation consists of **activities or experiences carried on within leisure**, usually chosen voluntarily by the participant - either because of satisfaction, pleasure or creative enrichment derived, or because he perceives certain personal or social values to be gained from them. It may, also be perceived as the process of participation, or as the emotional state derived from involvement.'* (Richard Kraus R., 1978)

'Recreation can be viewed as personal ***experience*** *(what it does to a person), as* ***activities (the forms it takes)*** *or as an institution (the structure in which it is made available to the community). Taken yet another way recreation can be viewed as a process (what happens to an individual) and as a structure (the framework in which recreation is practised).'* (Torkildsen, G.,1986)

'Recreation is vigorous, and is carried in the open air, which makes use of the fundamental muscles and is the best known means of developing and maintaining healthy organs. Certain forms of recreation cause increased circulation, greater respiratory ***activity****, better limitation of wastes and improved digestion. It contributes to emotional stability by affording rest, relaxation and* ***creative activity****. Also give tone to the body by a healthful stimulation of the nerve centers.'* (Gulam, A., 2016)

To make it define simply, *'Recreation'* generally defined as an activity that offers refreshed personal experience during leisure time, whether indoors or outdoors.

CHAPTER 2
LITERATURE REVIEWS

This chapter is to present a review and analysis of literature pertaining to the use of natural hot springs in tourism and recreation, and to subsequently contribute to the understanding of the importance of the natural resources especially within the health tourism and recreation. The information gained from the existing literature about the tourism industry based on hot springs, including the historical and cultural background of hot spring use as well as the geological background related to water sources. The rare number of published academic tourism research covering hot spring cultural landscape, presents a considerable gap in the tourism literature, which became evident during the study. The same basic information regarding the history of natural hot springs and health and recreation was referenced or paraphrased time and again, with the same statements on its growth and usage being repeated in a number of texts and websites, therefore not adding any new or useful insights. The reviews established the current position of research into hot spring tourism. This review aims to summarize previous research and identify gaps in the literature. This indicates the inadequate of cultural landscape-based material on natural hot spring.

2.1 Review of Cultural Landscapes

2.1.1 Hot Spring

Chen, Y.J., Lee, S.H., Chen, C.Y. & Chen, Y.Y. (2013) studied cultural landscape in Wulai, Taiwan, and found that since the 1950s Wulai, originally a pristine semi-enclosed aboriginal village became an attraction with its natural resources and indigenous peoples. After that it gradually neglected its previous conditions as an undeveloped land and became a commercialized tourist space due to the long-term development. The local economy has suffered severe restrictions after Wulai became mainly a tourism spot, and it is also bound by its condition as an important water

resource for Taipei. During 1990s, the government created a series of hot spring industrial projects as the driving force of economy, expecting to use ethnic groups as the attraction to create an image of hot springs together with local aboriginal interaction. However, more crowded Wulai streets and more constructions of large hot spring sites, it inevitably degraded natural environment and habitat. The changes of architectural styles and cultural patterns were all evidences of how the tourism business model was leading to the decline of the landscape quality. The daily lives of Wulai residents have already become part of the tourism industry. The local residents hesitate about accelerating step to stop the degradation of their home and the returning to their original state of living. Nevertheless, Cao, J. (2017) confirmed that culture is the soul of tourism, and cultural needs is the fundamental driving force of tourism, so tourism process is actually a cultural experience and enjoyment. For the tourism products with heavy trend of homogeneity like hot spring tourism, the regional history and culture is the soul and characteristic of hot spring tourism development, which is the enduring vitality of hot spring tourism industry. To sustain hot spring business, Yu, T. (2015) suggested the investors need to strengthen environmental protection and properly handle geothermal water.

2.1.2 Spa Town

John, M. (2018) stated that a *'spa town'* is a township with reputable hot and cold mineral springs. The term spa derived from a town named Spa in Belgium, famous for its outstanding natural mineral springs. As a consequence, *'spa town'* usually represents Western cultural landscape. Spa towns are a reflection of historic healing centers with mineral waters before modern medicine developed. The vast majority of these towns are complete with a collection of spa features and significant architectural ensembles that includes special spa buildings such as colonnades, spa houses, casino houses, theaters, dedicated hotels, and boarding houses. The splendid bathing facilities also acted as social centers, a tradition that spread to the east and transformed to the

Middle Eastern hammam. In medieval times, western medicines were discovered but they played an insignificant role since the primitive societies strongly believed in the healing power of mineral water pools.

UNESCO (2008) City of Bath is the best example of Spa Town, founded by the Romans as a thermal spa, Bath became an important centre of the wool industry in the Middle Ages. In the 18th century, under George III, it developed into an elegant town with neoclassical Palladian buildings, which blend harmoniously with the Roman baths. The hot springs, which are the reason for the City's original development, are of undoubted authenticity. The key Roman remains are preserved, protected and displayed within a museum environment, and the Roman Baths can still be appreciated for their original use. The City of Bath representative established as a non-executive committee consisting of representatives from various organizations with interest in the site. Members represent national government, Bath and North East Somerset Council elected members and officers, surrounding Parish Councils, heritage bodies, and the city business group, resident's associations, both universities and the tourism company. It has an independent chairperson. The site is managed by Bath Tourism Plus, an independent company. The Destination Management Plan has been aimed to promote growth in value of tourism rather than in volume.

2.1.3 National Park

According to Dilsaver, L. M., (1994), the national park system preserves the natural and cultural resources for the benefit of present and future generations. By the end of the twentieth century, a global national park movement predicated on preserving scenic and historic landscapes counted 1,200 reserves worldwide. The 19th century, artist George Catlin was usually credited as the original exponent of the national park ideal in North America. It concerned at the rapid decimation of indigenous peoples and wildlife brought about by westward expansionism, Catlin proposed the creation of

"A nation's park, containing man and beast, in all the wild and freshness of their nature's beauty" during a trip to the Dakotas in 1832. The same year, Congress protected a natural feature for the first time *'Hot Springs National Reservation, Arkansas'*, for the purposes of public medicinal use (Ise, J.,1961). It seemed to be the first protection of hot springs implemented and managed by American national park. Unfortunately, Congress failed to pass any legislation for administering the site. As a result, no controls were exerted in the area, and people continued to settle there, building businesses around and even over the springs. Frome, M. (1992) by the mid-1800s, the springs were being claimed by several private citizens, and the government was forced to reestablish its jurisdiction over the area. Upon the establishment of the Department of the Interior in 1849, the reservation was placed under that department's control. Eventually the conflicting claims led to a series of lawsuits, and in 1877 the court ruled against the all the would-be private owners, reestablishing government control over the area. The Hot Springs Commission was authorized to reconfirm the boundaries of the reservation. In the same year a superintendent was appointed. Surveys were made, remaining claims were settled, and finally the springs and the mountains around them were permanently set aside as Hot Springs Reservation.

Kaufman, P. W. (1996) and Encyclopedia (2018) A newfound appreciation of rugged landscapes as natural and cultural treasures, allied with a desire to avoid the profligate commercialism that had sullied the natural resplendence of Niagara Falls, underscored the early American national park movement. Mindful of attempts by businessmen to capitalize on the popularity of the Yosemite Valley and the Mariposa Grove of Big Trees since their discovery in the early 1850s, Congress ceded forty square miles in the High Sierras to the State of California for public use, resort, and recreation in 1864. Then eight years after, in 1872, the government withdrew 3,300 square miles of rocky terrain, spouting geysers, and plunging waterfalls in Wyoming and Montana territories to create *'Yellowstone National Park'* where hot springs attached. The establishment of Yellowstone as a public park or pleasuring-ground for the benefit and

enjoyment of the people was generally regarded as the formal beginning of the national park system. While the protective ideals encompassed in the Yellowstone Act resembled the Yosemite example, the size of the Rocky Mountain reserve, together with its federal jurisdiction, proved unprecedented. The setting aside of vast swaths of land under the auspices of governmental protection represented a significant exception to the culture of acquisition and conquest that predominated in 19th century American society, although the smooth passage of the Yellowstone bill in part reflected the worthlessness of the high country for extractive or agricultural purposes.

2.1.4 Mountain Range

The religious fusion and cultural development was shaped by the lush natural environment surrounding the shrines. With thousands-year history, the spiritual traditions of the Kii Mountain Range, Japan shown as an outstanding and unique cultural landscape that blends nature and religion in a powerful sacredness, called *"Sacred Sites and Pilgrimage Routes in the Kii Mountain Range"*. UNESCO (2004), the site included Yunomine Onsen (hot spring) designated as UNESCO World Heritage listed hot spring. It is an integral part of the over 1,000-year-old Kumano pilgrimage tradition. Pilgrims performed hot water purification rituals in these piping-hot mineral waters after their long journey in preparation to worship at Kumano Hongu Taisha. Yunomine is a quaint little collection of traditional inns established in a small valley deep in the heart of the sacred mountains. The waters can change color seven times over the course of a day. Tsubo-yu onsen (hot spring), sits in the center of Yunomine Onsen. Yunomine is a hot spring village as there are many places where visitors can enjoy a hot spring apart from Tsubo-yu. The sacred Sites and Pilgrimage Routes in the Kii Mountain Range Set in the dense forests of the Kii Mountains overlooking the Pacific Ocean, three sacred sites – Yoshino and Omine, Kumano Sanzan, Koyasan – linked by pilgrimage routes to the ancient capital cities of Nara and Kyoto. The abundance of streams, rivers and waterfalls, is still part of the living

culture of Japan and visited mostly for ritual purposes and hiking. Each of the three sites contains shrines, some of which were founded as early as the 9th century. Various religious rituals and practices mainly related to Shintoism, Buddhism, and Shugen-dô have been continually carried out and still underway even now, and thus a high level of spiritual authenticity is maintained.

This extensive property is responsible from different jurisdictions and protected by several layers of legislation that permit integrated application of related measures. Basic principles and methodology for comprehensive preservation and management of the tangible cultural assets of each component parts are outlined in the Comprehensive Preservation and Management Plan in 2003. Each component part has a clear and adequate buffer zone designated under the National Park Law, the Forest Act and local government regulations. The Coordinating Academic Committee, with representatives from the Academic Committees of all three prefectures, works to facilitate proper communication and information sharing among relevant local governments.

2.2 Review of Hot Spring Tourism with Special Role of the Health Sector

The growing interest in the value of natural hot springs demonstrates the increasing importance of health tourism. Jackson (1990) pointed out that thermal baths were already recommended by Hippocrates in the 3rd century BC for the treatment of particular illnesses such as chest and back pains in pneumonia, respiratory problems, fatigue, aching joints and headaches. A resurgence of interest in recent times in the use of such springs in health resort and spa medicine has been described by Chen, Prebensen and Huan (2008), Parish and Witkowski (1994) and Stiauss Blasche et al (2000) as evident in the combination of medical and surgical treatment of diseases as well as cosmetic surgery with traditional balneology. Moreover, health tourism according to Bennett et al, (2004) and Cohen and Bodecker (2008) developed around

the separation of home-country medical care systems and treatment destinations. While natural hot spring was inevitably a subsidiary factor in the decision of individuals to seek medical treatments internationally as stated by Smith and Puczko (2008), Andijasevic and Brutolucci (2004) argue that mineral springs provide much of the post-treatment well being reported by patients in the health literature.

Geographical descriptions of natural hot springs and their geological background are further key information sources about their physical aspects as used in health tourism and recreation (Dowling and Newsome, 2006). The fact that people are attracted to natural geothermal resources for their curative powers and the therapeutic impact of their mineral content was noted by Bemstein (1996) and supported by Nahrstedt (2004) and Smith and Jenner (2000), who agree that this has always implicitly been one of the main reasons for choosing these destinations over those that do not feature natural hot springs. The reviewed literature also suggests social, cultural and religious interests have been strong motivations for the use of hot springs throughout recorded history (Bishoff, 2001; Bullard, 2004; Erfurt-Cooper & Cooper, 2009) that get along with the need to deal with the health and wellness concerns of human communities. Erfurt-Cooper and Cooper (2009) suggested that there was a great advantage by choosing a pleasant natural environment combined with therapeutic benefits of natural hot springs. These aspects have been at the core of the role of natural hot mineral spring use and the health concerns of civilizations (Hall, 2003) across Europe, Asia and the America. The practice of joint marketing or co-branding natural of hot springs with cultural or historical settings will attract wider ranges of tourists and enhance their experiences. This concept of creating a market synergy was well established at many destinations worldwide. For example, Turkey is rich in cultures surrounding hot springs and added value to features for visitors, who prefer combining health tourism and recreation. Moreover, the role of natural hot springs in health tourism and recreation expressed in the book '*Healing Waters*' by Loring Bullard (2004). It mainly focused on the American state of Missouri and its mineral springs and resorts, which

played a vital role in the social and economic development in the past time. The motivational factors identified by Mak et al (2009) revealed that relaxation and relief, escape, self-reward and indulgence, and health and beauty were important factors that motivate travelers to visit. Furthermore, Health tourism literature evolution is indeed increasingly linked to the sustainability and the competitiveness of tourism destinations (Leong, L.Y.; Hew, T.S; Tan, G.W.H.; Ooi, K.B.; Lee, V.H., 2020). Despite the importance of nature-based experiential programs in many countries (Yang, J.Y., et al 2015), a comprehensive study on the role and implications of natural resources is missing.

Analysis of the literature shown that hot springs, although widely recognized as a natural resource and part of the health tourism sector, they had neither been discussed in further detail how to interpret cultural landscape as health tourism product nor recommended any new mode proposing to the local tour enterprises and community leaders.

2.3 Review of Hot Spring Tourism with Special Role of the Recreation Sector

According to Lee and King (2008), recreation in Asia, natural hot springs was usually used for vacation and leisure, connecting with nature, experiencing cultural traditions, and pursuing alternative modalities for healing, rehabilitation, and prevention. Meanwhile, Asians set up different types of hot spring establishments based on their own history and culture to infuse more wellness-focused services. For example, hot spring resorts usually offer spa-related services, such as massage, traditional Chinese medicine/treatment, hydrotherapy, and other treatments in China (Heung, V.C., Kucukusta, D., 2013 and Liu, X., Fu, Y., Li, J., 2019). They are not only concerned with the natural hot spring itself but also the surrounding environment of the hot spring. As a great combination of natural resources and leisure experiences, hot spring-based tourism has garnered notable academic interest. While Chen, K.Y. (2014) studied

the advantages and disadvantages of hot spring resorts with case analyses, Kitajima, M., et al (2012) Chen, K.H.et al (2013) focused on services and activities at hot spring destinations. Interestingly, Choe, J., Blazey, M. and Buzinde, C. (2016) studied A significant relationship between visitors' likelihood of visiting temples. The samples were Non-Buddhists in Los Angeles, participants were highly motivated by the prospects of discovering and learning about new things, expanding interests and knowledge. Another group was highly motivated by the prospects of being within a calm atmosphere, mentally relaxing, as well as, relieving stress and tension. Jiang, T., Ryan, C., Zhang, Ch. (2017) found the remoteness was not only means geographical distance, but also a distance in cultural terms. Cohen (1979) proposed a division of five modes of tourist experience according to the tourists' demand for 'the center' and the distance from it, and the potential existential mode of pilgrimage. The center in Cohen's research is more akin to a spiritual center beyond native society and culture than is simply the traditional center of pilgrimage, for it is place where both pilgrims and tourists are pursuing an internal center of their own and searching for the 'extra-ordinary' that provides a meaning. It appeals because it possesses an 'authenticity' that satisfies the demand for a reality outside the experience of daily normal life (Jiang, T., et al, 2017). It shown visiting temples and meditating somewhere unusual were a type of recreation. Recreational activities have fast expanded throughout the world into a necessity for various reasons and covering various destinations. Tourism has moved into active participation and includes real experiences from basic travels and visitations. These activities must offer not only display products but also the vast experiences. Homestay for example has fast attracted foreign tourists keen to experience the unique multicultural society. According to Krippendorf (in Hall and Weiler, 1992), these tourists want in-depth satisfaction tourism products not available elsewhere. This satisfaction can only be achieved by providing special interest tourism.

2.4 The Geophysical Background of Hot Springs

The aim of this part was to provide an overview of topics related to the extensive geophysical background of hot springs in Thailand, their natural environments, and their integration into utilized functions. It also explored four decades of geothermal research and development in Thailand to learn how natural hot springs and active geothermal areas play a significant role in the past.

2.4.1 Review of Geophysical Background of Hot Springs in Thailand

Natural Hot spring resources can be found around the world, which can be developed for tourism or a source of geothermal energy. In Thailand, Rattanawong, T. et al (2020) researched the potential use of hot springs largely depends on temperature and volume of the reservoir as well as the amount of water flow within the reservoir. In Thailand, 118 hot springs have been found in the northern, western, eastern and southern parts of the country (Figure 4).

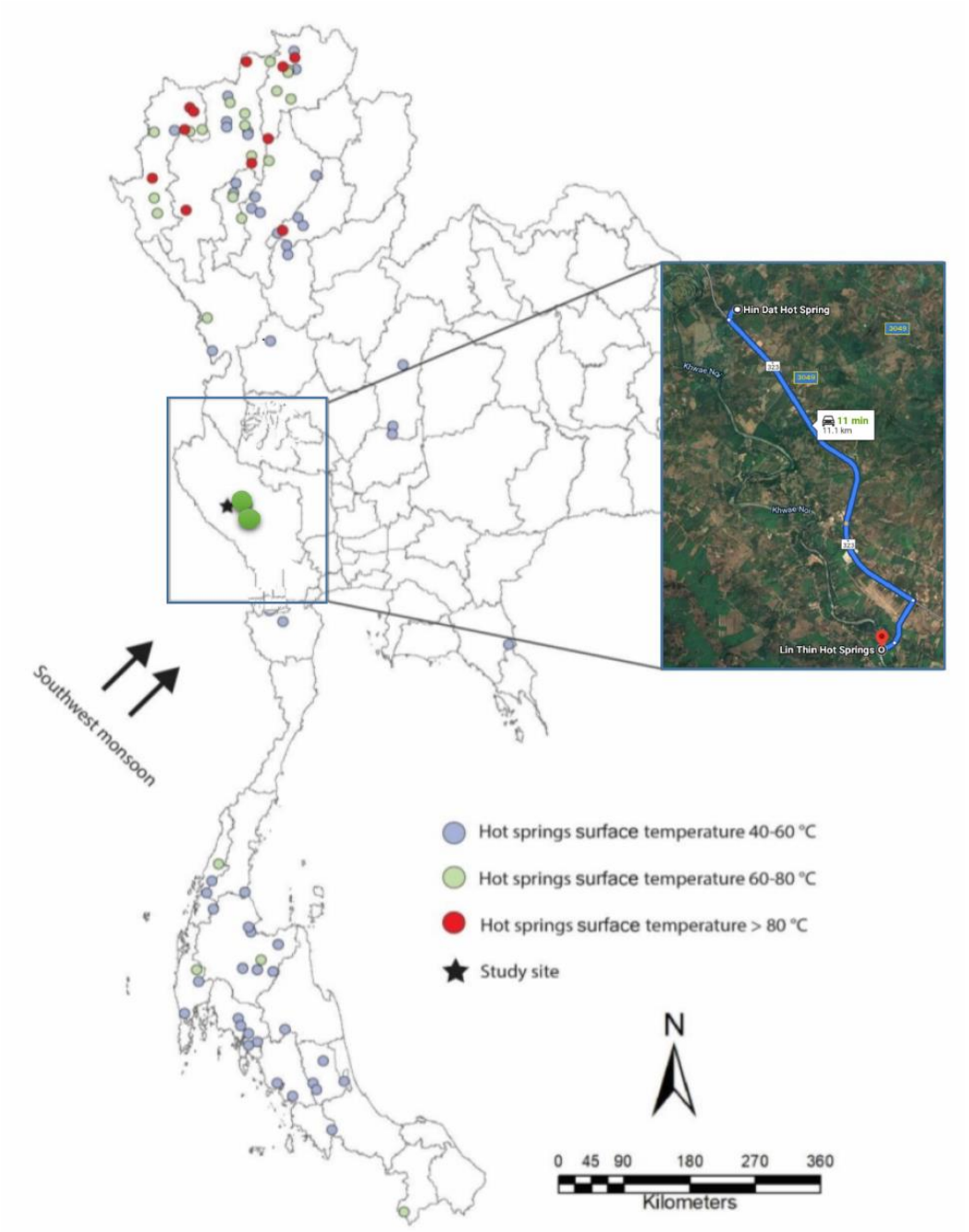


Figure 4 Map of Hot Springs in Thailand
Source: Thiwat Rattanawong, Raphael Bissen, Waraporn Kumpairoh, Sakonvan Chawchai (Retrieved on 2020) Adapted by Author (2021)

Rattanawong, T. et al (2020), Department of Mineral Resources has surveyed surface temperature and pH and fluoride content of hot springs throughout Thailand and divided them into two types: (1) hot springs related to or originating from igneous rock fractures; (2) hot springs found in sedimentary rock layers overlying a granitic

basement reservoir. Their surface temperatures are specific to certain regions and range between 40-100 °C:

a) Northern Thailand - the highest surface temperatures with >80 °C

b) Southern Thailand - medium temperatures between 60 and 80 °C

c) Western and Eastern Thailand - the lowest surface temperatures between 40 and 60 °C.

The usage of hot springs in Thailand mainly depends on their surface temperature; high-temperature hot springs are usually used for generating electricity and drying processes; medium-temperature hot springs are used for tourism and agriculture; and low-temperature hot springs are used for water supply, as recreational area and health therapy. During the last decade, sixteen high temperature hot springs in Thailand were investigated in detail by the Department of Groundwater Resources regarding their potential use as alternative energy source, and chemical properties were analyzed. In western Thailand, Bor Klueng hot spring in Ratchaburi Province has only been investigated for the diversity of bacteria and notably high sulfur contents. Hin Dad hot spring in Kanchanaburi has been studied by resistivity survey together with electrical imaging for tourism management and subsurface exploration. The climate of Western area is influenced by the southwest monsoon during summer (May-October) which brings warm and moist air from the Indian Ocean toward Thailand causing abundant rainfall, while the northeast monsoon causes drier conditions during winter (November-February). Between March and May, additional precipitation is probable due to tropical cyclones (Rattanawong, T., et al, 2020).

2.4.2 Review of Geothermal Utilization of Natural Hot Springs in Thailand

Raksaskulwong, M., (2008) described that geothermal is one of clean alternative energy that can reduce global warming. Investment on geothermal utilization to electricity generating may be risky but exploitation on multipurpose basis is attractive and economic. Thailand situates in tropical region then bathing in hot spring may not

pursuit or allure people that much. With health awareness, Thai people chose to bath in hot springs as they expect that hot spring providing healthy and physically treatments. Due to almost all hot springs manifest in the forest reserve or government property, then direct heat uses have been developed by government sector. Apart from tourism and recreation purposes, other utilization has been implemented such as green house of cool plantation, binary cycle power plantation, dryer, etc. Hot springs in northern Thailand have been studied on the purpose to extract and utilize the geothermal energy since 1977 while hot springs in western and southern Thailand have been preliminary studied since 1988 and 1989 respectively. Due to higher enthalpy, hot springs in northern Thailand have been developed and utilized more than other part of Thailand. Chemical contents characterized by high alkali-sodium and bicarbonate but low concentrations of dissolved solid.

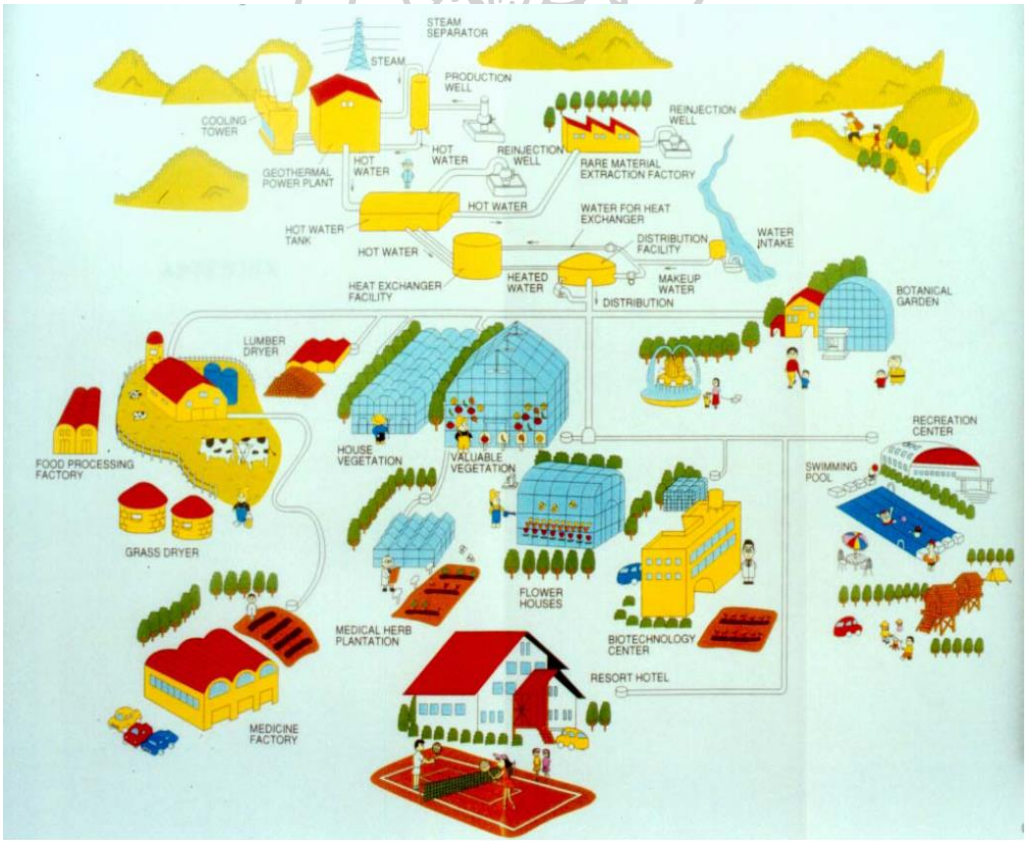


Figure 5 Multi-purpose Utilization of Geothermal Energy (WCG, 2000 brochure)
Source: Raksaskulwong, M., (2008)

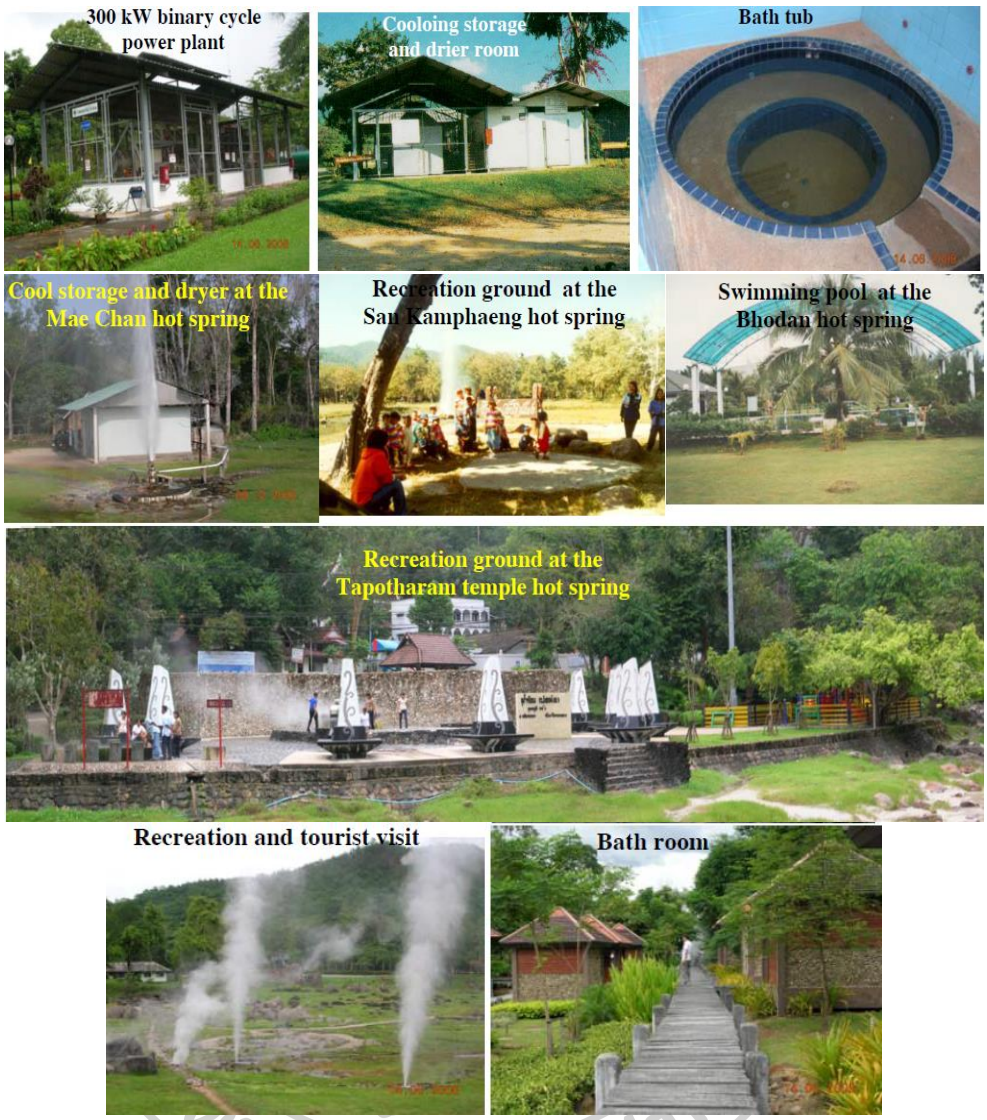


Figure 6 Multi-purpose Utilization of Geothermal Energy in Thailand
Source: Raksaskulwong, M. (2008), Thailand Geothermal Energy: Development History and Current Status, Proceedings of the 8th Asian Geothermal Symposium, December 9-10, 2008

2.4.3 Four Decades of Geothermal Research and Development in Thailand

Raksaskulwong, M. (2011), a Thai geological expert collected and analyzed for hot springs' chemical as well as physical properties. Hot springs and geothermal studies in Thailand can be categorized based on period of time into 4 generations as follows;

(1) **First generation or during 1977-1986;** Due to energy crisis in the 1980's, Thailand set up for searching for renewable energy. Many local organizations and foreign auspicious have been collaborated in geothermal exploration and it should be called 'hunting period'. Most works have been searching for hot spring manifestations and performing preliminary exploration. The explorations are carried out to preliminary geothermal evaluation step. First collaboration began with many stakeholders. They agreed to systematically studied hot springs in Northern Thailand. Their main objective was to extract heat from geothermal to generate electricity. On the other hand, they also plan to pipe thermal water released from power plant for agricultural-industrial process as well as for recreation (Ramingwong et al., 1979). During 1983-1986, the Department of Mineral Resources generated a geothermal project to evaluate potential of 50 geothermal areas in Northern Thailand using geological and geochemical data. They also conducted geophysical surveys and shallow well drills to investigate surface hot spring extension as well as its potential (Thienprasert, et al., 1987).

The collaboration also supported by other Thai organizations; National Energy Department explored geothermal on agricultural and industrial utilization. The Prince of Song Kla University preliminary explored geothermal in Southern Thailand. The Meteorological department and the Hydrographic department, Royal Thai Navy, supported the data of earth quake in Thailand and neighboring countries. The Office of Atoms for Peace assisted in radiometric analysis for purpose to preliminary estimate heat generation especially in area of granitic rocks. At the same time, the working group also requested many foreign organizations specialized in different fields to collaborate the work. Various international organizations signed agreement to assist Thai's scientists to explore to utilize geothermal energy. The United State Geological Survey under an auspicious from USAID sent an expert to assist geothermal evaluation in 1980. Experts from Los Alamos Scientific Laboratory under financial support from the Coordinating Committee for Geoscience Programmes in East and

Southeast Asia (CCOP) gave guidance on preliminary evaluation of geothermal potential as well as evaluation steps in 1980. A team from Geological Survey of Japan (GSJ) leaded by Dr. Kawada, an expert to the CCOP at that period, assisted DMR for preliminary geological and geochemical studies of geothermal in Northern Thailand for a period of 4 years during 1980-1983. The study conveyed to technical collaboration between the EGAT and the Japan International Cooperation Agency (JICA) on purpose to define geothermal potential at the San Kamphaeng geothermal field, Chiang Mai province during late 1981-1989. Many explorations had been carried out. Geological, geochemical and geophysical studies had been conducted to select for drilling locations during 1982-1984.

In 1981, the EGAT under an auspicious from the French Agency for Energy Management studied geothermal potential at the Fang geothermal field. This was successful for installation of 300 kilowatt binary cycle power plant in 1989. Meanwhile, the DMR and the United Nations Development Programme (UNDP) collaborated on geothermal research from 1983 to 1984. Reconnaissance surveys of nine geothermal possibility areas in northern Thailand. The contract hired Geothermica Italiana Srl., Italy to supervise using available geophysical and borehole data. The geothermal resources and electricity potential capacities were at medium enthalpy fluid. The Mae Chan geothermal field exhibited high potential for electricity generation (Raksaskulwong, M., 2011).

(2) **Second generation or during 1987-1996;** This period should be called 'hit and run period'. Various explorations at the Fang Geothermal possibility field and shallow wells drilled previously were capacity test. The EGAT and the Bureau of France collaborated to extract thermal water for electricity generation in 1987. They gathered thermal water from three shallow wells and used to generate electricity. Later on, a multipurpose utilization of geothermal water was implemented. Outlet water was

piped for air conditioning, cold storage and crop dryer facilities. Part of thermal water also piped for public bathing pond in recreation area. Technical cooperation on the Fang deep geothermal development project, under the extended agreement between the EGAT and the French Environment and Energy Management Agency, commenced in 1990. The objective was to define possibility of deep reservoir potential as well as to implement electricity generation efficiency. The project was not successful and the geothermal utilization project had not developed further. The EGAT switched to investigate at the Muang Rae and Muang Paeng geothermal fields, Northwestern Thailand, in the Pai district, Mae Hong Son province in 1994-1996. The areas suitable to utilize geothermal energy for agricultural purposes. The DMR with previous geothermal evaluation experience had explored and evaluated geothermal potential in Central, Western and Southern Thailand during 1988-1989. One of the main purposes was to serve as tourist destination and therapy hot spring bathing. This geothermal utilization has played an important role on geothermal activities (Raksaskulwong, M., 2011).

(3) **Third generation or during 1997-2006;** The utilization at this period was for tourist destination and therapy bath. The Tourism Department spent some budgets to promote hot spring and architectural design for tourist visiting area. The Public Health Department also cares for safety and hygienic bath. The groundwater and geothermal data collection had been carried out and were successfully during 2001-2003. Ranong hot spring destination project, selected as an outstanding attraction scene. The project combined with other tourist attraction sites was set up. Shallow exploration wells successfully drilled and got thermal artesian spring in 2006 (Raksaskulwong, M., 2011).

(4) Fourth generation or during 2006-present; At this period, direct geothermal utilization was momentum continue from the third generation. Private investment in tourist attraction area targeted for therapy or health or wellness related development. Tourism sector still plays a key role to motivate local organizations both private and government sectors to develop and share investment. Public health department was also in charge for safety as well as hygienic decoration. During 2010's period, it was similar to the first generation due to an abrupt increase in petroleum prize. People are more aware of security in energy. Exploring alternative energy was one of the targets. Conservation and Alternative Energy Department requested collaboration research for utilize geothermal in electricity generating. They invited Ground Water Department, EGAT and Petroleum Authority of Thailand to sign contract for research in geothermal development. This should be called 'Renaissance period' (Raksaskulwong, M., 2011).

CHAPTER 3
RESEARCH METHODOLOGY

3. Introduction

The aim of this research was to assess the cultural landscape of hot springs toward health tourism and recreation. To achieve this aim, the methodology presented in this chapter take multi-methods approach such as document analysis, site survey and other qualitative method applied. The methods employed to collect and analyse both primary and secondary data on hot springs as a resource in health tourism and recreation during September, 2018 - April, 2021. In addition, to purpose recommendation on sustainability. The study sought to answer the question of what is the potential of the hot spring cultural landscape to cater for health tourism and recreation in Kanchanaburi province and what management strategies are needed? The researcher had combined tools of qualitative research methodology as follows;

3.1 Documentary Research

The documentary research method is used in investigating and categorizing sources, most commonly written documents, whether in the private or public domain. This research method was just as good as and sometimes even more cost effective than the surveys, in-depth interview or participant observation. It had been done first to collect information related to history and pictorial data in the study areas and other documents on international, national and local levels. The core documentary included as follows;

(1) Literature reviews involved hot springs and associated nature

(2) Records of Prisoner of War (After end of World War II, 1945)

(3) Guideline of Quality Standard for Health Tourism; Natural Hot Spring (2014)

(4) Guideline for the Treatment of Cultural Landscapes (1996) 'Water Features Cultural Landscapes'

(5) Hoi An Protocols for Best Conservation Practice in Asia (2009)

The types of documents and the ability to use them as reliable sources of evidence have been properly considered before applying in the research.

3.2 Field Study

The research methods included a combination of explorative and descriptive: field research in a qualitative context using observation and interviews to explain aspects of the research topic in a descriptive form. The field work (observation and interview) took place in both natural settings and social settings at hot spring destinations and associated environment between year 2018 and 2020.

3.3 Participant Observation

Participant observation is an additional qualitative research method and data collection technique which used by combining varying degrees of observation with informal interviews. This method ranged from being a complete participant to being a complete observer which based on watching, listening and learning to understand the dynamics of specific settings. Observation within a research environment was considered the important method of systematic recording of events, behaviors and objects in a specific social setting, which used to discover complex interaction in natural settings. During observational work, any available data collected for further references. In addition photographic data of signs, facilities, special features and any relevant context were obtained, which valuable for later additional evaluation and analysis.

3.4 Semi-structured Interview

Interviews were one of the research methods used in the qualitative research approach. The study ranged from informal unstructured to semi-structured interviews with

different levels of depth and typically took place in a conversational manner. While carrying out interviews, the researcher initially explored more general topics to uncover the views of participants to achieve the research objective items (2), (3) and (4). The informal discussions on specific local issues and asking with the form of open-ended questions organized as planning in the below table 1 - 4. Interviews combined with varying degrees of observation with respondents randomly selected at the scope area. The researcher talked to key representatives of the hot spring tourism sector in the below table 5-8 with 30 respondents. The questions had prior been approved by the experts and research advisor, mainly covered the local culture, history, values, social behavior, community, sustainability, and any other subsequent questions asked to seek further data that used to describe more issues that impacted on natural hot springs and associated area in the table 9.

Table 1: Sources for findings of research objective (1)

Research Objective	**Topic** / **Stakeholders**	**Literature Review**
1. To gather historical development of hot springs as tourism destinations in other continents	1. Hot Springs in Europe	√
	2. Hot Springs in Asia	√
	3. Hot Springs in USA and Canada	√
	4. Hot Springs in Australia	√

Source: Author

Table 2: Stakeholder sources for findings of research objective (2)

Research Objective	Topic / Stakeholders	Liturature Review	Public Sector	Locals	Touist
2. To identify settings where natural hot spring and its surroundings are integrated in health tourism and recreation	1. Waterscape/Landscape	√		√	
	2. Endemic Animal & Plant	√		√	
	3. Topography	√		√	
	4. Accessibility	√	√	√	√
	5. Community	√	√	√	
	6. Culture	√	√	√	

Source: Author

Table 3: Stakeholder sources for findings of research objective (3)

Research Objective	Topic / Stakeholders	Liturature Review	Public Sector	Private Sector	Locals	Tourist
3. To explore the cultural landscape of hot spring as a tourism resource	1. Site history & Exiting condition	√	√			
	2. Aestetic Value	√	√	√	√	√
	3. Historic Value	√	√		√	
	4. Scientific Value	√			√	√
	5. Social Value	√	√	√	√	
	6. Spiritual Value	√			√	

Source: Author

Table 4: Stakeholder sources for findings of research objective (4)

Research Objective	Topic / Stakeholders	Liturature Review	Public Sector	Locals	Toursist
4. To propose recommendations for sustainable development of hot spring destination toward health tourism and recreation	1. Guideline of Quality Standard of Health Tourism; Natural Hot Spring of Thailand	√	√		
	2. Recreations & Recommendation	√	√	√	√
	3. Guideline for the Treatment of Cultural Landscapes; Water Features Cultural Landscape	√	√		
	4. Elderly community networking in sustainable use of local natural resources and auditing	√	√	√	√

Source: Author

Table 5: Participant Code Number of Stakeholders

Participant Code Number	Stakeholder 's Group/Organization	General Information and Roles in Thong Pha Phum, Kanchanaburi
Public Sector / Government Officials		
1	The officer of Thong Pha Phum District Office 22-Dec-18	Male/Working Subdistrict Municipality Office of Thong Pha Phum Involved in any event arranged by Municipality Office of Thong Pha Phum
2	Deputy Chief Executive of the SAO 23-Jun-18	Male/Working Hin Dad Subdistrict Office Managed Hin Dad subdistrict of Thong Pha Phum
3	Assistant of Ban Ong-Ti Village 26-Dec-20	Male/Working Observer of Wild Elephants at Tha Khanun subdistrict
4	A teacher of a primary school 31-Jan-20	Male/Working (Director of Ban Paklampilok School) Observer of Wild Elephants in Thong Pha Phum
5	A staff of Hin Dad Hot Spring 17-Aug-19	Male/Working Ticket Box of Hin Dad hot Spring
6	A staff of Hin Lin Thin Hot Spring 18-Aug-19	Female/Working Service Staff of Lin Thin Hot Spring

Table 5
The Participant Code Number of stakeholders in public sector implemented to protect personal data of interviewees
Source : Nuntana Ladplee (Author)

Table 6: Participant Code Number of Stakeholders

Participant Code Number	Stakeholder 's Group/Organization	General Information and Roles in Thong Pha Phum, Kanchanaburi
Private Sector / Business Entrepreneur		
7	A hotel reservation officer of Keeree Loft Resort Thong Pha Phum 22-Dec-18	Female/Working Involved resort business almost 10 years
8	A resort staff of Cinque Terre Resort Thong Pha Phum 22-Dec-18	Female/Working Live local life in Thong Pha Phum with her family Indigenous accent speaking
9	A market owner & local shop owner in Kanchanaburi 18-Aug-20	Assistant Spa Manager (Former in Bangkok) for 15 years Established business in Kanchanaburi for 10 years
10	A local shop owner inside Hin Dad hot spring 18-Aug-20	Female/Working Sell fruit, herb, local handmade-product and etc.

Table 6
The Participant Code Number of stakeholders in private sector implemented to protect personal data of interviewees
Source : Nuntana Ladplee (Author)

Table 7: Participant Code Number of Stakeholders

Participant Code Number	Stakeholder	General Information and Roles in Thong Pha Phum, Kanchanaburi
Local Resident		
11	Thong Pha Phum local resident 18-Aug-19	Female/Working Organic Farmer
12	Thong Pha Phum local resident 16-Feb-20	Couple/Working Organic Farmers Expert in Organic Thong Pha Phum Rambutan
13	Thong Pha Phum local resident 22-Dec-18	Group Focus 4 persons Live in Lin Thin subdistrict
14	Thong Pha Phum local resident 18-Aug-19	Group Focus 4 persons Live in Hin Dad subdistrict
15	Thong Pha Phum local resident 18-Aug-19	Group Focus 4 persons Live in Lin Thin subdistrict

Table 7
The Participant Code Number of stakeholders in local resident group implemented to protect personal data of interviewees
Source : Nuntana Ladplee (Author)

Table 8: Participant Code Number of Stakeholders

Participant Code Number	Type of Tourist in Thong Pha Phum	Date/General Information
16	Domestic tourist Lin Thin Hot Spring	22-Dec-18 Travel with Family Group of 3 persons
17	Domestic tourist Lin Thin Hot Spring	22-Dec-18 Travel with Friend Group of 4 persons
18	Domestic tourist Lin Thin Hot Spring	22-Dec-18 Travel with Friend Group of 3 persons
19	Domestic tourist Hin Dad Hot Spring	23-Dec-18 Travel with Friend Group of 3 persons
20	Domestic tourist Hin Dad Hot Spring	14-Feb-20 Travel with Family Group of 10 persons
21	Domestic tourist Hin Dad Hot Spring	14-Feb-20 Travel with Family Group of 10 persons
22	Domestic tourist Hin Dad Hot Spring	15-Feb-20 Travel with Family Group of 10 persons
23	Domestic tourist Running Event	23-Dec-18 Travel with Friend Group of 2 persons
24	Domestic tourist Local Market	17-Aug-19 Travel with Friend Group of 2 persons
25	Domestic tourist Local Market	Aug-19 Travel with Friend Group of 2 persons
26	International tourist Keeree Resort	12-Feb-20 Japanese Family (Onsen lover)
27	International tourist Keeree Resort	12-Feb-20 Japanese Family (Onsen lover)
28	International tourist Keeree Resort	12-Feb-20 Japanese Family (Onsen lover)
29	International tourist Cinque Terre Report	17-Aug-19 Australia Family (Hot Spring lover)
30	International tourist Cinque Terre Report	17-Aug-19 Australia Family (Hot Spring lover)

Table 8
The Participant Code Number of stakeholders in tourist group implemented to protect personal data of interviewees
Source : Nuntana Ladplee (Author)

Table 9: Set of Question

Participant Number	Interview Questions
Local group No.13-15 Tourist group No.16-30	Use of hot springs and associated water ways 1.What is the main purpose of using Hot Springs? 2.Do you have any family members and relatives who enjoy hot springs? 3.Currently, what are your health problems/issues? 4.Do you use the hot springs to improve your health conditions? 5.Do you use the hot springs for recreation? 6.Do you use the River Kwai Noi and associated water ways to improve your health conditions? 7.Do you use the River Kwai Noi and associated water ways for your recreation? 8.Do you use the River Kwai Noi and associated water ways for other purposes? such as career
Public Sector No.2-6 Private Sector No.9-10 Local group No.13-15 Tourist group No.16-30	Awareness of heritage values and management for hot springs and associated water ways 9.What are your general perceptions about the values of hot springs and associated water ways 10.Do you know of any oral stories or songs about the values of hot springs and associated water ways? 11.When and how did you learn about these stories/songs? 12. Are you aware of any government regulations regarding the proper disposal of wastes into the water ways or misuse of nature? 13.What is your belief to the guardian of the water? 14.Would you like to set up more tourist attractions in this area of "Thong Pha Phum" 15.Would you like to have more recreation in this area of "Thong Pha Phum" 16.Are you a member of any conservation association?

Table 9
The set of questions to interview stakeholders each group
Source : Nuntana Ladplee (Author)

Remark

- *Every question asked her/his family members who stay also together to accumulate and support for accurate findings.*
- *"How? Please explain more." asked after main questions to seek deeper information.*

- *The researcher defined and gave some examples of other heritage values in other places to illustrate for interviewees to make sure they received the same messages.*
- *To enhance more friendship before or after conversation, researcher always asked about where they eat out locally or but their daily food? What food to recommend? Such questions created more casual talking atmosphere.*

3.5 Focus Group

Focus group employed to define subtopics and explain research objectives, particularly suited for explorative research because it offered a diversity of perception, judgment and experiences. The synergistic effect of focus groups created by participants who shared and compared ideas, experiences and perception and by reactions to the responses of other members in the group. Two times of focus group casually organized for this study during different stages of study. The focus group meetings not only focused on hot springs but also other recreations. The research planned to have participants associated in focus group with (1) local community (2) hot spring-experienced tourists.

3.6 Conceptual framework

The researcher designed a suitable conceptual framework which combined the concept of cultural landscape, heath tourism and recreation in one simple framework. The conceptual framework (Figure 7) is shown below;

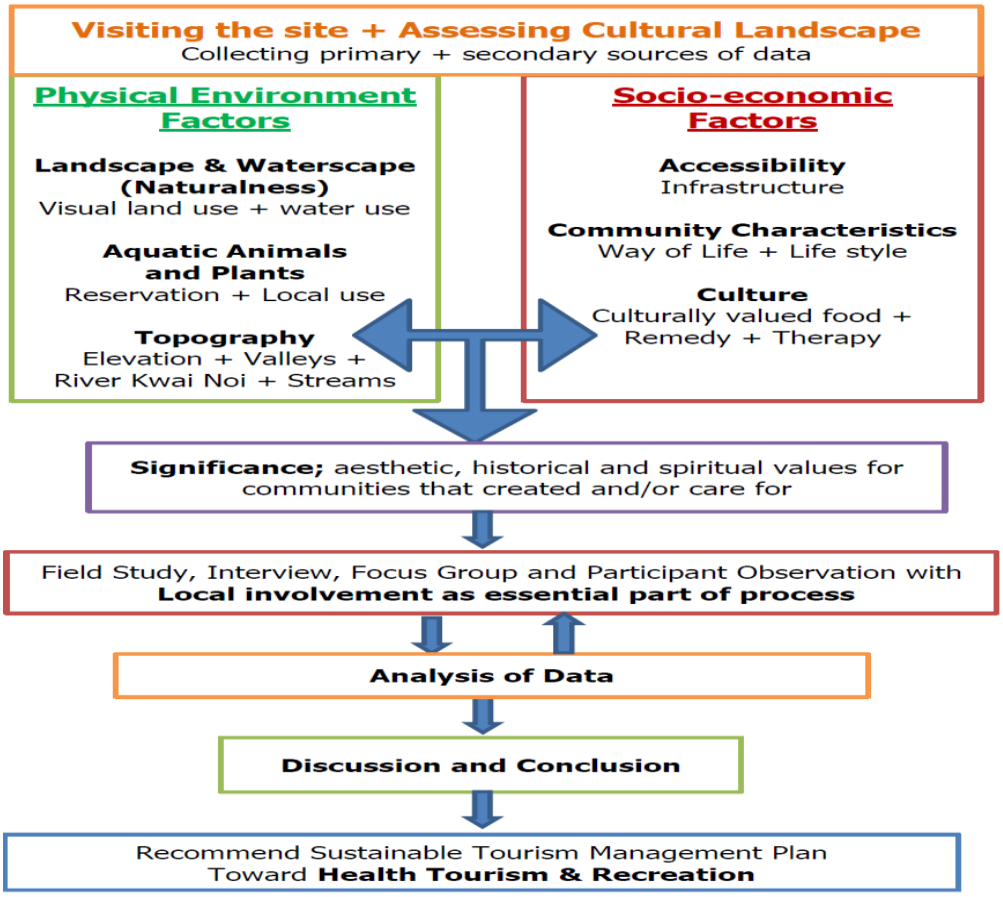


Figure 7:Conceptual Framework
Source: Author (2017)

This method provides a structural basis to show the conceptual framework of 'Cultural Landscape's factors' with their elements and criteria that also fit to 'Therapeutic Landscape' where leads to health tourism. The factors divided into two main categories according to the cultural landscape of selected area in Thong Pha Phum: physical environmental factor (natural setting) and socio-economic factor (social setting). This study investigated six sub-factors which well suited for health tourism and recreation development. These are landscape and waterscape or naturalness (visible land use and water use), aquatic animal and endemic plants (reservation and local use), topography (elevation, valleys, river Kwai Noi and streams), accessibility (infrastructure), community characteristics (way of life and life style) and culture (culturally valued food, remedy and therapy). These factors were based on the opinion

experience and studying of authenticated literatures and analysis of historical data and documentary research. While identifying significant values on the landscape during field trip, primary data also collected by qualitative research tools; interview, focus group and participating observation. Then analysis data preceded, however the primary data from field work had been collected and repeated every year during 2018-2020. After conclusion, some recommendation implemented concern on sustainable management. The author focused on health tourism and recreation in this study due to personal expertise and interest, nevertheless good practices from sustainable guidelines from trustful sources applied into the recommendation.

CHAPTER 4
HISTORICAL DEVELOPMENT OF HOT SPRING TOURISM DESTINATION IN OTHER CONTINENTS

4. Introduction

Before investigating the cultural landscape of hot spring in Thailand, understanding historical development of other continents in the world will help to analyze and interpret the research area. This is the first objective of the research; to gather the historical development of hot spring tourism destination in other continents. The collection and review of documents curried on to find out the relationships of landscape transformation, evolving land uses, the physical and social factors shaping community, identify the role of hot springs, and how landscapes, including mysterious places, support play and imagination.

4.1 The European Hot Spring Destination

The history of hot springs has worldwide origins and date back to the earliest civilization (La Moreaux, 2005). The first human interactions with geothermal phenomena such as hot springs are placed in the realms of prehistory and cannot be reliable due to a lack of written records. Özgüler and Kasap (1999) studied that hot spring use to the Hittite Empire (1680-1193 BC) and probably to the Indus Valley civilization (3000-1700 BC), while the Minoans of Crete, the Sicilians, Egyptians, Chinese, Japanese and Meso-Americans used hot springs at about the same time as the Hittites or earlier (Erfurt-Cooper and Cooper, 2009). Hippocrates (BC 460-375), an Antic Greek medicalist, was the first scientist who explained the principals of natural treatment with an ecological perspective, the foundations of thermalism. (Gehsuvaroğlu, 1957 cited in Erfurt-Cooper and Cooper, 2011).

The Romans built their own spa centers on natural hot water supplies. Spas served not only for recuperation of wounded soldiers but also as rest and recreation, and

entertainment centers for healthy soldiers. Years after, more roman spa center turned into more entertainment than medical treatments (De Laine and Johnston, 1992). The healing aspects of hot water appeared again in the Renaissances. Since the middle of 16th century, the studies on their medical advantages were written. In Europe some markets including spa, mineral waters, resting place, and hotel parts were began to set up. These established thermal clusters were considered as a good resting, and entertainment place for families, but for public use far distanced away from the spa settlements open-bath spas were built. The development of accommodation in these spa places grown 18th century. In these periods; Bad Prymant, Baden Baden, Bad Hamburg-Germany; Karsl Bad, Marien Bad- Czech Republic; Baden, Schinsrach-Sweden were counted as significant spa centers of Europe After the increasingly numbers of 19th century, medical treatments were completely started in these spa centers in the 20th century (Çekirge, 1982 cited in Erfurt-Cooper and Cooper, 2011).

The history of health tourism in Europe has tended to be based around spas and seawater treatments, mainly because of the large numbers of thermal and mineral springs and sea coasts. The Romans built very sophisticated baths all over Europe which were integral to their way of life, and would consist of a series of cool to hot baths and a final cold plunge pool (Smith and Puczkó, 2009). Many of Europe's historic spa towns were built around healing springs between the 14th and 16th centuries. Travelling originally to such destinations was common for royalty or nobility however, later declined due to better conditions of domestic bathing. From the 16th to the 20th centuries, the church became a centre of social activities than spas due to flourished religion. Nevertheless, late 20th and early 21st centuries, as traditional religion declined, spas became most desirable public spaces in which to congregate (Smith and Puczkó 2009). According to ESPA (2007) in Europe there are more than 1,200 spas and health resorts, which are medically respected health centers. Many of these are located in historic towns which have traditionally served health and wellness tourists as far back as Roman times. For example, Vichy in France, Bath in the United

Kingdom, Baden Baden in Germany, and Spa in Belgium where considered as a valuable contribution to the health system in Europe (Smith and Puczko, 2009)

4.1.1 Germany

According to Sanner, B. (2000), the earliest traces of human life in the valley of the River Oos date from the stone age, ca. 10,000 years ago. From bronze age, tombs have been found dating ca. 1000 B.C. Not surprisingly, the Romans made use of the hot springs. The city was founded as "Aquae Aureliae" and their development peaked in the 2nd century A.D. Stately buildings and, of course, the "thermae", coined the image of the city. People, from many parts of the Roman Empire, came in search for mitigation of their sicknesses, including the Emperor Caracalla. After 260 AD, the German tribe of the Alemans invaded the area, and most of the city was destroyed. The thermal bathing ceased for several centuries. However, traces of this first blossom of thermal bathing in Baden-Baden still exist, e.g. in the ruins of a soldier´s bath around 2000 years old which have been found in 1847 in the main thermal area. In the 6th century, the Merowingian king Dagobert III gives the area including the hot springs to the Weissenburg monastery. The first castle (Altes Schloss) was built in 1102 as "Hohenbaden" (destroyed by fire in the 16th century; today ruins). Markgräfin Irmengard installs a monastery in 1245. In 1256 in a document of Markgraf (Earl) Rudolf von Baden for the first time the name "Stadt Baden" (Baden city) is used. From 1384 to 1399, the new castle (Neues Schloss) is built (destroyed by fire in 1689; rebuilt, the form seen today was completed in 1847). The thermal waters become increasingly important. Markgraf Rudolf III offers a part of the thermal baths to his knights in 1306. In the year 1365, the privilege of secure travel is given to Strasburg citizens for visiting the thermal baths of Baden. In the 15th century, the bathing activities flourish. Emperor Friedrich III visits Baden for bathing in 1473. In 1480, the poet Hans Foltz publishes a "Bäderbüchlein" (baths booklet) describing the hot springs.

Markgraf Christoph I controls the bathing activities in 1488 by legal orders. In 1507, he gives a city regulation to Baden and introduces a tax on bathing (Kurtaxe). The court doctor, Dr. Johannes Matthäus, starts in 1601 with mud baths (Fango). A book about the springs is published in 1625 by Johann Küffer, mentioning 12 springs; one of the springs, the 'Brühequelle', is used to clean and boil fowl and pig (Küffer, 1625). In the year 1688, French troops occupy Baden. In August 24, 1689 a huge fire reduces most of the city and the castles to cinder and ashes. The reconstruction of the city did require almost a century. The fire also destroyed the monastery 'Kloster vom Heiligen Grab', located directly in the thermal area and founded in 1670 by Markgräfin Franziska. In 1698, it is rebuilt; today, it houses a high school. In the neighbouring city of Rastatt, diplomats and highnesses meet in 1797 at the 'Rastatter Kongress'. They detect the Baden spa, and a new era with the high society of Europe starts for Baden-Baden. 1804 Queen Luise of Prussia visits Baden-Baden to improve her health. Plans for a new spa area are drafted in 1810. In 1811, the building of the college of Jesuits is converted into a casino. A steam bath is constructed in 1819, and a (thermal water) drinking hall in 1824. The original balneological building (Kurhaus) dating from 1765 is replaced in 1821-1823 by the building which exist today. The large, 90 m. long drinking hall with Corinthian columns and frescos is completed in 1842. In 1850, Queen Augusta of Prussia, later to become Empress, stays in Baden Baden for the first time. Another steam bath (Altes Dampfbad) was constructed in 1846-1848, including a hot spring (Ursprungsquelle) delivering roughly 118 m3 (31,200 gallons) of thermal water with almost 60EC (140EF) per day. In 1858, Otto v. Bismarck and Cavour stay in BadenBaden, and the first international horse race was conducted near the village of Iffezheim in the neighborhood of Baden-Baden. 1860-1862 a theater was built, following the prototype of the Opera in Paris; a (not successful) ambush on King Wilhelm of Prussia happens, and in 1863 three Emperors met in BadenBaden in the 'Hotel d'Angleterre' Franz Joseph of Austria, Tsar Alexander of Russia and Napoleon III. From 1863 to 1875, the annales of Baden-Baden name many VIPs of the time:

Dostojewski, Madame Viardot, Clara Schumann, Johannes Brahms, Victor Hugo, Richard Wagner, Friedrich Nietzsche, Queen Victoria of England and Prime Minister Disraeli. In 1877, the Friedrichsbad is inaugurated, 1893 the Augustabad. The presence of nobles from all of Europe was documented by the construction of a Romanian orthodox chapel, built by Leo von Klenze in Greek style in 1863-1866 (housing the grave of the Romanian Prince Stourdza), and of a Russian church in 1880-1882, planned by Belzer in Byzantinian style. The bathing tradition of Baden-Baden had attracted guests also throughout the 20th century. The infrastructure was continuously improved, with a conference center in 1968 and a festival hall capacity for more than 2,000 visitors in 1998.

4.1.2 France

There are around 120 thermal water supplies, and official provided benefit from 104 of them for thermal tourism in France. The French spa resorts were begun to develop in the 1920s. The Thermes de la Bourboule offered a population-free environment beneficial for the respiratory healing system and to have a reputation for anti-stress treatments. At Aix les Thermes sulphurous steam vents used for healing therapies and known as the warmest thermal springs of the Pyrenees. All these thermal springs were officially registered for medical treatments such as rheumatism, trauma, stress, injuries and respiratory problems and there are numerous springs throughout the country (Erfurt-Cooper and Cooper, 2009). The French health and wellness spas were very versatile and encourage visitors to take charge of a healthier lifestyle under the guidance of spa professionals, in addition to thermal-based medical treatment by qualified medical staff. For instance, Aix-en-Provence known as the city of 100 fountains with geothermal springs, which have largely contributed to its existence (Laushway, 1996). The Pellegrini Thermal Baths in Aix-les-Bains, which were hosted in a 19th century-historical building, underwent development in the late 1990s including adding an additional thermal pool and the latest treatment technology.

Thermal Therapy concept welcomed guests for water cures (Lund, 2000). The benefits of thermal water can be enjoyed throughout the year and Aix-les-Bains has provided facilities and treatments in a unique environment; offering a variety of cures including mud therapy with therapeutic properties resulting in a soothing and relaxing effect for users (Erfurt-Cooper and Cooper, 2009).

4.1.3 England

Some spa towns with familiar names remain in the United Kingdom (Buxton, Bath, Llandrindod Wells, Holywell (Treffynnon), Droitwich Spa, Cheltenham Spa, Harrogate, Leamington Spa, Malvern and Strathpeffer) and there was an extensive beauty therapy orientation in almost every town in the country, but Bath is the only place with genuine hot springs. This natural geothermal resource was unique for England with both the reason for its initial development and continuous redevelopment over the centuries (Erfurt-Cooper and Cooper, 2009). The geothermal, historical and cultural ambience of *Bath* made '*Bath Spa*' one of the important European tourist attractions. There was archaeological evidence that occupation based around the hot springs on which the city built began at least 3,000 years ago (Erfurt-Cooper and Cooper, 2009). In common with many new health and spa tourism's facilities the restored baths feature a medical treatment centre providing preventative medicines and therapies such as massage, physiotherapy, hydrotherapy and acupuncture, a research and interpretive centre alternative energy generation from the hot spring resource and special bathing rights for the resident of the city (White, 2000).

According to Gallois, R. W. (2007), there are only five known occurrences of thermal springs in the UK, of which only that at Bath Spa, the lowest temperature at which a spring should be called hot. The springs at Hotwells (Bristol), Taff's Well (Cardiff), and Buxton and Matlock Spa (Peak District) emerge at 20° to 28°C. Bath Spa situated in a geological setting that firstly did not appear to differ markedly from parts of Britain

where springs emerge from the Carboniferous Limestone and similar limestone aquifers at an ambient 10° to 11°C. The formation of the hot springs was dependent on a combination of geological circumstances that was unique to a small area beneath the centre of Bath Spa.

4.1.4 Central and Eastern Europe and Russia

Central and Eastern Europe are famous for their health and wellness spa destinations which provide quality services for a lesser price than their western European counterparts (Lund, 2002). The health and wellness trend has merely reinforced this because most of these countries had already a sound thermal resource base (Lund and Freestone, 2001), which they could expand to cater for the increased demand from health visitors.

In addition to their thermal spa resorts and health spas some countries such as Poland and Slovakia have invested in the development of large aquatic theme parks fed by natural geothermal water, which attracted family groups as well. For instance, hot mineral water that supplies the relaxation pools of Tatralandia (Slovakia) described as specialty. Its uniqueness apparently stems from ancient seawater intrusion that added to the unusual composition of the mineral water (Tatralandia Aquapark, 2006). The therapeutic effect of this water is said to be beneficial for locomotive and respiratory organs and considered an added plus for people using the natural thermal water pools. Aqua Park Tatralandia also advertised as the biggest thermal water resort offering fun and relaxation not just in Slovakia, where it located, but also in neighboring countries such as the Czech Republic and Poland. Tatralandia was promoted as the perfect thermal paradise, open all year round, with nine pools in the complex for relaxation and swimming, together with various water-based attractions such as the volcano, the rocket and the snake, all of them ending in the warm water of a thermal pool. A pleasant water temperature between 26 and 38 degree Celsius maintained and there

are many other attractions including geysers, water streams, water beds, water swings and children' slides for entertainment (Tatralandia Aquapark, 2006).

4.2 The Asian Hot Spring Destinations

Natural hot spring is self-flowing hot spring within its original landscape, including: seaside, forest, mountains, canyons, wet lands, bamboo forest, volcanoes. Emphasis on the relaxing and restorative benefits of nature. There are many hot springs situated in Japan, China, Taiwan, India, Indonesia, Korea, Malaysia, Myanmar, Philippines, Singapore, Vietnam and Thailand. According to Global Wellness Institute: Thermal/Mineral Springs Economy in 2013, top four largest numbers respectively are in Japan 17,653 hot springs, China 2,160 hot springs, India 350 hot springs and Taiwan 119 hot springs. Many Asian hot springs used for various purposes, for example, many hot springs are valued for their religious significance. During religious occasions devotees travel so far away and wide to touch the waters as part of their rituals.

In present, not only the locals are benefiting from the thermal waters; increasingly international visitors discover unique regions and are exploring them, especially nature-based hot spring tourism. Not all of these are developed for hot spring bathing or medical thermal treatment, but the majority of these natural resources are in fact used as tourism attractions in individual countries. Most of the original hot spring users are the local residents; but the growing numbers of travelers to remote and exotic destinations is responsible for spreading the word of must-see places among other travelers (Erfurt-Cooper and Cooper, 2009).

4.2.1 China

The use of natural hot and mineral springs for health and well-being in China has a long tradition. The Chinese can provide written evidence (Schafer, 1956) that for thousands of years they have utilized thermal springs for multiple purposes including therapeutic benefits and enjoying the pleasure of a hot spring bath during the winter seasons. For instance, *Yunnan* province has many hot springs and most of them have been known to the local residents who used to thermal waters for healing purposes or simply as a source of hot water (Silar, 1968). In the Lintong District 30 km east of Xian the Huaqing Hot Springs were a preferred destination of the emperor of China and the rediscovered ruins have been restored and redeveloped and are a major tourist attraction with the opportunity to take a thermal bath in the imitation Guifei pool in the new Huaqing Hot Spring development. Other hot and mineral springs in mainland China included Guantang Thermal Spring on Hainan Island and Zhuhai. In 1194, the China National Mineral Resource Storage Committee verified and approved thermal springs in the Guantang area of Hainan Island (Qionghai Tourist Guide, 2006).

4.2.2 Japan

Figure 8: Chikanobu Yoshu's "Ikaho Onsen Hanei no Zu" shows a luxurious hot spring (date unknown) Courtesy of the University of Tokyo's General Library
Source: https://asia.nikkei.com/NAR/Articles/The-origins-of-Japan-s-hot-springs

The paint called "Ikaho Onsen Hanei no Zu" (A Picture of Thriving Ikaho Hot Spring). It depicted a resort bath in what is now Gunma Prefecture, northwest of Tokyo. Chikanobu Yoshu, a Meiji-era (1868-1912) woodblock artist famous for pictures of beautiful women, presents a scene of ladies bathing in cascading hot water, while others cool off in the mountain air. If it made the place look tempting, that was its intention. It was produced as an advertisement for inns in the hot-spring town of Ikaho (Kubota, N., 2014).

Kubota, N. (2014) described that the upper-left corner of the paint listed the benefits of the town's baths. It said they are effective for relieving women's diseases, rheumatism, nervous disorders and paralysis, among other ailments. It claimed they can even revive dying plants, and that goldfish and carp raised in the hot springs grow nice and plump. This was why a woman on the lower right holds a stem of a blooming peony, while well-rounded goldfish swim in a tank in front of her. Some inns really did keep carp prior to World War II, They were called '*yukoi*' (hot-water carp). The particular inn kept cranes in its steaming pond. The onsen inns of Ikaho in those days were extravagant. Climbing the stone steps in the heart of Ikaho, it can be seen hot water streaming down from the mountains. It was not until the Edo period (1603-1867) that the onsen tradition became popular among ordinary people. Over time, a system was developed to distribute the water to bathing facilities lining the steps, while strictly controlling the amount of water. The piping was equipped with mechanisms so that, when a bathhouse reached its quota, the water would be redirected back to the main artery. This plaint was told the history of hot spring in Japan.

Japan is a country that is extremely proud of its active natural hot spring (Onsen), culture and the many geothermal springs all over the country; of which the majority are used for the Japanese people's favourite pastime – hot water bathing (Clark, 1999). Traditional bathhouses (Sento-Furo) are still frequented regularly as a means of socializing with friends, family and neighbors, while soaking in the hot water and

relaxing, however these establishments do not necessarily offer genuine hot spring water, but may use artificially heated tap water. Even so, these facilities are used by many Japanese on a regular basis and people can be seen wandering between their homes and their local bath house in the early evenings with their bathing paraphernalia in a small basket. It is common for whole families to share an *Onsen* bath, from very young to very old family members (Erfurt-Cooper and Cooper, 2009). Visitors prefer a traditional Japanese inn called 'Ryokan', which use their Onsen as the main attraction combined with beautiful Japanese garden settings, regional culinary specialties, local attractions and unique landscapes. Adding to the benefits of relaxation and keeping warm the Japanese do also use their Onsen for healing purposes. It is widely believed and expected that different hot springs have different curative effects and Japanese doctors recommend the use of natural thermal water as beneficial for everybody in order to maintain or regain good health and well-being.

The quality of thermal spas for both bathing and balneotherapy has turned hot spring locations such as *Beppu City* into one of the most prominent tourism destinations in Japan. Beppu located on the east coast of Kyushu Island in Oita. Traditional bathhouses such as Takegawara Onsen offers sand baths and regular Onsen baths with nostalgic ambience. On the other side of the scale are some natural Onsen like the Hebinyu Onsen, which is hidden away in the forested hills of Beppu on a narrow old supply road leading to the hot spring site. In sprite of the hidden location, it is a very popular Onsen every season. Also, on Kitahama beach at Beppu is a sand bath, which has been used by locals for centuries. It is a great attraction for other prefectures' visitors and oversea tourists. However, the majority of Beppu's hot springs are utilized for Onsen facilities within the hotels, local community or private baths. The Suginoi Hotel takes advantage of the abundance of hot spring water to run their own geothermal power station in addition to supplying a large variety of themed hot springs baths and an aquatic entertainment centre. The city of Beppu illustrates special

view points where the steam rising from many vents can be observed (Erfurt-Cooper and Cooper, 2009).

4.3 The American and Canadian Hot Spring Destinations

4.3.1 America

Hot Springs Guide of Arkansas (2020) told about American History that no any record of the first humans found hot springs, but experts believe Native Americans including the Tunica, Caddo, Quapaw, Choctaw, Cherokee and other groups, had been using the springs as a peaceful gathering spot as many as 10,000 years ago. The Native Americans called the area '*the valley of the vapors*' where tribes enjoyed the springs and became '*neutral ground*' again in the 1930s when mobsters from Chicago, New York and Los Angeles came to fraternize together and get away from it all.

Hot Spring National Park, Arkansas (2020) described that Spanish explorer, Hernando de Soto was believed to be one of the first European visitors to hot springs while on his quest for an earthly paradise, a fabled city of gold. It guided by native Americans, he and his troops arrived in September, 1541 to partake in the thermal springs. It also believed that he was the last European visitor for more than 100 years, until French explorers Marquette and Joliet arrived in 1673 to claim the area for France. Possession seesawed between France and Spain until 1803, when the United States acquired it as part of the Louisiana Purchase.

In 1804, President Thomas Jefferson and his team explored the area and found a log cabin and a few rudimentary shelters used by people visiting the springs, but no permanent dwellers. In 1807, a man named Prudhomme became the first settler of modern Hot Springs, and John Perciful and Isaac Cates soon joined him. The hot springs were such a coveted natural wonder that in 1832, President Andrew Jackson

designed Hot Springs as the first federal reservation. Hot Springs Reservation was essentially America's first national park where years older than Yellow Stone. The park included Bathhouse Row, which consisted of eight unique, turn-of-the-century bathhouses in the heart of downtown. Over the years, Hot Springs became famous for its therapies. More visitors kept visiting and it developed into a famous resort called *"The American Spa"*. Not only the wealthy but also health seekers from around the world interested in the area. It was believed that thermal waters could cure arthritis and polio. The baths faded as a medical treatment with the advent of modern medical sciences, however, people still came for their relaxation.

According to Hot Springs Guide of Arkansas (2020), During the late 19th and early 20th centuries, Hot Springs were the off-season capital for Major League Baseball. The Chicago Cubs, Pittsburgh Pirates, Brooklyn Nationals, Chicago White Stockings and the Boston Red Sox, all held spring training at the hot springs. In celebration of these deep connections to America's pastime, the city inaugurated the Historic Baseball Trail. From the 1920s through the 1940s, hot springs flourished as a place where both celebrities and ordinary people enjoy the thermal waters, luxury hotels, illegal gambling and bootlegging, especially in the 1930s. Gambling included the Ohio Club, Hot Springs' oldest bar, and the Southern Club (now in Josephine Tussaud Wax Museum), which was reputed to be owned by mobster Owney Madden. He was one of the founders of the New York mob, was part of Murder, Inc., and owned Harlem's famous Cotton Club. Infamous mobsters such as Al Capone were frequent visitors, with Capone taking up part-time residence in Arlington Hotel. Mobster Charles "Lucky" Luciano was arrested in Hot Springs on the promenade behind the Ozark Bath House. He was in town gambling and taking the baths. Illegal gambling was permanently closed in hot springs in 1964. The remnants of the city's notorious past can still be found inside hot springs' Gangster Museum of America, which shown old

roulette tables, vintage slot machines, Madden and Capone exhibits and gangster weapons (Hot Springs Guide of Arkansas, 2020).

Prior to the Civil Rights Movement, Hot Springs' bathhouses were racially segregated, with the best bathhouses catering only to whites. Despite the injustices segregation caused, the city saw a flourishing of African-American bathhouses after the turn of the century. The Crystal Bathhouse built in 1908, was the first African-American bathhouse in the city and operated until a fire burnt in 1913. The Pythian Bathhouse & Sanitarium opened on the site of the old Crystal Bathhouse the next year and served patrons including many African-American celebrities until 1974. Buckstaff Bathhouse, built in 1912, was the oldest bathhouse still in operation. It was built in the Neoclassical Revival style, with engaged Tuscan columns that divide the main façade into seven bays flanked by pavilions at the north and south ends (Hot Springs Guide of Arkansas, 2020).

In 1871, pharmacist Peter Greene and his brother John bought Lockett Springs in Hot Springs and had sold mineral water '*Mountain Valley Spring Water*'. By 1928, the water's popularity and association with the health spa boom allowed the company to expand distribution by making Mountain Valley the first bottled water available. The visitors now can explore the company's rich history at Mountain Valley's Museum of Bottled Water where has displayed almost 150 years of bottles, barrels, photographs, and specialized machinery. Hot Springs continues nowadays providing its entertainment venues with incredible natural beauty. At the present, the visitor still can see the steam vapors drifting down from the hillside springs as they have for thousands of years. Hot Springs' lakes have become the major draw to the area and began to expand resort reputation in the 1930s with the construction of Lake Catherine and Lake Hamilton to the south of downtown Hot Springs, and Lake

Ouachita was created and called *'Tri-Lakes'* in the 1950s (Hot Springs Guide of Arkansas, 2020).

4.2.2 Canada

The National Parks of Canada attract many visitors to the hot springs with associated areas among great attractions. Some hot springs such as the *Radium Hot Springs* (Kootenay National Park) and the *Upper Hot Springs* (Banff National Park) open every season, but the *Miette Hot Springs* (Jasper National Park) are seasonal and only open from spring to autumn (Parks Canada, 2008).

Banff Adventures (2020) expressed that prior to exploration by Europeans in the 19th century, the area of Banff National Park was home to First Nations people. They had been using the hot springs as a source of healing and renewal purposes. When the expedition of the Canadian Pacific Railway was surveying the area in 1888, they stumbled across the hot springs. The government granted a federal reserve two years later, for the area around the hot springs and called *'Rocky Mountain Park'*, which was the beginnings of Banff National Park, the federal government commissioned the building of roads, bridges and other services to make it as an attraction. The Banff Springs Hotel was built in 1888 and a few years later, the land around Lake Louise was added to the park. More visitors began to soar, then Brewster brothers, Bill and Jim, in 1900 opened an outfitter and guiding business. The area developed more roads to access among Banff, Lake Louise and Radium Hot Springs. Until today, Banff still is the premier vacation place (Banff Adventures, 2020).

4.4 Australian Hot Spring Tourism Destination

The earliest hot spring fossils of Australia reported by Smith, D. (2017), she announced the scientists have found the oldest evidence yet for microbial life on Earth, in 3.48-billion-year-'*old hot spring*' deposits in the Pilbara region of Western Australia. The discovery also suggested something startling about life's origins. The researchers, Tara Djokic and her team finished their research in 2017 with fund of the University of New South Wales. They believe the rocks containing the fossils were formed on land, not in the ocean, because they identified the presence of geyserite – a mineral deposit formed from near boiling-temperature, silica-rich, fluids found only in a terrestrial hot spring environment.

In Australia, hot springs can be found in all states and territories (Lambert, S., 2017). **Western Australia**, there are three main areas; Perth, Shark Bay and the Kimberley. The Northern Territory is full of natural springs and thermal pools all the way from Darwin to Mataranka. Queensland is also full of facilities as it sits on the Great Artesian Basin, the same as New South Wales and South Australia. From top to bottom, it is easy to access a hot spring soak such as Lara Wetlands, south of Barcaldine and Eulo is only place in Australia where a mud bath. **New South Wales** has hot springs at the Gwydir caravan park, Moree, Waters from Australia's Great Artesian Basin. Victoria has many spa facilities but only three are genuinely geothermal. These are Warrnambool, Rhy and The Bayview Boathouse at Bairnsdale. **Tasmania**, there are only two natural thermal pools in this state and they are both on the cooler scale at around 28ºC. Hastings Caves and Thermal Springs are in the south west. **Australian Capital Territory**, there are no any thermal springs in the ACT but the closest is the Yarrangobilly Caves with its 28ºC pool in the Kosciuszko National Park (Lambert, S.,2017).

According to Department of Agriculture, Water and The Environment of Australian Government in 2009. The significant hot springs where listed as National Heritage on 4th August 2009, called '*Witjira-Dalhousie Spring*' is the most northerly group of springs in South Australia. The Great Artesian Basin, which covers more than 20 percent of the Australian continent, has around 600 artesian spring complexes in twelve major groups. Springs can range in size from only a few metres across to large clusters of freshwater pools known as 'supergroups'. Witjira-Dalhousie Springs is a supergroup that contains around 60 springs, extending over an area of more than 50,000 hectares. It is a complex of 'mound' springs, which defined as the groundwater flow deposits calcium and other salts from the mineral-rich waters. These deposits, combined with wind-blown sand, mud and accumulated plant debris, settle around the spring outflow forming mounds that resemble small volcanos.

Due to the springs' isolation many of these plants and animals have evolved into distinct species not found anywhere else in the world. The Springs is an integral part of Aboriginal tradition and life in northern South Australia. It is a place that is associated with many traditional stories and songs. Evidence of the spring's significance to Aboriginal people can be seen in the large camp sites found at the springs.

Australian hot spring tourism destination has much in common with many other Western developed countries (e.g., United Kingdom and United States). Australia emphasized mainly on wellness tourism and day spas, and holistic retreats also play an important role. The State government positioned Victoria as 'the destination of choice for visitors seeking a spa and wellness experience', according to Victoria's Spa and Wellness Tourism Action Plan 2005 – 2010, and Tourism Australia recognizing the need to coordinate Australian spa development and supporting the establishment of a spa tourism plan for Australia by the Australasian Spa Association (ASPA) (Laing, 2009).

Between 1997-2006, Charles, D. (2003) studied the Peninsula Hot Springs, Victoria, Australia. He claimed that it was the first modern hot spring bathing facility in Victoria, and the only modern one in Australia to integrate therapeutic spa, bathing, accommodation, food and beverages. The Australian state of Victoria was the destination for waves of gold miners in the 1850's Californians, British, Irish and Chinese among them seeking their fortunes with pick and shovel. In June, 2006, he opened with brothers, Peninsula Hot Springs was the first hot spring bathing facility in Victoria.

Victoria's Spa and Wellness Tourism Action Plan (2005 – 2010), a first for Australia, emphasized the under development of spa and recreational facilities in the Victoria. With over 100 recognized mineral springs, Victoria has by far the highest number of natural springs in the country. This plan emphasized the ongoing commitment of the Victorian Government to the growth of the spa and wellbeing market (Davidson *et al*., 2011).

Country	Number of hot spring locations currently known	Earliest recorded use
Algeria	70 hot spring areas	1st century BC
America (North)	1702 hot springs in 23 States (Berry et al., 1980)	1700s
Argentina	119 hot spring areas	-
Australia	38 hot spring areas	1895
Austria	13 hot spring areas 18 hot springs in Baden alone	50 AD
Belgium	2 hot spring areas	14 century AD
Brazil	121 areas (86 Caldas Novas only)	1545
Canada	110 hot spring areas 382 hot springs	1859
China	88 hot spring areas 2509 hot springs	Western Zhou Dynasty 1050-771 BC
England	1 hot spring area	43 AD by Romans
Finland	1 hot springs	1700
France	124 hot spring areas	120 BC
Germany	57 hot spring areas	1st century BC to 1st century AD
Greece	68 hot spring areas 750+ hot springs	5th – 6th centuries BC
Hungary	34 hot spring areas 1000+ hot springs 100 Budapest alone	1st century BC Roman military
Iceland	516+ hot spring areas	Icelandic Sagas (n.d.)
India	202 hot spring areas 320+ hot springs	Hindu Epics (n.d.)
Iran	17 hot spring areas 149 hot springs	-
Japan	5500+ hot spring areas 26.796 hot springs (in 2001)	631 AD (earlier records not reliable)
Jordan	7 hot spring areas 104 hot springs (55 near Dead Sea)	1st century BC
New Zealand	67 hot spring areas 170+ hot springs	19th century Earlier oral transmission
Russia	140+ hot spring areas 64 hot spring areas in Kamchatka alone	5th century AD
Spain	46 hot spring areas 300+ hot springs in Galicia alone	1st century BC Roman occupation
Taiwan	14 hot spring areas 130+ hot springs	1697 during WWII Japanese Onsen developments
Turkey	113 hot spring areas 1300-1500 hot springs depending on sources	15-18th century BC

Table 10: The Earliest Record Use and Present Number of Hot Springs in other Continents
Source: Erfurt-Cooper and Cooper, 2009

CHAPTER 5
CULTURAL LANDSCAPE OF HOT SPRING TOWARD HEALTH TOURISM AND RECREATION IN KANCHANABURI

5. Introduction

This chapter revealed 2 objectives of the research; (1) to identify settings where natural hot spring and its surroundings are integrated in health tourism and recreation and (2) to explore the cultural landscape of hot spring as a tourism resource. Refer to below part cut from the full conceptual framework (in chapter 3). To identify settings; most important two kinds of settings that surrounds cultural heritage site are natural settings and social settings. In this study, the natural settings will be interpreted as physical environment factors and social settings will be interpreted as socio-economic factors.

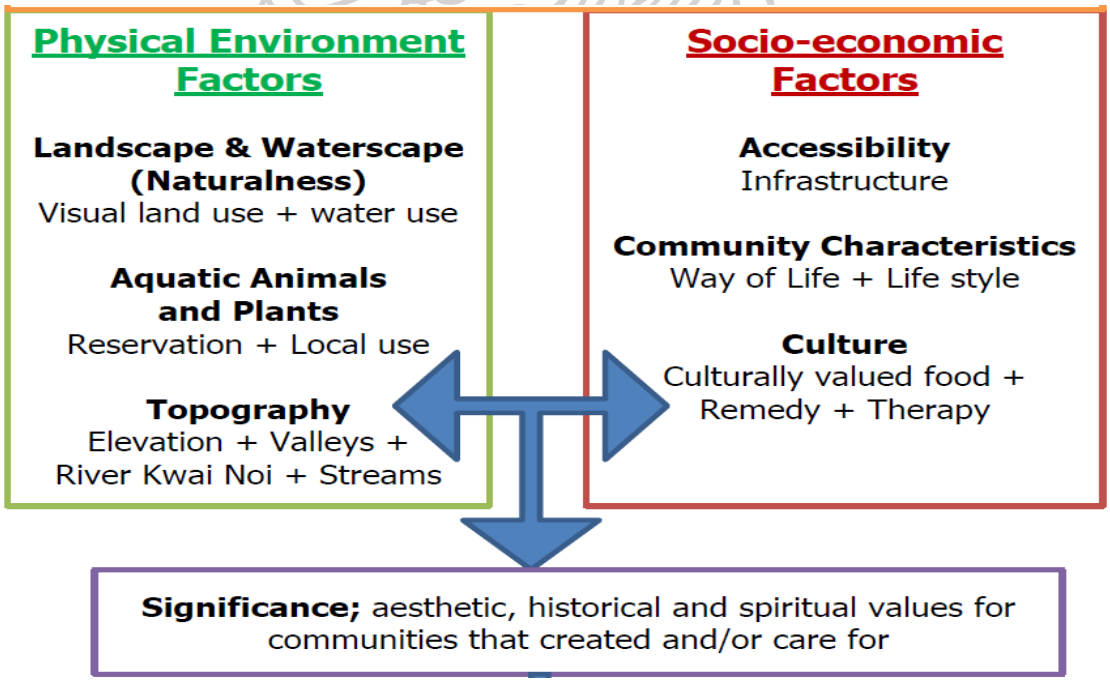


Figure 9: A part of conceptual framework to answer the research question
Source: Author (2019)

5.1 Research Objectives

To identify settings where natural hot spring and its surroundings are integrated in health tourism and recreation. This part will explain as follows;

5.1.1 Physical Environment Factors = Natural Settings

(1) Waterscape and Landscape

(2) Animals And Plants

(3) Topography

5.1.2 Socio-economic Factors = Social Settings

(1) Accessibility

(2) Community

(3) Culture

5.1.1 Natural Settings integrating in Health Tourism and Recreation

(1) Waterscape and Landscape

(1.1) Waterscape

Health Tourism is a form of tourism that provides visiting a site to see the beauty of serenity, as well as, experiencing local's way of life and relaxing with tourism resources. The form also focuses on some activities that helps visitors to stay healthier. Health tourism has generally conducted any relaxing program during the trip in natural area. Therefore, it brings nature as a way of treatment and promote both physical and mental balance living (Sriwattananukulkij, 2003). It can be said that health tourism actually motivates visitors' healthy awareness and environmental concern of nature (Department of National Park Thailand , 2014). Without doubt, hot spring is one of tourism destinations where people tend to think of their body and

mind treatments, better health condition and health promotion. The main element of hot spring is waterscape.

As a primary landscape element, water has been and is still today an important part of landscape. Asakawa et al. (2004 p.177) recognized that *"in order to achieve highly preferred scenery in these stream corridors, there are three necessary components of natural scenery: water, vegetation, and sequential experience with variety."* In this paper, the definition of '*waterscape*' can be described by Karpouzoglou and Vij (2017) *"waterscape is a perspective that has captured the imagination of diverse scholars interested in the interaction of water and society. This includes the way water travels in time and space and is shaped by culture and geography."* They placed strong emphasis on understanding the role of power and the contested nature of water in diverse rural, urban, and periurban landscapes included informal water practices, and local water flows. Waterscape contributes to naturalness and spaciousness. They integrate aesthetic, cultural and ecological characteristics. The waterscape is along with other reasons, mainly for the enjoyment of humans. It can be the major element giving meaning and defines individual places. It transmits structure and creates space and mystery. The landscape becomes more readable and mysterious, which contributes significantly to a unique sense of place (Burmil et al.,1999). A sense of place in waterscapes is connected with emotions and *"a symbolism difficult to achieve with any other natural element"* (Whalley, 1988 p.145). Thong Pha Phum District, western of Kanchanaburi, has a large number of creeks, streams and rivers. The water discharges into Vachiralongkorn (Khao Leam) reservoir and eventually into the Kwai Noi River which for the most part heavily exploited for the goods and services it provides. The creeks and streams flow through regions that are moderately exploited for agriculture and human habitation. (Phannee Sa-ardrit, F.W.H. Beamish and Chunte Kongchaiya, 2011)

The report of F.W.H. (2017) studied in Thong Pha Phum described Kwai Noi watercourses or rivers have greatly influenced the development of human society as they freely provide a continuous supply of essential goods and services or resources as they are commonly called. The goods include domestic agricultural (e.g. irrigation) and industrial needs, food in the form of fish, large invertebrates such as crabs and shrimps and vegetable such as bamboo and herbs. The waterscape services included recreational activities, transportation, an efficient disposal system for domestic, agricultural and industrial wastes and ecotourism. In the scope area, the recreational activities may be covered with swimming, bathing, foot soaking, rafting, kayaking, canoeing, fishing, paddling boat and watching wildlife animals (wild elephants, birds, etc.). Cross, C. (2015) defined recreational water activities by the amount of contact people have with the water. Primary activities have a high degree of contact with water, which whole body or face are frequently underwater, wetted by spray, and where visitors are likely to swallow water. Whereas, secondary activities have a lesser amount of water contact. It is important to keep in mind that both can put people at risk of waterborne illnesses or accidents. Importantly, rivers are changeable and unpredictable and can contain hidden dangers. The visitors may not be able to check for hidden objects and swimming holes can change depth season to season and currents can move objects underwater. Even near dams water levels and flows can change significantly throughout the day and massive flows may be released at any time, as well as, river banks can become unstable during flood and after heavy rain. If any visitor prefers wading, a local wading staff may have to give extra support and can ensure not ahead for obstructions or changes in flow (Participant No.21, 14 February 2020). Having someone accompanying for extra support and safety is a better option to enjoy recreation in some parts of the scope area. Therefore, local people will have more opportunity to work as a local guide or any other local relevant jobs. This will help the community members to have more jobs in their own hometown where they belong. Due to the fact that rivers are not patrolled, then never enter a river alone. The pressure of moving water is constant and can be powerful even

if the river looks slow moving and calm. The local guides usually live their lives in the area, they are able to check weather forecasts and use their local wisdom to observe any suspicious environment around; including rainfall in the hills above that could fill the streams and rivers. Therefore, the local involvement can easily take part by working directly to the visitors or tourists to ensure their safe and healthy. The local people have been grouped by themselves upon their interests such as fishing, caving, rafting groups and so on.

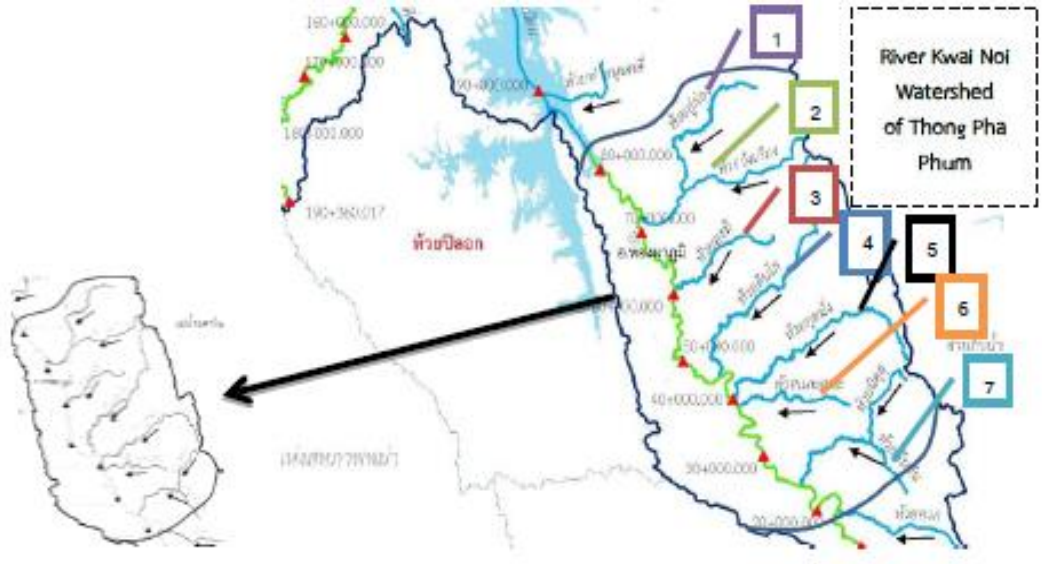


Figure 10: The Scope area of Study in Thong Pha Phum, Kanchanaburi
Source: Adapted from http://streff.dwr.go.th/Stream_EFF_Map/ 14%20ลุ่มน้ำแม่กลอง/1408%20ลุ่มน้ำสาขาแม่น้ำแควน้อยตอนบน.jpg

From the study, there were 7 streams connected with the Kwai Noi river within scope area. From the inspection, the streams of U Long (No.1), Wang Kiang (No.2), Ong Thi (No.3), Din So (No.4), Kui Meng (No.5), Lae Chae (No.6) and Lin Thin (No.7) were downstream from comparatively pristine forest regions with moderate exploitation. F.W.H. Beamish (2017) declared water in reference sites was clear, free from noxious odors and appeared visually to be of good quality. F.W.H. Beamish (2017) reported the area was with very high oxygen where also rich in aquatic plants, and plant nutrients

including phosphate and nitrate. The abundant plant biomass at these sites clearly contributed to the ambient oxygen concentration during the daylight hours when measurements were made.

The studied area is located in a greenery location by side the Kwai noi river, Kanchanaburi. Among the abundance of natural areas along the Kwai Noi river, surrounded by gorgeous scenery of complicated lush green hills. The site is close to the luxuriant natural charming with distinguished waterscape and surrounding elegant scenery. The hot springs harmonize with the cool streams beside with the beautiful nature. The use of geothermal waters for medical and leisure purposes has been growing in recent years. In the study area, there are two hot springs, Lin Thin and Hin Dad hot springs. The characteristics of hot springs, such as its proper temperature, physical parameters, chemical composition, and microbiological quality. Lin Thin hot spring situated with Lin Thin sub district of Thong Pha Phum district. There are two main big spring wells for body hot bathing and two small springs wells for foot soaking only. The mineral water of the hot spring considered so pure and warm which is pumped from the original hot wells in the middle of the Kwai Noi river nearby. The man-made wells were built on the above river bank.

The unique characteristics of hot springs here is near the cool natural water resources; Hin Dad hot spring is situated within the greenery serenity near Kui Meng stream, a branch of Kwai Noi river in Hin Dad sub-district. Lin Thin hot spring is located near the Kwai Noi River. This makes the location completely unique, even the extra pools had been built as man-made pools nearby the cool stream. They completely look harmonious with the overall nature around.

Figure 11: Hin Dad Hot Spring in the greenery serenity near Kui Meng stream
Source: Author (2017)

Figure 12: Kwai Noi river close to Lin Thin hot spring, people can access to the river
Source: Author (2019)

(1.2) Landscape

The Thong Pha Phum areas compose of three distinct ecoregions; Tenasserim-South Thailand semi evergreen rain forest, Kayah-Karen montane rain forest and Chao Phraya lowland moist deciduous forest. Annual rainfall varies among these three regions from 100 to 400 cm. and the overall area supports a large and diverse collection of plant and animal species, as well as many have yet to be recognized. Around 40 years ago, the local peoples were relocated from their homeland in preparation for the construction of Khao Laem or called Vachiralongkorn Dam. It is a multi-purpose dam mainly for generating electricity. It located on the River Kwai Noi which had been built to block on the River Kwai Noi in Tha Khanun Subdistrict,

Thong Pha Phum District in Kanchanaburi. The construction began in 1979 and took five years to complete. Its reservoir started filling with water in June, 1984 and an electrical generating plant by the electrical authority of Thailand. There were 612 households had been relocated to the new land within Thong Pha Phum where donated by the electrical authority of Thailand for their new livings (F.W.H. Beamish, 2007). During 1995-1999, the Thong Pha Phum people again had to endure additional hardships caused by the construction of a gas pipeline, a project known as the Thai Myanmar Project. From this background had arisen the Thong Pha Phum Project sponsored jointly by the PTT Public Company Limited and the joint Thai Research Fund, Special Program for Biodiversity Research and Training Project. The Thong Pha Phum Project had as its objectives; to provide an area for interdisciplinary research, to encourage learning through interaction among members of regional communities and researchers with the view to strengthen the community and to support an area for resource conservation. Conservation of endemic biodiversity seen as important to establish mutual understanding between the community and government on the wise use of natural resources (F.W.H. Beamish, 2007). According to Prathet Boonyong (2013), Thong Pha Phum district in 19th century, the major industry was "lead" mining, but most mines are now closed. Nowadays, no more lead mining, when civic groups in Kanchanaburi joined forces to stop the Mineral Resources Department's plan to reopen lead mines in protected forests in their home province. The government's past failure to solve environmental destruction and deadly health hazards from old lead mines and the country's need to protect dwindling pristine forests, the Kanchanaburi people's concerns were solid and their demands must be heeded.

The study was focused in and around hot springs areas included two hot springs; Hin Dad and Lin Thin hot springs. The settlement of hot springs was founded on a floodplain of Thong Pha Phum district. The water originates from Kwai Noi river flowing to both hot springs. The landscape lies within the Tanao Sri mountain range of

Kanchanaburi Province. Further from the study area, the construction of Vachiralongkorn Dam approximately 30 kilometers to the north subsequently fixed the river course, as upstream impoundment of the area served to control further flooding within the villages along Kwai Noi river and streams including hot springs. The current topography of the hot springs landscape is relatively unchanged since officially operating to public.

The buffer zone, the boundary area of investigated landscape together with planting and screening that designed to minimize or eliminate conflicts between dissimilar land uses. In this case, buffer zones identified by non-hunting forests and reserved forests where combined within five national parks around the scope of studied area; (1) Thong Pha Phum National Park, (2) Khao Lam National Park, (3) Lum Klong Ngu National Park, (4) Srinakarindha Dam National Park and (5) Sai Yok National Park (See Figure 13). They help to safeguard the natural features of the study area where situated in the middle of them. On the other hand, to help promoting landscape connectivity, the national parks around the site adopted the concept of ecological networks, which referred to as 'forest complexes'. The national parks are ecologically linked to form a larger area that will be able to support viable populations of wide-ranging species of plants and animals, as well as contribute to regional social and economic development through provision of ecosystem services. These areas connected by ecological corridors that include non-hunting areas, buffer zones, lands managed by local government agencies and private sector's lands. As a consequence, this approach seems to make the study area acting as a buffer zone of National parks. It can be said that having five national parks around could act as safeguarding the cultural landscape as well. The landscape of the site encompasses a range of land uses such as agriculture, forestry and human settlements. Sharing, developing and managing water resources for agricultural and fishery production and energy are still the challenges of the area as local residents depend heavily on Kwai Noi river for cheap and readily available sources of livelihood and food for families to survive. The

mountainous land still confronts the shortage of water resources. This generates some challenges in seeking new resources of water and producing clean water for local people (Metropolitan Waterworks Authority, 2020).

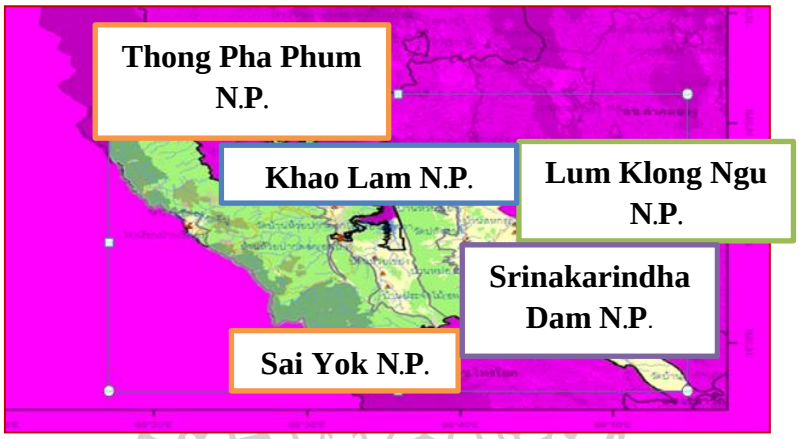


Figure 13: Five national parks around the study area
Source: Author (2017)

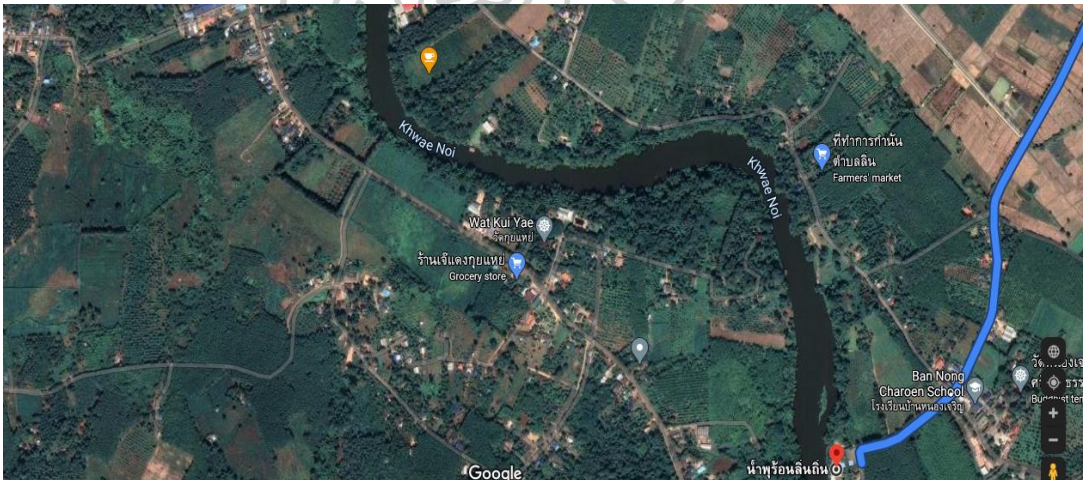


Figure 14: Kwai Noi River corridor in Thong Pha Phum, Kanchanaburi maintains ecological connectivity as the river passes through agricultural, residential, rural and natural landscapes.
Source: Google Map (2020)

(2) Animals and Plants

(2.1) Endemic Animals

Bates, P., Bumrungsri, S., Francis, C. (2019) described Kitti's hog-nosed bat was unknown to the world at large prior to 1974. Its common name refers to its discoverer, Thai zoologist Kitti Thonglongya. Thonglongya worked with a British partner, John E. Hill, in classifying bats of Thailand; after Thonglongya died suddenly in February 1974, Hill formally described the species, giving it the Binomial name '*Craseonycteris Thonglongyai*' in honour of his colleague. Kekule B. (2012) explored Kanchanaburi, especially Sai Yok and Thong Pha Phum districts and described that in the deep inside the forest, one of the world's smallest mammals, Kitti's hog-nosed bat. It was found in limestone caves along the remote Kwai Noi river. Previously, it was thought to be endemic but this creature has been found in other isolated pockets elsewhere in Kanchanaburi, and is also thought to survive in neighbouring Myanmar. This flying mammal weighs barely two grams. Aptly, it has been called the '*bumblebee bat*' and has an average wingspan of just three inches. It uses sonar to forage for insects during short periods each night about half an hour in the evening and again for another half an hour just before dawn. Their numbers are fewer , as a consequence, it is listed by the International Union for Conservation of Nature (IUCN) as vulnerable. At one time, this remarkable little mammal was in fact one of the world's 12 most endangered animals. Constant foraging by locals for guano and catching bats with mist-nets is a serious problem that needs to be addressed. Duangkhae, S. (2020) reported results from exploring caves in Kanchanaburi province and found 35 caves of Kitti bats, most of which are scattered in Sai Yok district, 23 caves. The remaining caves were found in Thong Pha Phum, Tha Muang and Muang District. The threats to the Kitti bat population included direct bat hunting and utilization in the cave habitat of bats; camping, living, performing rituals, travelling, digging fertilizer, seeking bat guano, digging and pumping caves. The population and appearance of Kitti bats tend to decrease as disturbances in the cave increase.

Figure 15: Kitti's Hog-Nosed Bat or Bumblebee Bat (Craseonycteris Thonglongyai)
Source: https://alchetron.com/Kitti%27s-hog-nosed-bat

Furthermore in the area, Schoch C.L., et al (2020) explained about Regal crab or locals call 'Queen crab' (*Thaiphusa sirikit*) was firstly found by Mr. Naiyanetr in 1984 and it is an endemic crab in the freshwater swamp forest in Kwai Noi River basin, Thong Pha Phum. It has never been reported anywhere else. This crustacean is known locally as the 'three-coloured crab'. It has its mouth and legs red and orange, its claws are white and the carapace is bluish-purple. Its colors can be change indefinitely according to the season. To honor and celebrate the 5th Anniversary of Her Majesty Queen Sirikit Queen in 1991 (or *Her Majesty Queen Sirikit the Queen Mother announced in 2020), it was* named '*Thaiphusa sirikit*' as the scientific name. This crab has been listed as a protected wildlife according to the Wildlife Preservation and Protection Act 1992. Unfortunately, monkeys normally eat crabs and shells, it is also food's local people. Fewer in number is seriously endangered. However, more locals in the area have stopped eating them since they were named after the Her Majesty the Queen. More importantly, they started seriously protecting the endemic crab. This is a way of conservation.

Figure 16: Regal crab or Queen crab (Thaiphusa sirikit)
Source: Wongwilat, S. (2019)
http://www1a.biotec.or.th/BRT/index.php/2009-06-23-04-27-44/185-poo-rachinee.

Kangrang et al. (2011) found a new species of '*Schistura*' is described from the Kwai Noi, Mae Khlong basin, in the Thong Pha Phum District of Kanchanaburi Province in western Thailand. The species is distinguished from all other species of Schistura by a uniform dusky brown color pattern without marks on the dorsum or side of body and with many conspicuous supplementary neuromasts along the lateral line and on the head. It is further distinguished from other species of Schistura lacking marks on the body by its dark brown color, an incomplete lateral line extending only to beneath the dorsal fin, and the origin of the dorsal fin located above the origin of the pelvic fin. The species is small and inhabits shallow gravel and rubble riffles in small streams.

Figure 17: Schistura aurantiaca (ปลาค้อทองผาภูมิ Pla Khoe Thong Pha Phum)

Source : Punnatut Kangrang, Lawrence Page, Frederick Beamish (2011) Schistura Aurantiaca, Ichthyological Exploration of Freshwaters, page 171

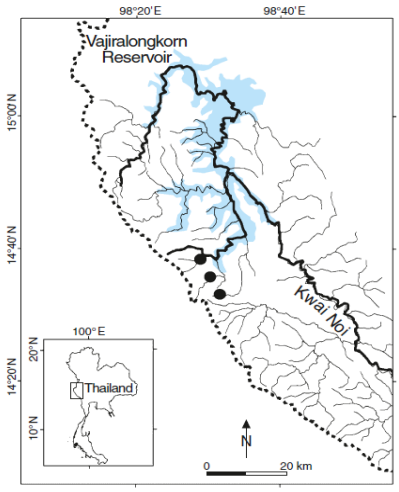


Fig. 5. Distribution of *Schistura aurantiaca*. Black dots represent localities for specimens examined.

Figure 18: Habitat of Schistura aurantiaca in Thong Pha Phum

Source : Punnatut Kangrang, Lawrence Page, Frederick Beamish (2011) Schistura Aurantiaca, Ichthyological Exploration of Freshwaters, page 171

Kangrang et al. (2011) Their distribution and habitat is known only from the Kwai Noi, Mae Khlong basin, in the Thong Pha Phum District of Kanchanaburi Province, Thailand. Most specimens have been taken in shallow gravel and rubble riffles in small streams in the upper reaches of the Kwai Noi. Physical and chemical conditions were similar at all localities where Schistura aurantiaca was taken. Elevation varied from 240 to 308 m., stream width varied seasonally but ranged from 2.7 to 9.1 m., depth varied from 10 to 40 cm., velocity from 20 to 70 cm., and the substrate consisted of small to medium-sized rocks. Water temperature varied seasonally from 20 to 26 °C. Water pH varied from 6.5 to 7.9.

(2.2) Plants

Due to the area is connected the water resources; Kwai Noi river and many streams, its branches, aquatic plants then found within the area. According to United States Environmental Protection Agency (2020), '*Aquatic plants*' are plants that have adapted

to living in aquatic environments (saltwater or freshwater). Some plants grow in or near water and is either emergent, submergent, or floating. They produce oxygen, and act as food for some fish and wildlife. More importantly, they are primary producers and are the basis of the food web for many organisms. They have a significant effect on soil chemistry and light levels as they slow down the flow of water and capture pollutants and trap sediments (United States Environmental Protection Agency, 2020). In the study, Pichitkul, P. (2015) discovered that species diversity of aquatic plants in Kwai Noi River system. Most of them were marginal plants. The dominant family were Araceae, Poaceae, Polygonaceae and Scrophulariaceae respectively. The dominant species were wild taro (Colocasia esculenta), sessile joyweed (Alternanthera sessilis), willow-leaved water croton (Homonoia riparia), water primrose (Jussiaea linifolia) and common reed (Phragmites karka). Aquatic plants can be used for food, medicine and decoration. Four species were classified as the serious weeds and ten species can be used as the environmental indicators. Moreover, Khamchompoo, S. and Thongpakdee, A. (2005) studied endemic plants in Thong Pha Phum district and first found new spies of Kradangnga or Ylang Ylang species in the forests of western Thailand.. Native name given that '*Red Milk Thong Pha Phum*' which can be counted as scientific values and will explain more of other rare plants in the part of heritage values for enhancing its rare spicy.

Figure 19
Red Milk Thong Pha Phum

Source:
http://www1a.biotec.or.th/BRT/index.php/download/doc_download/202-

During field trip in 2019, the author talked to the locals about the plants they normally grow in their own gardens, most of them are herbs especially '*Krachai*' (Siamese

Galingale) and '*Khamin*' or Turmeric (Curcuma longa). It can be supported by Thaweesakdi Boonkerd (2007) who studied variety of herbs which have properties as an herbal medicine in Thong Pha Phum. He found 'Siamese Galingale' one of the ginger family, and classified as endemic species, namely Siamese Krachai or Black Krachai (Boesenbergia siamensis (Gagnep.) P. Sirirugsa). Chalermkrin, P. (2008) also explained it is a plant in the genus Zingiberaceae family with small rhizome underground. The roots accumulate food in a cylindrical shape with 2-3 lanceolate leaves. When they come out above the soil, they turn to wither during the dry season and starting the inflorescence in April. In 1946, this plant was first discovered in Kanchanaburi in 1946 by Mr.G. Den Hoed, Dutch researcher and it was named '*Siamese*' to honor Thailand. The study of Praduptong, A. et al (2020) showed Thai herbal plants has a potential to be used as healthy oil products. They suggested that Siamese Galingale oil, Turmeric oil and Thai medicinal plants can be combined to develop the new formulation of skincare products such as a massage oil, cream, gel and other skin care products. It could support health tourism as a part of tangible tourism product.

Figure 20: Black Galingale (Kaempferia parviflora)
Source: https://puechkaset.com/กระชายดำ

Figure 21: Khamin or Turmeric (Curcuma Longa)
Source: https://kaset1009.com/th/articles/133649-ขมิ้นชัน ที่ทองผาภูมิ-สังขละบุรี ชนชาติพันธุ์ปลูก

(3) Topography

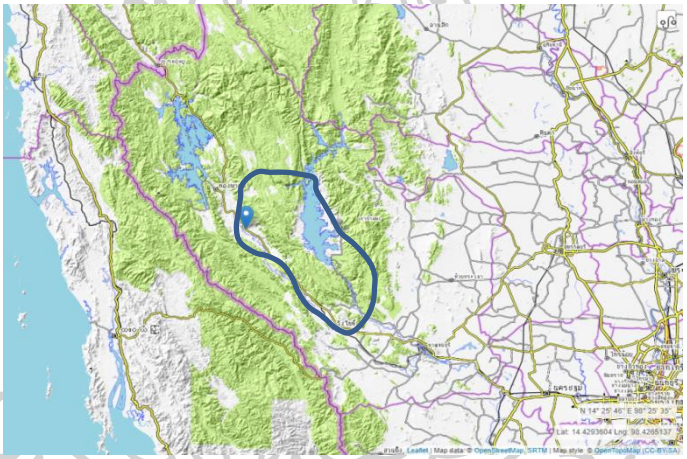


Figure 22: Topography of study area in Thong Pha Phum District, Kanchanaburi
Source: https://elevationmap.net/linthin-thong-pha-phum-kanchanaburi-th-1001937349

Tienwonga, K. et al (2009) explained the topography of Kanchanaburi is a combination of mountain ranges, valleys, and river plains. The western part are mostly covered with mountain, there is undulating land in the northeast, and the far east and the south are river plains. The local climate is tropical savannah. There are 51 classified soil types which fall into 14 great soil groups. These soil groups are formed from various soil parent materials, i.e. granite, limestone, and sandstone shale which can be weathered in place or transported by flood. Only 35% of the provincial area is not protected forests or conservation zones and can therefore be used for doing agriculture. The physical factors were topography (slope), climate (annual rainfall,

temperature), soil potential and water supply (distance from water body, stream or rivers, irrigation zone). The restricted areas are conservation areas, fertile forest, and watershed areas. Tienwonga, K. et al (2009) also explained the major fault segments of the Three Pagoda Fault (TPF) Zone and Sri Swat Fault (SSF) Zone are oriented parallel or sub-parallel in the same NW-SE directions. The Kwai Noi River runs along the TPF in the south whereas the Kwai Yai River runs along the SSF in the north. The southeastern continuation of both faults obscured by thick Cenozoic sediments. Hence, surface lineaments cannot be traced with confidence. However, based on some interpretations of the airborne magnetic data, the trace of such faults designated to run through the western part of Bangkok and the northern end of the Gulf of Thailand. Paleo-earthquakes and the presence of hot springs along the fault zones indicate that they are tectonically active. The changes of both physical and chemical properties of the water from Hin Dad Hot Spring and those of the surface water from a shallow well at Ban Khao Lao during the earthquake in December 2004 clearly indicated that the southeastern continuation of the TPF is at least as far south as Pak Tho District, Ratchburi. There are three existing hot springs and one former hot spring lying in the proximity to the trace of the Three Pagodas Fault Zone. They are namely, from northwest to southeast, Hin Dad Hot Spring, Lin Thin Hot Spring, Wang Krajae Hot Spring, and Pak Tho former hot spring (Tienwonga, K. et al, 2009). Nevertheless, the studied area has been investigated only Thong Pha Phum District in Kanchanaburi where Hin Dad Hot Spring and Lin Thin Hot Spring are situated in.

5.1.2 Socio-ecomonomic Factors (Social Settings)

(1) Accessibility

(1.1) Land Accessibility

The studied site of Thong Pha Phum is located around 250 kilometers away from Bangkok and 120 kilometers west of Kanchanaburi town. The proper transportation mode is by car, motorbike and bicycle to properly explore within the scope area. It is possible to also reach Thong Pha Phum town by local bus. To get to Thong Pha Phum, take the main road number 323 heading north out of Kanchanaburi, after around 120 kilometers you will arrive at the stating point of the scope area at Lin Thin subdistrict and continue on the road number 323 until turn left onto the road number 3272, it can be seen a small town of Thong Pha Phum, on the right where bus terminal located and there is an important old local market named 'Thong Pha Phum Market' offering any local fresh food and other essentials. The end of the scope area is at Huay U Long. Along the way can be easily accessed via the proper roads which required for basic infrastructure of visitors. It was found that the current physical condition of the road leading to the village is ascent. The main road is a concrete road, and the road to Burma is constructing that will lead more visitors come to the site easier in the future. The ways outside the residential areas which are along by the forest and agricultural crops have no street light.

Unfortunately, there is no any railway access directly to Thong Pha Phum district. The history of Kwai Noi river that remembered internationally for allied forced labour during World War II which related to railway history of Kanchanburi. The Japanese military had sought a railway link from Bangkok to Burma (Myanmar) and laid track along the Kwai Noi valley to Three Pagodas Pass. Thousands of allied prisoners of war died while building the railway. Nevertheless, after the war Thailand and Burma agreed to destroy the tracks from their common borders until 100 km into each country, in Thailand until Waterfall in Thai, *'Nam Tok'* station in Tha Sao subdistrict (Coast, J., Noszlopy, L., Nash, J., 2014). Nowadays, it is the exist train station located near Sai Yok Waterfall, the nearest train station in Kanchanaburi. It is almost 50 km away from Thong Pha Phum, therefore the visitors will have to transfer

from that train to local bus. The local Thong Pha Phum bus terminal is near to the Thong Pha Phum local market.

According to the study of Thipayasothorn, P., et al (2018), the trading route has been constructing and connecting to Myanmar via Thong Pha Phum. Therefore, people in the Thong Pha Phum area prefer having some business established close to the trade route where will be connected with other ASEAN countries. The route will create the commercial zone both sides of the Kwai Noi River. They studied the plan for sustainable communities both agricultural and commercial in the Special Economic Zone of western Thailand to increase the value of agricultural products. Also, to develop export potential in agricultural products that generate income for the communities as well as quality development. This will strengthen the competition ability, the communities' economy and develop overall economy and socialment. The coming project may support the accessibility within Thong Pha Phum, as well as it may help internationally promoting hot springs tourism.

To classify and manage recreation opportunities, USDA Forest Service (1982); Emphandhu et al. (2004); Yimsrua, S. (2018), suggested the Recreation Opportunity Spectrum (ROS) is a system for classifying and managing recreation opportunities, based on the following criteria: physical setting, social setting, and managerial setting. Physical setting involved with location, environment, accessibility remoteness and infrastructure. Social setting means social living conditions, economy, population and tourism demand, tourists' expectations of the experience. Management setting relates to local management authority, visitor management, level of development, naturalness; land use and management activities. The combination of the three criteria results in six different ROS classes which are described below;

1) Primitive area (P)
2) Semi-primitive non-motorized area (SPNM)

3) Semi- primitive motorized area (SPM)

4) Roaded natural-modified (RN-M)

5) Rural (R)

6) Urban (U)

After survey and evaluation of two hot spring sources in Thong Pha Phum, according to the principle of classification of ecotourism areas mainly Recreation Opportunity Spectrum (ROS) can classify the characteristics of two hot spring sources as follows;

1. **Hin Dad Hot Spring** classified as "Semi-Primitive Motorized Hot Spring" (SPM) means a hot spring located in a natural area where most of the conditions remain natural. The area is relatively large, secluded, peaceful, may have some adaptations to the environment but are controlled to blend in with nature. There was access to the area occupants at the sub-district level, but signs of local exploitation were still found and could be reached by vehicle or motor vehicle.

2. **Lin Thin Hot Spring** classified as "Rural Hot Springs" (R) refers to hot springs located in rural areas accessible from urban and civilized areas. The area has changed significantly with the aim of supporting recreational activities. There are modifications or constructions of facilities to accommodate recreational activities. The accessibility of visitors to use the area at a moderate to high level and visitors can access by road using any type of vehicle or motor vehicle.

(1.2) Water Accessibility

Figure 23: Origin of Kwai Noi River (derive from Mae Klong River)

Source: Adapted from Google Map by Author (2020)

Kwai Noi River, called in Thai '*Mae Nam Kwai Noi*'. The tributary of the Mae Klong River, flowing wholly in western Thailand. It rises near Three Pagodas Pass (*Phra Chedi Sam Ong*) on the mountainous Myanmar-Thailand border and runs southeast, parallel to the border, to its confluence near Kanchanaburi town with the Mae Klong, which itself empties into the Gulf of Thailand at Samut Songkhram. Participant No.14 (August 2019) told that around 21 floating rafts are settled along Kwai Noi river within the scope area. Not only resorts and restaurants but also human dwellers where the local people live their lives. There are 5 out of 21 floating rafts accommodating some groups of fishermen who have been doing fish-cage fishery for living. Any visitors will be able to enjoy the recreational activities in the floating resorts (rafts) such as, swimming, exploring a cave, fishing, kayaking, watching serenity along the river and watching wild elephant in the river including visit local community near the river and so on.

In the hot spring areas, Homchan, A. et al (2016) studied flash flooding of Hin Dad hot spring in Kanchanaburi. Water status of the hot spring was measured as hot spring water occurrence and utilization, hot spring water occurrence were 706.76 cubic meters per day at Hin Dad hot spring was sufficient for hot spa bathing and daily community consumption. Percentage surplus water left from all activities was around 40% from Hin Dad hot spring. This surplus water from the hot spring can be managed to increase beneficial utilization as hot spa bathing and spring drinking water because of its suitable property as standard mineral drinking water. Flash flood study of Kui Meng stream close to Hin Dad hot spring was caused by heavy rain from southwest monsoon which regularly occurred during July to October and the stream had highest capacity at Hin Dad site 10.35 cubic meters per second. It was suggested to have supplement plan for flooding situation such as remodeling or building a new hot spa bath rooms up high on the banks. Between 2019 - 2020, there were two times of flash flooding that exceeded expectation, it caused the submerge over the hot spring. Hin Dad did temporarily closed during these heavy flooding. The major point for local community administrative authority is to use surplus water for the most benefits by utilization for mineral drinking water which co-operated with private sectors and for community tap water supplies for agriculture activities. The community supply tap water normally comes from other sources as well such as underground wells or surface water reservoirs. The feasible sources for underground water contamination controlled supply water pipe system, should be regulated and recorded continuously. The important things are to keep the good understanding between all sectors and community in order to have most profitable and sustainable utilization of hot spring water for all.

Figure 23: Hin Dad Hot Spring in High Season (February, 2019)
Source: Author

Figure 24: Flooding in Hin Dad in Low Season (August, 2020)
Source: https://www.matichon.co.th/region/news_2295119

Another hot spring 'Lin Thin' also confronted with flooding in 2018-2019. Due to the fact that the hot springs ponds were built and shifted up above on Kwai Noi river bank much higher than the Kwai Noi. If the Vachoralongkorn Dam releases a large amount of water during heavy rainfall and cannot hold that amount of water, the water will flow into Kwai Noi river and will affect on water level at Lin Thin hot spring.

Figure 25: Hin Thin Hot Spring in High Season (February, 2019)
Source: Author

Figure 26: Flooding in Lin Thin in Low Season (August, 2018)
Source: https://www.matichon.co.th/news-monitor/news_1077003

Figure 27: A small pier at Kwai Noi river bank of Lin Thin hot spring, Water transportation, only private kayak or small boat can reach the site due to the unevenness of river's shallowness (January, 2018)
Source:
http://infov1.dla.go.th/public/travel.do?cmd=goDetail&id=719805&random=1609454261278

According to Kayaking Experience (2019), the team explored a kayak track which was the first kayak track of the Kwai Noi River descent and part of the Kwai Noi River

Kayak Route set up by the team of Kayaking Experience aiming to paddle the full stretch of this river from Thong Pha Phum until its confluence with the Mae Klong River at Kanchanaburi. The track had been revised based on the experiences of the river descent. They explained that the Kwai valley was a strategic route since ancient times. It was through the Three Pagoda Pass that the Burmese armies descended to attack the Siamese city of Ayutthaya Dynasty Period. The Kwai valley offered a more easy passage than the mountains, and the river provided water to troops and combat animals. Also the Japanese High Command in the World War II was keen to open that route as their naval superiority in the Pacific had become unattainable.

Figure 28: Map of Kayaking Route in Kwai Noi river
Source: https://www.routeyou.com/en-th/route/view/295711/canoe-kayak-route/1-thong-pha-phum-ban-hin-dat-kayak-track

This track was explored from Thong Pha Phum town to Hin Dad hot spring. The kayak route usually takes 5-6 hours according to the level of physical fitness, the conditions of the water current, and personal kayaking experience. The start of the track had been set at the Mafai Khu Resort and end at the Nakakiri Resort & Spa within Thong Pha Phum district and the route is actually a part of the scope area. Alternatively the track can also end at the Green World Hot Springs Resort Hotel. Water current is the most important variable for making kayaking plans. Rainy season results in flooding and/or rapidly moving water and require a suitable kayak for wild water. This track was also notorious for natural whirlpools during the rainy season,

wearing a life jacket is essential for the trip. To enjoy the health tourism route, prepare to wear a good hat and loose-fitting clothing that dries quickly. Therefore, the Kwai Noi water way could be created for a recreation (Kayaking Experience, 2019).

(2) **Community**

According to Mr.Anusit Sangsuwan, Local Administrator of Kanchnaburi Government Office, reported in 2019 there are 7 sub-districts in Thong Pha Phum District of Kanchanaburi, however, the scope area of study was covered only 5 sub-districts where the locations are related to Kwai Noi river and hot springs. Below is the number of population within the study area which included around 2-12 % of ethnic people in different areas of Thong Pha Phum as follows;

1) Tha Khanun, 5 villages, population 16,199 persons
   (including 3.32% of ethics)
2) Huay Khayeng, 8 villages, population 11,396 persons
   (including 3.25% of ethics)
3) Hin Dad, 8 villages, population 5,929 persons
   (including 11.62% of ethics)
4) Lin Thin, 7 villages, population 8,157 persons
   (including 6.62% of ethics)
5) Sahakon Nikom, 6 villages, population5,539 persons
   (including 2.09% of ethics)

Source: https://hnongfai.go.th/public/download.php? (2021)

Table 11: The number of ethnic people in Thong Pha Phum

Subdistrict	Ethnic Group	Village	House hold	Family	Male	Female	Total
Tha Khanun	Karen	4	126	134	275	264	539
Huay Khayeng	Karen	1	70	77	190	181	371
Hin Dad	Karen	8	108	124	327	362	689
Lin Thin	Karen	7	162	162	260	280	540
Sahakon Nikom	Karen	1	255	25	60	56	116

Source: https://hhdc.anamai.moph.go.th:8080/hhdcdashboard/frontend/web/ethnics/default/mooban?tb=710707 (2021)

Jaruwan, K. (2007) also studies on ethnic groups in Thong Pha Phum, she found Tha-Madue village is a community of peoples who were forced to migrate from the area of the Vajiralongkorn Dam's Construction Site of Kanchanaburi in 1984 before they used to live beside the Kwai Noi river. They lived with the variety of ethnic groups, so there were cultural diversities for living together. The sub-groups were Tai Lue, Tai-Yuan, Karen, Mon and people from other provinces. They had to move to new community *'Huey Khayeng'* where they settled surrounding of the National Park and the Park of Industry Forestry of Thailand. They confronted with their different living and they had learned to survive. The environment has changed to new dimensions and adapted themselves to the lowland forest around community. Buddhist Monks helped teaching them in the temple how to live with new environment by applying Buddhism Dharma. As well as, the scholars helped teaching community members a variety of local wisdom. The villagers had learned a number of knowledge both the way of life and academic knowledge to adapt themselves. In terms of career, Kanchanaburi Provincial Statistical Office (2021) have collected data during 2009-2019 showed that

the primary local occupation is the skilled workers in agriculture and fisheries, 33.8% - 41.8%. This is the major career of population in the area.

To focus within the hot spring site, the use of hot springs in Thong Pha Phum area can be traced back to the period when Japan military influenced in Thailand during World War II. After Japan withdrew from World War II, more local households used hot spring water to drink and soak. In the end of 20th century, the Hin Dad subdistrict administration officers introduced Hin Dad hot spring as a tourism attraction. This made more hotels and resorts around the site introduced themselves as the spa resort. The local governmental department began promoting hot spring tourism and building infrastructure and facilities in Hin Dad area, which shown that government promotion of tourism policies encouraged Thong Pha Phum to use its hot spring resources to increase tourism income, which achieved for Hin Dad development but not yet to Lin Thin development. The hot spring hotels and resorts brought the economic impact on local tourism. One of tourism uniqueness is the livelihood of the local people also brought forth many tourism impacts. A number of hot spring hotels flourished in Thong Pha Phum, Kanchanaburi. Nevertheless, the site should focus on tourism interpretation among Thong Pha Phum community. From the investigation, there are tribes located in the upstream, midstream, and downstream of Kwai Noi River and on the hills. With the advent of capitalism and consumption, the indigenous people have come to realize they must share their tribal space with tourists and display items that visitors like to see in order to earn some income. This resonates with what Edensor (2002) advocated that tourism is a process consisting of unseen behavioral patterns and actual space reconstruction. Embedded in the host-visitor context, this process has enhanced the influence of mainstream tourism on indigenous areas. This is deemed as a consumptive phenomenon of indigenous commodification; hence, the area is split into front-stage and back-stage spaces (Goffman, 1963). The front-stage space is where the hosts (indigenous people) meet consumers; whereas the back-stage space is the area where indigenous people normally live. In other words, the lent-out area is in the

area where the tourists can easily access via transportation, while the back-stage area is the areas where their usual living are better preserved as personalisation.

Mattavangkul,C. et al. (2015) researched the adaptation phenomenon of indigenous medical wisdom in Kanchanaburi province that affected socio-cultural change and synthesized the standpoint of indigenous medical wisdom in community health systems. They collected a set of data classifying folk-healers. The findings revealed 93 folk-healers in Kanchanaburi province with the main categories being herbalists and massage therapists. Only 21.51 % were registered as Thai traditional medical professionals. From a health care perspective, indigenous medical wisdom was still a part of community's way of life. When people had an illness, integrated care involving modern, indigenous, and alternative medicine was used in accordance with their beliefs, experiences, and the resources existing in the sectors, the community way of life is changing. Thus, indigenous medicine must adjust to correspond to the people's way of life and the requirements of the community health systems so that indigenous medicine can address four health care areas consisting of: health promotion, disease prevention, curing illness especially diseases for which treatment using modern medicine is limited, and health rehabilitation. It can be seen that the locals people have potentials to promote the area as a part of health tourism resource because they have human resources together with natural resources where could be developed as the important factor of health tourism. In July 26, 2019, Mr. Anucha Woraharn, Deputy Doctor of Public Health, Kanchanaburi Province and his team stimulated the consciousness of Thai people to carry on, maintain and build on the wisdom of Thai traditional medicine. Thai traditional medicine textbooks from folk healers of Kanchanaburi given to the local governmental organization to securely store in the library display for new generation to learn from them. The ancient hand-written textbooks were kept as local tangible heritage. This project may strengthen cooperation mechanisms in all sectors in conservation and protection the utilization of Thai traditional medicine wisdom in the health system. Among Thong Pha Phum

community, there is a number of local wisdom experts announcing in the official website of Culture Office of Kanchanaburi. They have variety of indigenous wisdom as an intangible heritage to help the community. They tend to learn from their parents or community leaders and keep practicing by your themselves. According to the Information Center of Culture, Culture Office in Kanchanaburi (2019), it shows some names of local wisdom experts who live in Tha Khanun Subdistrict of Thong Pha Phum, Kanchanaburi as follows;

Ms.Loy Promjuang is the handcraft expert of basketry and folk story teller.

Mr.Muen Kongma knows very well on local food and folk games in Ulong village.

Mr.Jumpa Kongma is the local speaker and expert on local culture and tradition of Ulong community.

Mrs.Bunga Manoch is the expert on Mon and Mynmar cultures and indigenous food.

These indigenous elders, knowledge keepers or cultural advisors who play a central role in the community; whatever the word they are called, they are all teachers within and beyond their community. Actually they are not self-taught individuals. They have been gifted with their respective teachings by other elders or knowledge keepers, typically over years of mentorship and teaching. These teachings are held as cultural knowledge and vary from each respective knowledge source. Ideally, permission has been given for individuals to share what their learned and acquired knowledge permits. Once the keepers are felt to have learned and understood the knowledge and have made it a part of their own lives, it is accepted that they can now deliver these learnings and teachings to others. Stiegelbauer, S. (1996) defined the term 'Elder' is bestowed to an individual, by their community because of the spiritual and cultural knowledge that they hold. The term does not refer to one's age, but rather the level of cultural and traditional knowledge they hold. Moreover, the term 'Knowledge Keeper' or 'Traditional Knowledge Keeper' refers to someone who has been taught by an Elder or a senior Knowledge Keeper within their community. This person holds traditional

knowledge and teachings, they have been taught how to care for these teachings and when it is and is not appropriate to share this knowledge with others. In addition, a 'Cultural Advisor' is another form of a teacher. They hold cultural knowledge that has been shared with them by more experienced teachers (Elders or Knowledge Keepers).

(3) Culture

Creating the culture of health in any province will enable people in a society to lead healthier lives and good for generations to come. Johnson, R.W. (2020) explained that a culture of health is broadly defined as one in which good health and well-being flourish across geographic, demographic, and social sectors. The exact definition of 'culture of health' may be very different to different people. It may embrace a wide variety of beliefs, customs, and values. Ultimately it will be as diverse and multifaceted as the population it serves. In this study, the author found some hints during the conversations among locals. The community has been living their healthy lives, as well as, their life styles gradually changing and penetrating into the healthy daily life by their own usual practices. To foster healthy equitable communities, everyone has the opportunity to make choices living their normal lives that lead to healthy lifestyles. This will lead community shine in the way they actually do as their own sake. It can be involved the mentioned indigenous elders, knowledge keepers or cultural advisors who play an important role to make the better lives both body and mind among the community. They eat, and use any kinds of herbs grown within their community to heal and cure some basic illness from their own home garden such as galingale, turmeric, lemongrass and any other herbs. To take care their health, hot spring bathing is the important part of health promotion as well. Due to inadequate of conventional medical treatment and there is only one hospital in Thong Pha Phum, local people tend to apply their local wisdom to treat themselves. Kanchanaburi Provincial Statistical Office (2020) shown the number of public health personnel is divided into 146 doctors, 1 dentist, 57 nurses. With a ratio of 1 doctor per population,

4,900 people, 1 dentist per population 14,286 people, 1 pharmacist per 8,690 people, 1 nurse per 685 people. From this statistic, it could be assumed that local wisdom practitioner are required to conserve and keep them working within the community because the number of the medical staff members are not adequate. In 1948, The World Health Organization (WHO) originally proposed that, "*Health is not the mere absence of diseases but a state of well-being*" and from this point onward well-being has become a challenging concept to define (La Placa & Knight, 2014). Notwithstanding, well-being has been described in numerous ways such as an individual's optimistic assessment of their lives including contentment, positive emotion, engagement and purpose (Diener & Seligman, 2004).

It has also been explained in terms of developing as a person, being fulfilled and making a contribution to the community (Stoll, Michaelson, & Seaford, 2012). Therefore, food is the basic resource to keep human living. The choices of food in Thong Pha Phum tend to be a good source of well being life style. Chaichana, N. (2016) studied cultural practice in food preservation of Thong Pha Phum District, Kanchanaburi Province that affects food security in a cultural dimension based on the diversity of local resources. She found that community of Karen in Thong Pha Phum, is still an agricultural society in which people collect vegetables from natural sources for consumption. They use herbs to treat their illnesses, and live a simple and peaceful life, and they love freedom. They also depend on local resources and use wisdom passed down to them by their ancestors which shows the identity of this community. The wisdom provides Karen people in this community with food preservation that makes food available for their consumption all year round. Their food preservation methods include fermentation, pickling, and drying which enable them to live with and manage natural diversity in a sustainable way. Especially, during coping with the world pandemics, the COVID-19 situation taught that food stability is very crucial to

the development of the nation because everyone needs food. The people cannot travel a lot like before, so they only find something to eat within the community themselves.

If they can establish a strong agricultural foundation or group in their community, they will be able to survive by living in their own place and eating something that can be purchased within their own community. Their eating habit tends to match well with the situation which need to seek raw materials within community and cook by themselves. Khobkhuntod, S. (2020), a manager of 'Hin Lam' community enterprises, also confirmed their unique food culture and conserved their way of eating. He explained about '*Lab-Ka-Rieng*' (Karen Lab) very interesting, his local menu is the dish for auspicious event and indigenous ceremony which cooked by important local herbal ingredient called '*Tien Ta Takkatan*' (Glasshopper's eyes) or scientific name called '*Anethum graveolens L.*'

From the interviewing during field trip, Preecha, J. (2020), one of local farmers told that organic farming is not new to any local farmer, it has been doing for many years ago. However, in the past, they did not form a strong community but now many farmers in Thong Pha Phum have been organized themselves in 'organic farmers' groups to experiment with alternative methods, including the uses of naturally derived types of pesticides. She introduced organic farmers' market in Thong Pha Phum, a community market where farmers can sell their products, focusing on safe, toxin-free and organic products, as well as ready-to-eat food. More local people have been running more organic mixed farm within Thong Pha Phum. They have a chance to sell their product apart from consuming at home. Highlight products from organic farm include organic Thong Pha Phum durians which are smooth, mild, sweet and rich, and Thong Pha Phum rambutans which are crunchy and sweet without too much juice. Thong Pha Phum's soil is rich in potassium so the fruits grown here are delicious, and the water from Tanaosri Mountain is natural. The local farmers created their group

among their community to exchange knowledge and to plan their farming to ensure continuity and variety. More importantly, they have been teaching each other and making sure they can stand on their own feet. The older farmers tends to pass on the knowledge to their younger family members. They can spend their time doing something useful together and producing what they want to eat and sell which are organic.

Furthermore, from observation, it can be seen most local houses in the area have grown their own gardens. Home gardens are one of the oldest forms of land use. Importantly, home gardens are suitable places for the study of gardeners' choices concerning the selection of plant species for protection or even cultivation (Blanckaert et al. 2004). From the interviewing with the locals, it shows how local people manage their plants in home gardens, what plants they grow and how this practice can be related to the landscape. Most people who live near Kwai Noi river and its connected streams, have the better access to the water resources. They grow native plants which called medicinal plants such as Black Galingale and Turmeric. People who live close to the native forest or mixed use areas (e.g., farms, secondary vegetation) tend to possess less native plants in their gardens because they are available nearby, however, their effort is concentrated on maintaining native plants. They also explained that opportunities for knowledge and plant exchange are available within the community as well.

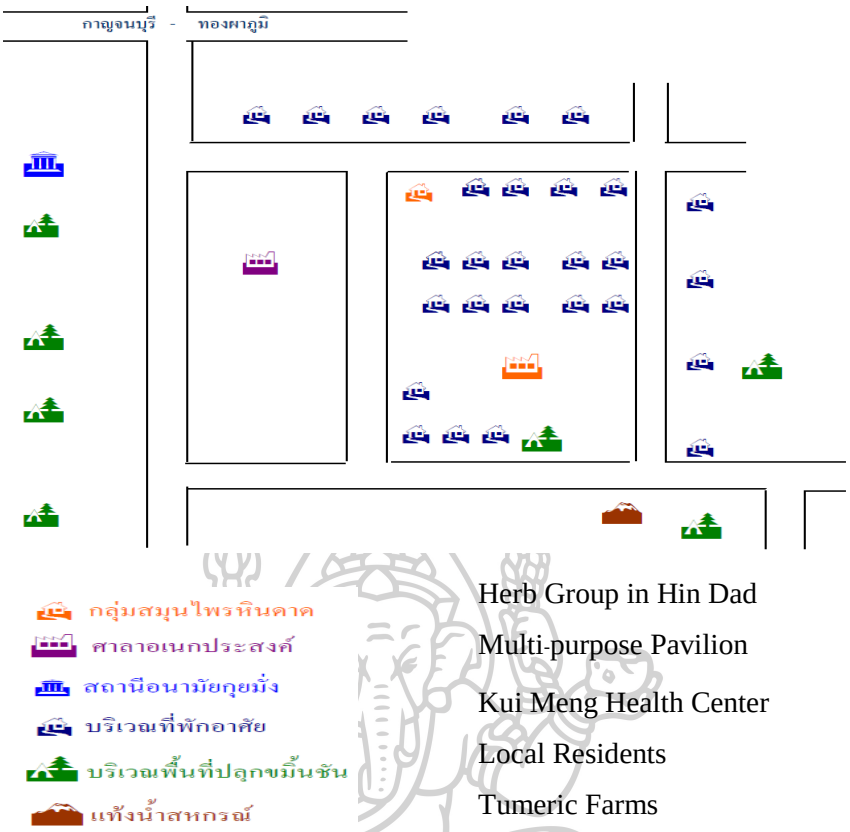


Figure 29: Map of Tumeric Farms in Hin Dad Community, Herb Group, Thong Pha Phum
Source: http://www.agriman.doae.go.th/home/t.n/t.n3/6t.n3.1_Risk/011_Turmeric.pdf

5.2 Cultural Landscape of Hot Spring

Research Objective ; To explore the cultural landscape of hot spring as a tourism resource.

Introduction of Cultural Landscape

"*Cultural landscape is a geographic area, including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, person or exhibiting other cultural or aesthetic values*" (National Park Service, the Department of Interior, 1994).

Recently, cultural landscape's definition of Yellowstone National Park in USA where there is a number of hot springs included in, was updated as, "*Cultural landscapes are settings that* ***human beings*** *have created in the natural world. They are geographic areas that have been shaped by* ***human manipulation*** *of natural and cultural resources and are associated with historic events, people, or activities in the park.*" (National Park Service, the Department of Interior, 2020).

The difference of both definitions is adding the importance of ***human beings and human manipulation*** into the updated definition that leads its meaning even better clearer. Furthermore, to conserve cultural landscape Hoi An Protocols for Best Conservation Practice in Asia (2009) used as the main guideline for this research because regionally-specific protocols will be suitable for practitioners working in Asia. The researcher agrees and considers the updated meaning matched well with the study area of Kanchanaburi, Thailand because above relationship have been seen around the hot springs and surrounding environment in Thong Pha Phum.

'Cultural landscape' is defined by the author '***human way of life through relationship between culture and landscape involving some period of time***'. It should generalize its definition to be able to simply assess the site without pressure on definition itself. Because the main purpose of the study is for promoting the cultural landscape as tourism destination and local community participating required during the study. It is also match well with current Thailand Tourism campaign. The Minister of Tourism and Sport (2017) has emphasized further tourism promotion to local communities because this will ensure a fairer distribution of tourism income, especially for people in the villages. Because when local communities grow, the country grows. Travel and tourism are now widely recognized as a major contributor to grassroots economies and income distribution. Consequently, studying cultural landscape will ensure that the benefits are better distributed to communities across the entire Kanchanaburi

province or even neighbor provinces as well as, they will be an essential jigsaw to fulfill the overall tourism experiences.

This part provides documentation about and an evaluation of landscape characteristics and associated features, materials, and qualities that make a landscape eligible for heritage conservation. The **site history, existing conditions, and analysis and evaluation** sections identify the historical values associated with the landscape, document extant landscape characteristics and associated features, and define **the significance** of the landscape. All three following parts must be completed before any treatment decision for a landscape can be made.

5.2.1 Site History, Existing Conditions, Analysis and Evaluation

1. Site History

Despite being Thailand's third-largest province, Kanchanaburi remains blissfully undeveloped. The area, which boasts a rugged mountain range along its border with Myanmar, attracts nature lovers thanks to its tumbling waterfalls, national parks and numerous crystal-lined caves. The far northwest are remote towns that are home to ethnic groups who have fled the military regime in Myanmar. The provincial town of Kanchanaburi is an ideal base from which to explore Thailand's wild west. The World War II memorials and museums are a reminder of darker times. Japanese forces used Allied prisoners of war (POWs) and conscripted Thai laborers to build a rail route to Myanmar. The harrowing story was told in Pierre Boulle's book The Bridge Over the River Kwai and in the 1957 movie based on the book. The bridge is one of the main attractions in Kanchanaburi. The construction of the 'Death Railway' was an astonishing feat of engineering. However, the prisoners and conscripted workers who toiled to build it paid a terrible price. Around hundred thousands labourers died due to the extreme conditions. The railway was built during the World War II era Japanese

occupation of Thailand (1942–1943) and its objective was to link 415km of rugged terrain between Thailand and Burma (Myanmar) to secure an alternative supply route for the Japanese conquest of other west Asian countries. As the Japanese demand for faster construction grew, so conditions worsened. The meagre rice supplies were often laced with kerosene, a by-product of Allied bombing raids over rice stocks. Cholera, malaria and dysentery were rife, and Japanese guards employed barbaric punishments for anyone who stepped out of line. The rails were finally joined 37km south of Three Pagodas Pass; a Japanese brothel train inaugurated the line. Rather than a supply line, the route quickly became an escape path for Japanese troops. After the war, the British took control of the railway on the Burmese side and ripped up 4 km of the tracks leading to Three Pagodas Pass for fear of the route being used by Karen Separatists. During that time, two hot springs in Thong Pha Phum were found and used by Japanese army to relax and sooth their body aching. Community Development Office of Thong Pha Phum District (2021) explained that Thong Pha Phum District is an old town of Kanchanaburi. In the reign of King Rama III of Rattanakosin, King Rama III foresaw that there would be a crowded community around the Kwai Noi River, therefore he decided to establish 3 towns; Sangkhlaburi, Thong Pha Phum and Sai Yok towns. More importantly, he had a strategic hint planning to spread the rumour to Burma that Thailand had strong military bases within the three towns, so that Burma would not dare to offend. The three towns also represented as buffer zone, the army there acting as a communicant to send any enemy news to the capital city, Bangkok. The name of *'Thong Pha Phum'* was consistent with the important natural resources found in the district; *'Thong'* means gold, *'Pha'* mean cliff on mountain, *'Phum'* means land (Community Development Office of Thong Pha Phum District, 2021). In terms of gold issue in Kanchanaburi, Boonnop, N. (2009) studied on gold ore in Kanchanaburi, the gold mostly coexist with sediment, gravel and pay dirt of tin layers. It was originally expected to coincide with the hot-water quartz crystals that infiltrated the local rock. After the process of natural corrosion, water stream brought gold ore to

accumulate together with sediment, gravel layer and pay dirt layer. There were 3 areas of gold potential, consisting of streams flowing from the Pilok field and Prajam Mai stream, Ban Wang Ka, Pilok Subdistrict in Thong Pha Phum District. Also a stream named ‘Kui Meng’ flowing from Bo Noi lead ore sources and passing Kui Meng stream where close to Hin Dad hot spring.

2. Existing Conditions

2.1 Existing Conditions of All Seven Hot Spring Sites in Kanchanaburi

There are seven sites of natural hot springs in Kanchanaburi. According to Department of Mineral Resources (2017); (1) Hindad Hot Spring, Thong Phaphum District (2) Linthin Hot Spring, (or Nong Jareon Hot Spring), Thong Phaphum District (3) Wang Kanai Hot Spring, Ta Mueng District (4) Ban Khao Pang Hot Spring, Saiyok District (5) Ban Tong Chang Hot Spring, Saiyok District (6) Ban Pong Chang Hot Spring (or Ban Ton Lumyai Hot Spring), Nong Prue District and (7) Ban Kaow Hot Spring, Mueng District. Even though seven hot spring sites found in Kanchanaburi province, only three sites are operating as usual; (1) Hindad hot spring and (2) Lin Thin hot Spring will be studied in this research. However, (3) Wang Kanai Hot spring (see figure 31) will not be examined because it is located in a Buddhism temple, private religious property. To compare the landscapes among hot springs, Wang Khanai hot spring site also was visited to learn its hot spring characteristic.

Figure 30: Wang Kanai Hot Spring in Wang Kanai Thiyikaram Temple
Source: Author (August, 2019)

The other four hot spring sites are not functioning well as tourism attractions due to some reasons explained below (Department of Mineral Resources, 2017);

- *Ban Khao Pang Hot Spring, (or Wang Krajae Hot Spring)* Saiyok District; the hot spring has officially started to develop since 2004 and located in the National Reserved Forest under Sub-district Administration Organization. Due to limited fund to further maintenance, this left the site uncultivated or abandoned.

Figure 31: Ban Khao Pang Hot Spring
Source: https://travel.thaiza.com/guide/204295/

- *Ban Tong Chang Hot Spring*, Saiyok District; No further development in the area. Because the land near by the river is privately owned.

Figure 32: Ban Tong Chang Hot Spring
Source: https://travel.thaiza.com/guide/204295/

- *Ban Pong Chang Hot Spring* (or Ban Ton Lumyai Hot Spring), Nong Prue District; problems are low water level, not enough to full body soak, as well as natural serenity and new buildings are not harmonious.

Figure 33: Ban Pong Chang Hot Spring (or Ban Ton Lumyai Hot Spring
Source: https://travel.thaiza.com/guide/198551/

- *Ban Kaow Hot Spring*, Mueng District; No any further development for tourism because it is located in old mining area and area around is served as reservoir of Chuachart Sompong company.

2.2 Newly Found Cold Spring in Kanchanaburi

Department of Ground Water Thailand (2021) announced on 11 February, 2021, the department's director general, Mr. Sakda Wichiensilp, said that his team discovered the first of fizzy water spring in Kanchanaburi, Thailand. He said that the fizzy water even tastes slightly sweet. The department discovered the carbonated water during the search for underground water resources for farmers in the area. The one with the carbonated water was the third well which drilled in Lao Kwan district and it struck water at a depth of 303 metres. The water currently shoots up to around 1.8 meters above the surface at a rate of about 50 cubic meters per hour. He said the water becomes carbonated through the layers of mineral-rich limestone. The officials intended to drill another six wells and will declare the area as groundwater reserve, to prevent private-sector drilling, which can cause contamination. He expected each body of groundwater will provide more than 500 million cubic meters, which will supply people in many villages and farmlands in Huay Krachao, Kanchanaburi which is often hit by severe periods of drought (Department of Ground Water, Thailand, 2021). In April, 2021, they have been promoting new drinking product 'Soda Mineral Water' in bottles to sell. From time being, they have been given to visitors and local people during soft launch of new product. Moreover, the team also keep studying for more innovative product including tourism resources.

Figure 34: Fizzy cold water spring in Huay Krachao, Kanchanaburi (11 February, 2021)
Source: https://www.thairath.co.th/news/local/central/2031345

Figure 35: Top view of spring in Huay Krachao, Kanchanaburi (12 February, 2021)
Source: https://www.thairath.co.th/news/local/central/2030807

Figure 36: Team of Groundwater Resources Department visited Huay Krajao mineral spring site

Source: Chaianan Donkunchaisakul (April, 2021) http://www.tcnewsstation.com/?p=101099

Figure 37: General Director announced new drinking product 'Mineral Soda'
Source: Wandit Media (April, 2021) https://medias-center.com/347-2021-04-05_171515

The research was examined the significance and focus only Thong Pha Phum area in Kanchanaburi due to the fact after assessing the secondary data and visiting the hot spring sites in Kanchanaburi, only two hot spring sites in Thong Pha Phum fit the cultural landscape concept; Hin Dad hot spring and Lin Thin hot spring;

2.3 Selected Hot Spring Sites in Kanchanaburi

Two sites of Hot Spring; Hin Dad Hot Spring and Lin Thin Hot Spring, Thong Pha Phum District, Kanchanaburi, Thailand, this destination has been chosen for the study. Thong Pha Phum district situated in the northern part of Kanchanaburi Province, in the Central region of Thailand. The 3,655-square kilometer district is divided into seven subdistricts, which are further subdivided into 44 villages (muban). Hin Dad Hot Spring located in Hin Dad subdistrict and started operating around 1988. Lin Thin Hot Spring is in Lin Thin subdistrict within Thong Pha Phum and started operating around 2011.

Hin Dad hot spring surrounded by nature with shady trees and located adjacent to a cool water stream with the pavement. This stream flows in parallel with the hot spring down from Pha Tad Waterfall. In addition to soaking in hot mineral water, swimming in the stream which is not deep and usually not flow rapidly. It was a natural hot spring with underground natural fountain flowing throughout the years. There are five cement ponds with different heat levels, namely, a highly hot spring, a medium temperature hot spring, and a small hot spring with a low temperature suitable for children, as well as a separate pond for monks. The hot spring water temperature is approximately 45-55 degrees Celsius. It provides Thai traditional body and foot massage and Thai herbal compress in the common treatment room. Moreover, there is a private zone of spa treatment rooms above the hill beside the hot spring. The visitors need to walk upstairs on the hill to the private zone. Most of time the author visited it closed under maintenance. The staff said not many visitors want to use the private one because most of them enjoy public hot bathing outdoor middle of the green nature. Therefore, the private zone will neither operate nor clean properly.

Figure 38: Hin Dad Hot Spring and Kui Meng Stream

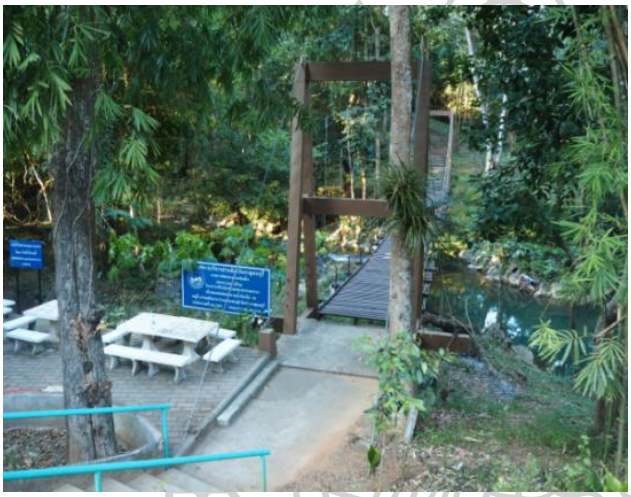


Figure 39: Suspension Bridge on the site

Figure 40: One hot spring pond separated for monks

Figure 41: Sign displays rules and regulations

Figure 42: Toilet, Shower, Changing, Locker Rooms

Figure 43: Traditional Thai Treatment Room

Figure 44: Stairs walk up to the private treatment rooms

Figure 45: Private spa treatment rooms
Source of figure 39-46. Author (December, 2017)

Lin Thin Hot Spring with water temperatures of 45-55°C located next to Kwai Noi River. The original spot where hot water coming out actually situated into the Kwai Noi river but the hot water has been pumped up above to the river bank where two big cement ponds built for body bathing and three small ponds for foot soaking around the big ones. The place is open everyday for mineral hot spring bathing both public and private-use hot spring baths as well as four massage rooms in the private zone building. The locker room and public restroom are provided at the first building where the staff members are stand by to take care the visitors in front of the site.

Figure 46: Top View of Lin Thin of Spring
Source: https://www.facebook.com/304551563564556/videos/411887556550755/

Figure 47: Landscape of Lin Thin Hot Spring and Kwai Noi River nearby
Source: https://www.facebook.com/304551563564556/videos/411887556550755/

Figure 48: Kwai Noi river next Lin Thin hot spring

Figure 49: Staff kiosk, restroom and locker

Figure 50: Foot soaking area with roof on top (Big umbrellas provided temporary)

Figure 51: Body bating area without roof

Figure 52: Bamboo bush nearby the hot water pumping

Figure 53: Hot mineral water original pond in the river pumping to the above hot spring bathing zone

Source of Figure 48-53 : Author (December, 2018)

Figure 54: Plant more shady trees for landscape development
Source: Thongchai (May, 2018)

Figure 55: House of local basket expert near Lin Thin hot spring
Source: Google Map (2019)

Figure 56: OTOP shop zone near entry sign of Lin Thin hot spring but isolated to the tourists
Source: Author (2019)

Figure 57: Arch entry sign of Lin Thin hot spring
Source: Author (2019)

Figure 58: Ticket Box at the gate to enter Lin Thin Hot Spring
Source: Author (2019)

Figure 59: Zone of Private spa treatment rooms
Source: Junlanop Kongjinda (June, 2018)

Figure 60: Entrance of building for private spa treatment rooms
Source: Phanisa Hualkhogsong (April, 2021)

Figure 61: During COVID-19 pandemic, red mark to keep distancing
Source: Phanisa Hualkhogsong (April, 2021)

Figure 62: Warning sign to remove shoes before entering
Source: Phanisa Hualkhogsong (April, 2021)

Figure 63: Warning Sign No swim during the high water level of Kwai Noi river
Source: Phanisa Hualkhogsong (April, 2021)

Figure 64: Public restroom of private treatment zone
Source: Waraporn Somprasong (January, 2021)

Figure 65: Rafting recreational activity opposite of the riverbank of Lin Thin hot spring
Source: Author (December, 2018)

Figure 66: Seat area to relax on the riverbank of Kwai Noi in Lin Thin Hot Spring
Source: Author (March, 2019)

2.4 Boundary

In this study, the researcher intends to select the area that everyone can access because the area tends to be tourism destination in the future. The watershed called 'River Kwai Noi Watershed of Thong Pha Phum' is selected. According to Chantarasuwan, Bh., Marod, D. and Pattanakiat, S. (2007), 'Watershed' is defined as the area of land united by the flow of water that drains into a single outlet, often a stream or river. The network of drainage pathways may be underground or on the surface. The distinctiveness of the watershed area is crucial to be selected as identity of land form where River Kwai Noi is the main waterways that discharge from Vajiralongkorn Reservoir (locally called Khao Laem Reservoir) and flow down into various small rivers called 'streams'. The starting point of scoped area will be measured by the natural borders where the first stream named (1) U Long Stream begins and then will continued investigating (2) Wang Kieng Stream (3) Ong Thi Stream (4) Din So Stream (5) Kui Meng Stream (6) Lae Chae Stream and (7) Lin Thin Stream respectively. The scope area also study only community zones using these seven streams, River Kwai Noi and Watershed for their lives. The Hin Dad hot spring is situated near Kui Meng (Stream No.5) and Lin Thin hot spring is close to Kwai Noi River. The site of Hin Dad and Lin Thin Hot Springs are around 100 km away from Kanchanaburi town or 250 km from Bangkok, to get there by car driving along highway number 323 until reaching the big sign on the highway pointing to these hot springs. The road infrastructure is an important factor for tourism destination therefore only asphalt concrete or lime cement roads will be accessed by the researcher. Site selection will be made from representative landscapes, land use and water use's activities in the Kwai Noi main river and seven streams where hot springs situated. All routes must be accessible by proper road. Apart from land access, Lin Thin hot spring can access by private boat or raft and no public water transportation reach there. Hin Dad hot spring only access through land, no any water transportation can be reached

because Kui Meng stream is quite shallow, boat or raft cannot be reached to the site. However, during field trip some sites cannot be reached in any unexpected circumstance, that sites neither investigated or recorded as non-accessible study area such as remote, heavily forested and sparsely inhabited to lightly settled areas. Sites were not sampled further than 500-m walking distance from the waterways to avoid risk from unexpected situations. The landscape characteristics, topographically, it is covered with evergreen rain forests. The district covers the source valleys of the river Kwai Noi, which merge at Kanchanaburi city form the Mae Klong River. 'Valley' is a low area between hills or mountains often with a river running through it. Chantarasuwan, Bh., et al. (2007) explained geology, a valley or dale is a depression that is longer than it is wide. The terms U-shaped and V-shaped are descriptive terms of geography to characterize the form of valleys. Most valleys belong to one of these two main types or a mixture of them, at least with respect to the cross section of the slopes or hillsides.

3.Analysis and Evaluation

The protection, management, authenticity and integrity of properties are also important considerations. Since 1992, significant interactions between people and the natural environment have been recognized as cultural landscapes. To conserve it in Thong Pha Phum, analysis and evaluation processes are required in this part.

According to UNESCO (2000), the World Heritage Convention is focused on the conservation of sites. Outstanding universal value is defined in relation to World Heritage criteria. Authenticity and integrity, understood through the significant attributes, are essential tools to justify the values and to root them, including intangible values, into the specificity of cultural and natural properties. Authenticity is a qualitative term to address the essence and spirit of the property, attributes and

dynamic processes especially at the time of inscription. Concerning integrity the participants considered that the conditions of integrity are specifically applicable to monitoring and management of outstanding universal value of cultural and natural World Heritage properties (UNESCO, 2000).

"Conservation of cultural heritage in all its forms and historical periods is rooted in the values attributed to the heritage. Our ability to understand these values depends, in part, on the degree to which information sources about these values may be understood as credible or truthful. Knowledge and understanding of these sources of information, in relation to original and subsequent characteristics of the cultural heritage, and their meaning, is a requisite basis for assessing all aspects of authenticity." (UNESCO, 2019)

The hot spring community in Thong Pha Phum, Kanchanaburi could be listed as World Heritage, to pursue it all may be described to probably meet two criteria (out of ten criteria) (UNESCO, 2005) as follows;

Under criterion (v)

to be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change.

Under criterion (viii)

to be outstanding examples representing major stages of earth's history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features.

Heritage Values and Potential Significance

The values and benefits of hot springs and surroundings draw to study its significance in relations of health tourism; the natural hot spring may act as a key of successful development of health tourism to attract both domestic and international tourists, not only aesthetics value but also historical value have been found here. Hence, it is good if all tourism stakeholders tend to enhance the tourism destination for the ideal combination of the healthcare and cultural landscape with leisure activities. However, the sustainable management must take part due to conservation scheme to keep its values exist as they are, so that the authenticity also presents at the place. There are tools for preservation of authenticity in Hoi An protocols. Assessment of the significance of a place has been carried out by the author as a necessary preliminary to a conservation action. Significance assessment is the process of understanding the meanings and values of places. It involves three main steps; firstly, analyzing the resource; secondly, understanding its history and context and thirdly, identifying its value for the hot spring and its context which created and/or care for it. The immaterial dimension of its authenticity are related to values, spirit, emotional impact, religious context, historical associations, sounds, smells and tastes and sources of information about them are particularly important in regard to maintaining authenticity of cultural heritage in Asia (UNESCO 2009). Therefore, the study carefully used only trustful sources of both primary and secondary sources.

According to the Burra Charter, the Australia ICOMOS Charter for Places of Cultural Significance 1997, each heritage site/place has its own cultural significance (synonym to heritage significant or cultural heritage value) which is embedded in the place itself, its fabric, setting, uses, associations, meaning, records, related placed and related objects. In addition, the Burra Charter, the Australia ICOMOS Charter for Places of Cultural Significance 2013. It can be divided into 5 values which listed alphabetically; **Aesthetic, Historic, Scientific, Social and Spiritual values**. Thus, in order to

understand the heritage values of hot springs and its related context, the researcher investigated its heritage values and potential significance that are found in this part as follows;

1 Aesthetic Value - there are aesthetic values of the place as listed below;

According to Aesthetic Values of Landscapes Background and Assessment Guide (2017), the aesthetic value is an expression of a variety of (combined) sensations when humans experience the landscape. These sensations relate to harmony, diversity and beauty, the assessment of which is also dependent on many other factors related to (1) the observer's background (previous experiences, knowledge, age, cultural background, etc.), as well as to (2) environmental conditions (weather, stewardship and uniqueness of the landscape, landscape type, etc.) (Antrop 2009). The environment is something that people can physically feel and experience or something that appeals to the physical experience of people. The source of what makes such a appeal is, it can be said, nothing other than the spirituality of space (Sugio, 2009).

Hot Springs

There are two sites of hot springs in the scope. Hin Dad hot spring is very unique because it is more than just a hot mineral bath. The site is a meeting between the hot spring where the temperature reaches 40-45 degrees of Celsius and cold water from Kui Meng stream nearby. The color of the water in the pools is green as it is filled by warm water. Hin Dad hot spring surrounded by lush greenery and together with cool stream. Participant No. 2 (17 August, 2019) told the indigenous tribe and local people named the hot spring '*Kui Meng*' same as name of Kui Meng stream. After that, the name gradually changed into '*Hin Dad*', as the location is known today called as the name of '*Hin Dad Village*'. In Thai language, '*Hin*' means '*Rock*' and '*Hin Dad*' come

from the word *'Hin Dan'* which is the kind of rock, *'Shale'* is a fine-grained sedimentary rock that forms from the compaction of silt and clay-size mineral particles that commonly called *'mud'*. This composition places shale in a category of sedimentary rocks known as *'mud stones'*. Shale is distinguished from other mud stones because it is fissile and laminated. *'Laminated'* means the rock is made up of many thin layers. *'Fissile'* means the rock readily splits into thin pieces along the lamination (Department of Mineral Resources, 2020).

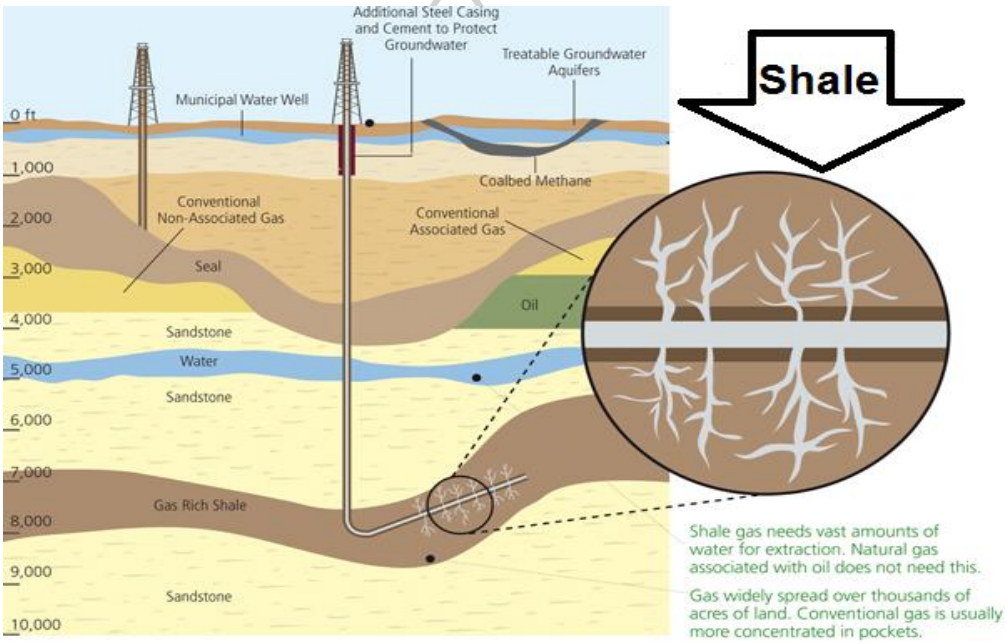


Figure 71: The originated source of 'Shale'
Source: http://oknation.nationtv.tv/blog/print.php?id=855116

Its aesthetics value involves the fabric, color and temperature of the hot spring ambience. Moreover, the mix of different temperature streams creates unique choices for visitors to experience three water temperatures; hot, warm or cold bathing. This hidden natural hot spring lies in a valley of Ta Nao Sri mountain range and filled with many green tropical plants. Participant No. 14 (18 August, 2019) Almost century ago, Hin Dad was infamous as a mysterious and even dangerous place in World War II where local people never been visited in that period of time, due to the fact the site

was occupied by Japanese military. Actually most hot springs of Asian world is the idyllic marriage of Japanese tradition of *'onsen'* culture as an unique bathing culture which has influenced other countries. Nevertheless, those countries not totally adopted entire Japanese hot bathing culture, they tend to have their own bathing cultures suiting their way of life.

After the end of World War II, the hot springs in Thong Pha Phum seem to be one of precious gifts that the earth has given to the nature. More local people have recognized the rejuvenating and therapeutic properties of these natural resources. Participant No.14 (18 August, 2019) Local people have been using hot springs to keep in good health for ages. The hot spring has produced odorless mineral water in abundance. Since the hot spring has officially operated by local government, they offer complimentary entry for elderly people (60 years old and above) to promote health condition among Thong Pha Phum community. Surprisingly, strengthening relationships among community is unexpected outcome that derive from regularly meeting and talking among them at the hot springs after their busy day (Participant No. 15, 18 August, 2019). This shifts the role of hot spring, transforms to the place of socialization as well. In addition, there are some sense of cultural combination can be seen at the place. While some international tourists visit and enjoy their hot spring bathing, the local people also enjoy their way of life with different dress code cultures. The different cultures of clothing does not interfere the feeling of enjoyment as long as they follow the regulations of hot spring. It also shows the happiness of blending different cultures at the same place.

Participant No.27 (2 February, 2020), *'Nudity'* communal bathing is a common practice in Japanese culture. Japan is a prime example of communal bathing and the extension of that ritual to soaking at the numerous *'onsen'* or natural hot springs of the country. Sharing a bath is a delightful custom and although some others of normally

prudish Asian people might disdain the naturist or nudist lifestyles as unacceptable for them, attitudes often quickly change when presented with an inviting natural hot spring and a clothing optional custom. In Japan, these same prudish individuals will often disrobe in front of strangers and slide into the relaxing hot waters with them. In Thailand if it happens, such a reaction will not accept how a new comer behaves. Because nudity seems unacceptable and adding an unwelcome and unexpected element to the communal bathing experience, that is often perceived as sexual and embarrassing. Most Thai people are uncomfortable with the idea of nudity. Then, the visitors may have to approach soaking with a respectful acceptance of land's social norms. Scenic hot springs have been traditionally clothing-optional and since it is relatively obscure and difficult to reach, those who do come up are aware of the custom.

Figure 67: International tourists and local people enjoy their way of life, Hin Dad hot Spring
Source: Alena Yadriona (April, 2019)
https://th.tripadvisor.com/LocationPhotoDirectLink-g2237742-d8317437-i260084173-Hin_Dad_Hot_Spring_Thong_Pha_Phum_Kanchanaburi_Province.html

Figure 68: Kui Meng stream situated next to the hot springs (2018)
Source: https://thesmartlocal.com/thailand/10-nature-spots/

Another site is Lin Thin hot spring situated in the midst of nature which temperature around 50-57 degrees Celsius next to the Kwai Noi River. There are two big man made pools for body bathing and some separated pools for foot soaking which established above the river bank. Participant No. 13 (22 December, 2018) these pools are usually operated by pumping up hot water from the original hot spring spot which originated down in the river. After taking a dip in the hot mineral baths, it can be easily assessed down into the river, which is nice and clear due to the base being rocks and stones. It can be seen air bubbles coming to the surface above the water. Participant No. 16 (22 December, 2018) swimming over to them and touching feet down under neat the river, the warm rocks found there. Its outstanding point is that hot spring located next to the cool river where the visitors can enjoy both cool and hot baths at the same spot. Visiting the open-air hot springs within the valley of Thong Pha Phum, visitors will feel rejuvenated after soaking in these hot spring waters and breathing in the cool, refreshing mountain air. The hot springs sit beside running river and stream making for incredible vistas. Both Lin Thin and Hin Dad hot springs permit mixed-gender baths.

Figure 69: Above Scenery of Lin Thin Hot Spring and Kwai Noi River
Source: https://www.facebook.com/304551563564556/videos/411887556550755/

Figure 70: Stream above Lin Thin hot spring bath in the morning of winter season
Source: Author (February, 2019)

Figure 71: Lin Thin hot spring bath in the afternoon
Source: Author (February, 2019)

Figure 72: Rafting recreation opposite Lin Thin hot spring
Source: https://www.tourismtreasures.org/detail/1288 (February, 2019)

Figure 73: Opposite River Bank of Kwai Noi where visitors can see from the hot spring
Source: Author (February, 2019)

Figure 74: Original hot spring spot was found in Kwai Noi river.

Source: Author (February, 2019)

Participant No. 1 (22 December, 2018), around 2010-2012, Thai government began to promote Lin Thin hot spring. While hot spring had been primarily used recreationally, development of Thailand's hot springs focuses not only on leisure but also emphasizes on medical benefits of hot springs. Many accommodation business around Kanchanaburi have invested in the construction and renovation of hot spring hotels or spa resorts, even purchasing modern equipment to enhance the experience of traditional hot spring baths (Figure 81 below). Participant No. 7 (22 December, 2018) Due to the fact the business located in scenic environments, these hot spring hotels provide an escape from chaotic city life, adding a new dimension to rest and recreation in Kanchanaburi. As consumer interests change and the international consumer demographic grows, hot spring resorts have been forced to adapt to sustain their economic growth. Focus has been shifted away from the act of bathing towards the aesthetic experience surrounding the baths. Participant No. 8 (22 December, 2018) Hot spring resorts have been a pride of local government in Kanchanaburi, contributing partially to the tourism industry. This sector of tourism is steadily growing, driven by both domestic and international tourists, however, it is not yet significantly popular in terms of hot spring tourism.

Figure 75: Aesthetic experience surrounding of Hot spring resorts near Kwai Noi River
Source: https://www.hintokrivercamp.com/th/

Figure 76: Aesthetic experience surrounding of Hot spring resorts near Kwai Noi River
Source: https://www.riverkwairesotel.net/hotel-gallery/

Figure 77: Aesthetic experience surrounding of Hot spring resorts near Kwai Noi River
Source: https://www.riverkwaivillagehotel.com/en/activity/hot_spring#prettyPhoto

Figure 78: Aesthetic experience surrounding of Hot spring resorts near Kwai Noi River

Source:
https://www.facebook.com/rockvalleyhotspring/photos/pcb.2711951078851102/2711949208851289

2. Historical Value

2.1 Hin Dad Hot Spring

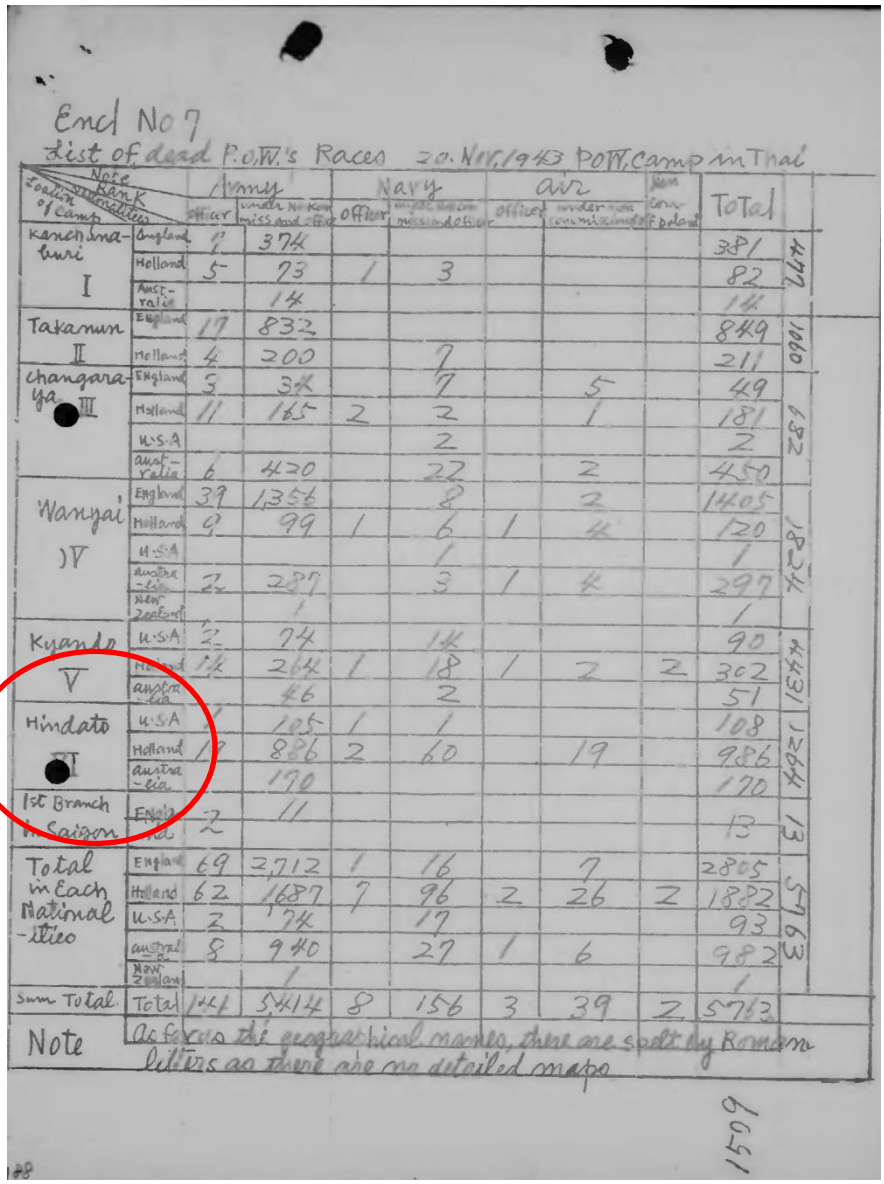
Participant No. 14 (18 August 2019) Since after World War II, the reputation of the healing waters of the hot spring has been grew among various groups of people who traveled through and settled in the area. Prior to the establishment of hot spring bath, Japanese soldiers were the first to utilize the thermal waters for their curative qualities of body and mind during World War II (1941-1945 in Thailand). Furthermore, one of the secondary source recorded a large number of valuable old photographs taken in World War II, the author found the evidence, hand-writing record of dead list shown that the army camp in Thong Tha Phum called *'Hindato'* where Japanese military had set the camp in Hin Dad area. The locals named *'Hin Dad'* but Japanese called by their familiar accent as *'Hin Dato'* (See Figure 85).

In addition, Piesse, D. (2017), a tour leader of *'Quiet Lion'* Tour wrote a report said

"We pass through the town of Brankassi, site of the Brankassi camp, and a few kilometres further on we pass the site of ***Hindato camp*** *which has a* ***hot spring*** *on the bank of a small river. This was a* ***favourite place for Japanese engineers and soldiers who had the PoWs build a concrete pool for the use of Japanese staff****."*

This could be a paragraph of proven evidence by the P.o.W. (prisoner of war) who participated in 'Quiet Lion' tour which was the tour that brought together the P.o.W. and relatives to visit an event that has taken place for a number of years in Kanchanaburi and is to commemorate and remember the ex-prisoners of war that

never returned home from the Dead Railway in Kanchanaburi and particularly to remember those that have survived from the war and passed way in recent years.



Encl No 7
List of dead P.O.W.'s Races 20. Nov. 1943 POW. Camp in Thai

Location of Camp	Nationality	Army Officer	Army under Non-Com	Navy Officer	Navy under Non-Com	air Officer	air under Non-Com	Non-Com Poland	Total	
Kanchanaburi I	England	1	374						381	474
	Holland	5	73	1	3				82	
	Australia		14						14	
Takanun II	England	17	832						849	1060
	Holland	4	200		7				211	
changara-ya III	England	3	34		7		5		49	282
	Holland	11	165	2	2		1		181	
	U.S.A				2				2	
	Australia	6	420		22		2		450	
Wanyai IV	England	39	1356		8		2		1405	1821
	Holland	9	99	1	6	1	4		120	
	U.S.A				1				1	
	Australia	2	287		3	1	4		297	
	New Zealand		1						1	
Kyando V	U.S.A	2	74		14				90	1343
	Holland	14	264	1	18	1	2	2	302	
	Australia		46		2				51	
Hindato VI	U.S.A		105	1	1				108	1124
	Holland	17	886	2	60		19		986	
	Australia		170						170	
1st Branch Saizon	England	2	11						13	13
Total in Each National -ities	England	69	2,712	1	16		7		2805	5963
	Holland	62	1687	7	96	2	26	2	1882	
	U.S.A	2	74		17				93	
	Australia	8	940		27	1	6		982	
	New Zealand		1						1	
Sum Total	Total	141	5414	8	156	3	39	2	5763	

Note: As for as the geographical names, there are spelt by Roman letters as there are no detailed maps

1559

Figure 79: '**Hindato**' camp was called as the name of P.o.W. camp, List of Dead P.o.W. written in 20 November, 1943
Source: http://www.mansell.com/pow_resources/camplists/death_rr/No20-196_Thailand_POW_Camp_Deaths_1943.jpg

Moreover, the map of P.o.W. camps in Thailand during World War II was drew by P.o.W. and stored in the website by Roger Mansell who combined a lot of information and accepted by the Center For Research, Allied POWS Under The Japanese. It shown

one name of the camps called 'Spring Camp' where may be called by the site characteristic landscape in the area of the camp. This could be assumed that there was the camp near the spring during World War II (See Figure 86).

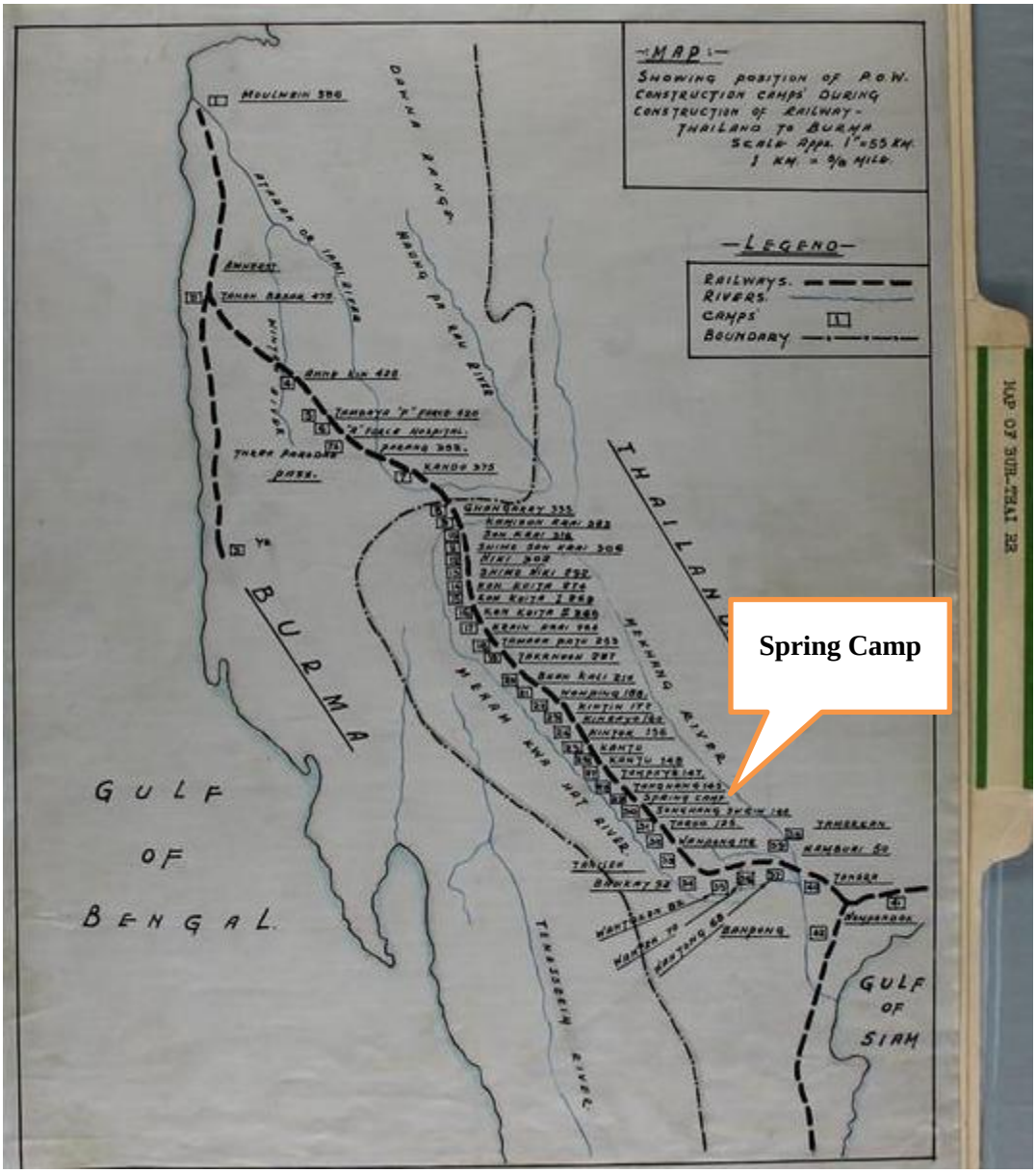
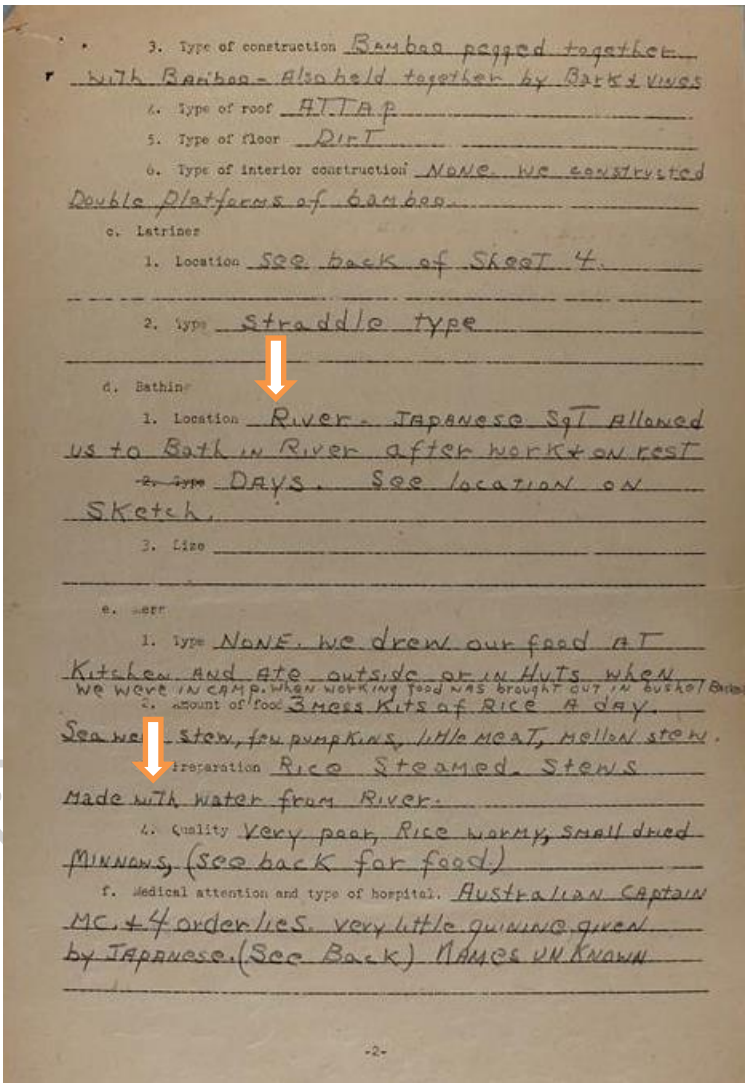


Figure 80: '**Spring Camp**' was identified as the name of P.o.W. camp
Source: Roger Mansell (1945)
http://www.mansell.com/pow_resources/camplists/death_rr/Folder_11_Cover_Page_1_Camp_map_Thai-Burma_Railway.jpg

From the record in the same source also found that the P.o.W. were supplies the water from Kwai Noi river near their camps. Not every camp allowed them to use it for bathing after work and resting, as well as, they used the water in the river for cooking the rice and stew (See Figure 87).



3. Type of construction Bamboo pegged together with Bamboo - Also held together by Bark & Vines
4. Type of roof ATTAP
5. Type of floor DIRT
6. Type of interior construction None. We constructed Double Platforms of bamboo.
c. Latrines
1. Location See back of Sheet 4.
2. Type Straddle type
d. Bathing
1. Location River. Japanese Sgt allowed us to Bath in River after work & on rest
2. ~~Type~~ DAYS. See location on Sketch.
3. Lice
e. Mess
1. Type NONE. We drew our food AT Kitchen and ate outside or in Huts when we were in camp. When working food was brought out in buckets
2. Amount of food 3 mess Kits of Rice A day. See we stew, few pumpkins, little meat, mellon stew.
3. Preparation Rice Steamed. Stews Made with water from River.
4. Quality Very poor, Rice wormy, small dried Minnows (see back for food.)
f. Medical attention and type of hospital. Australian Captain MC. + 4 orderlies. very little quinine given by Japanese. (See Back) Names UN Known

-2-

Figure 81: The end of World War II, P.o.W. report written by John B. Nelson, P.o.W survived from the war after they returned home
Source:http://www.mansell.com/pow_resources/camplists/death_rr/THAILAND_Death_roster_Camps_Report_RG389Bx2155.pdf

The Hin Dad hot spring for the next people used as indigenous tradition, their leader held the hot spring in high regard as a neutral zone and a place of healing and that various bands made pilgrimages to the site to use the thermal waters for cauterizing wounds and curing illness. During the late 19th and early 20th centuries, the next

generation of local people to actively use these geothermal resources. Participant No. 14 (18 August, 2019) More locals visit the hot spring site for their purported curative effects on muscle aching as well as, recreation. The locals used the thermal pools for foot soaking and body bathing so as to acquire the full range of health benefits offered by hot mineral waters. Around Hin Dad Hot Spring, it is believed that once the Japanese soldiers used to bury gold and treasure underground and someone discovered gold in this area (Participant No.15, 18 August, 2019). The local people told the traces of gold digging have been seen as well as, traces of the Japanese military air raid shelter in World War II.

Figure 82: Forest Department officials arrested four hunters of Japanese gold treasure Lin Thin subdistrict, Thong Pha Phum District (April, 2014)
Source: https://www.posttoday.com/social/local/291332

2.2 Lin Thin Hot Spring

Mr. Paruchai Boonpitak (March, 2010), Deputy Chief Executive of Lin Thin Subdistrict Administrative Organization, Thong Pha Phum District told that in 1949 around 5 years after World War II , another 10 kilometers away from Hin Dad hot spring, one more spot of hot spring named '*Nong Chareon*' was unexpected found by two community leaders; Mr. Jiew Chua taught physician of Lin Thin Subdistrict and Mr. Kaew Puto, Subdistrict Head of Lin Thin, paddled a boat for fishing in Kwai Noi

River and by chance met some bubbles of warm water in the middle of the Kwai Noi River. Then they had told the neighbors to know about it. More people in the village went for inspection. They decided to have a meeting among some committees of government organization and private sector that had involved to investigate. The Department of Mineral Resources have checked and found that the hot water had temperature about 56 degrees Celsius. However, nothing had been officially developed further at that time. Until 2009, more research have been studied in the area to develop this hot spring to promote another health tourism attraction. Then, the project of Lin Thin hot spring had been proceeded by Government fund support. The project had finished in 2011 and officially opened for visitors in 2012.

Figure 83: Photo Taken during World War II in 1945
Japanese Army Camp at 'Rin Teng' Train Station or Thais called 'Lin Thin'
Source: Photo from Donor Mackinnon, A.(1945)
https://www.awm.gov.au/collection/P00761.031

The photo evidence found that ex-prisoners of war members of a War Graves Commission survey party at Rinteng (Lin Thin) rail siding on the Burma-Thailand railway. The War Graves Commission survey party traversed the railway over the period 9th September to 10th October, 1945. Their task was to locate all the POW cemeteries and grave sites between Nong Pladuk, Thailand and Thanbyuzayat, Burma. They also recovered records and cameras which had been buried in individual graves, unbeknown to the Japanese, by senior POW officers (Australian War Memorial,

2021). It can be seen clearly that there was a war camp settled in Lin Thin, Thong Pha Phum. Mr. Pruchai Boonpitak (March, 2010), Deputy Chief Executive of Lin Thin Subdistrict Administrative Organization, Thong Pha Phum District told that the hot spring pond was used during World War II by the Japanese soldiers who had camped about 2 km away from Lin Thin hot spring. Japanese soldiers used the hot spring water to soak for relaxation. The people of Karen descent in the area, they believed from their descendants that it was a holy well used to drink to heal disease and to prevent various evils. From the news of Thairat channel (23 March, 2010), they found a cement round pond which believed it was the hot spring bath pond of Japanese army during World War II, but there was no official exhibition or museum to collect the evidence found.

Figure 84: Cement round pond found in the Kwai noi River, Lin Thin subdistrict, Thong Pha Phum, Kanchanaburi
Source: https://www.thairath.co.th/content/72456
Source: http://www.linthinkan.go.th/index.php

3. Scientific Value

Rare endemic plants

3.1.1) Red Milk Thong Pha Phum

Khamchompoo, S. and Thongpakdee, A. (2005) studied endemic plants in Thong Pha Phum district and first found new spies of Kradangnga or Ylang Ylang (family of ANNONACEAE) species in the forests of western Thailand. To honor the founders, the species science named '*Polyalthia Kanchanaburiana S. Khumchompoo & A.*

Thongpukdee'. Native name given that '*Red Milk Thong Pha Phum*' due to the characteristic of flowers with pollen circles, males are red or pink along with the name of the specific area where this plant was first found within Thong Pha Phum. It is a shrub 1-2.5 meters high with roots flowing between each plant. A single flower or a cluster of 2-3 flowers at the end of the branch opposite the leaf between the branches and the green petals. They can be found in the queen crab swamp at a height of 400-600 meters above sea level. Flowering is between May and June and fruiting from June to July. Participant No. 11 (18 August, 2019) told '*Red Milk Thong Pha Phum*' is really rare and locals keep searching for breeding and selling. Some academics group has visited to survey and search for it as well as botanist or botanical science students would like to reproduce or further study.

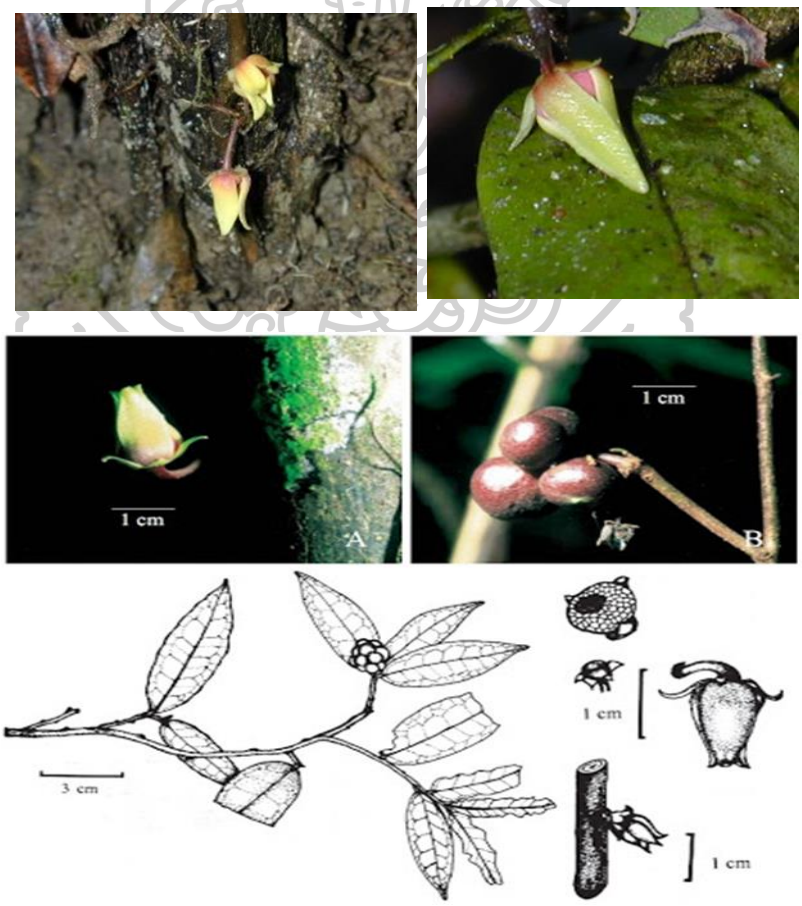


Figure 85: Red Milk Thong Pha Phum found in Thong Pha Phum
Source: http://www1a.biotec.or.th/BRT/index.php/download/doc_download/202-

3.1.2) Orchid of Thong Pha Phum Lion

It was discovered for the first time in Thong Pha Phum, Kanchanaburi by Salin Sitthisajattham (2012), on behalf of Department of Forest Biology, Kasetsart University This type of orchid is classified as a rare orchid. It only found in the area of Kanchanaburi Province. This was a new record reported in 2012. It called *'Thong Pha Phum's Lion'*, (Bulbophyllum reichenbachii (Kze.) Schltr.) which was named to honour the name of area found first time. However, Withit (2020) explored this type of orchid and found the study that discovered approximately 127 years ago in Tennesserim, Myanmar. The Epiphyte orchid is quite small with flower Size 2 mm. It grows well in the rainforest at an altitude of about 1,000 meters above sea level. Participant No.11 (18 August, 2019) Flowering in late winter in January. During flowering period, they will shed all the leaves and young leaves will begin to spring again as they enter the rainy season. It is quite rare orchid and normally found in remote forest of Thong Pha Phum.

Figure 86: Orchid of Thong Pha Phum LionSource: Withit (March, 2020) https://www.facebook.com/permalink.php?story_fbid=2305154529777181&id=2042515272707776&substory_index=0

3.1.3 Lin Thin Lotus

Participant No.11 (18 August, 2019) the local people called *'Lin Thin Lotus' (Bua-Lin-Thin)* because they have been seen in Lin Thin subdistrict of Thong Pha Phum. Its habitat is terrestrial in the riparian bamboo forest. The phenology explained that flowering from May to June, in leaf June to September. Li.J.W. and Liu.Q. (2019) explained *'Nervilia viridiflora'* is the scientific name and only found from Thong Pha Phum. However, it is expected that more populations may be found by thorough botanical investigation in the vicinity of the similar type of forest. Moreover, it is possible that other populations occur in similar habitats in the Laos. Regarding to the species shown Data Deficient (DD: IUCN 2012). Its etymology named for greenish flowers, especially on sepals and petals. (Tang, Feng-Xia & Jianwu, Li & Pan, Bo & Wu, Xun-Feng & Luo, Yong & Liu, Qiang, 2018).

A. Habitat (Leaves)
B. Habitat (Flowers)
C. Front view of flower
D. Lateral view of flower
E. Tuber
F. Plant with flower
G. Front and lateral view of labellum
H. Clinandrium
I. Front and lateral view of column
J. Abaxial and adaxial pollinium
K. Abaxial and adaxial anther cap

Figure 87: Lin Thin Lotus (Nervilia infundibulifolia)
Photographed by J.W. Li and Q. Liu (2019)

Source: http://www.siamensis.org/species_index?nid=8317#8317--Species%20:%20Nervilia%20infundibulifolia

4. Social Value

4.1 Harmonious Relationship between Communities and Hot Springs

The harmonious relationship between communities and hot springs in Thong Pha Phum and their potential relevance driving environmental sustainability. This social value had been investigated by observation - survey based and revolved around secondary literature coupled with interviews with key stakeholders in Thong Pha Phum. The author focused on two hot springs; Lin Thin and Hin Dad hot springs. The community members seem to enjoy a strong cultural attachment in the communities in which they are located and considered by the respective communities to be a key symbol of their cultural heritage and as such continue to shape their cultural norms of health promotion. 'Therapeutic Landscape' is significant relationships among the people living in the area.

Figure 88: Local community members usually come for hot spring bathing
Source: https://www.youtube.com/watch?v=5ZrZMjV55DQ&ab_channel

Figure 89: Local people normally come before its open and after close to avoid tourist crowding
Source: https://pantip.com/topic/33260519 (February, 2015)

Two hot springs of Thong Pha Phum were considered as the important part of this study. Under social value, the author found some factors seem to shape the harmonious relationship between the communities and their respective hot springs: Firstly Medicinal factor; Participant No.14 (18 August, 2019), hot springs are valued for their medicinal factor with members of their respective communities continuously flocking to them in order to be cured of certain diseases and ailments. Even historically, Japanese army first found using them in the areas but after that local Thai people continued using them because they were known visiting the hot springs due to their curative properties. the perceived curative properties of hot springs have resulted among the local community members. In the area, water is considered not only aesthetic landscape element but also cultural landscape element. Participant No.5 (17 August, 2019), the Hin Dad hot spring had provided a small pond for drinking since its officially starting the project, however, the issue of contaminated drinking water occurred then the drinking pond was not consumed from visitors or locals because there are some falling leaves and dust contaminated into the water. Having the spot for drinking water was one of the criteria of hot spring standard in the Guideline book for Quality Evaluation of Health Tourism; Natural Hot Spring (Ministry of Tourism and Sport Thailand, 2014).

Figure 90: Drinking Water Pond at Hin Dad hot Spring (January, 2009)
Source: https://mgronline.com/local/detail/9520000085139

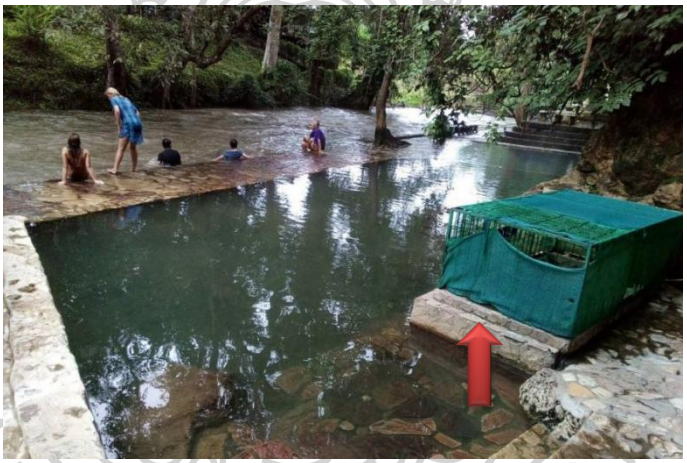


Figure 91: No Drinking Water Pond provided (August, 2019)
Source: https://www.posttoday.com/social/local/598964

An attractive landscape provides health and well-being to humans (Abraham et al., 2010). Lianyong and Eagles (2009) criticized the inattentiveness of academics towards '*waterscapes*' and show a clear relationship between waterscapes and environmental health. It was expressed in the embodiment of settlement areas in which great importance is attached to water (Fagnoni, 2009; Syme and Nancarrow, 1992). Cities located by rivers or at lakes have a distinctive and unique physiognomy which creates their own, special character (Strauss, 2002). The influence of landscape on health has already been stated extensively (Frumkin, 2001; Maller et al., 2006). Gesler's (1992) concept of therapeutic landscapes and the consecutive development of this concept

helped to systematically investigate the links between health and landscape. It has been recognized as a mixture of both non-pathogenetic health concepts and health geography's perception of the cultural turn (Kearns and Joseph, 1993). Gesler defined different aspects of a therapeutic landscape including the physical environment, the social environment and the spiritual environment. In the late 1990s, the focus on traditional healing landscapes was recognized to be just one aspect of therapeutic landscapes (Williams, 2007). Subsequent studies broadened the use of the concept and also addressed non-traditional healing landscapes, such as home environments (Williams, 2002) or summer camps for children (Thurber and Malinowski, 1999; Kearns and Collins, 2000). To date the therapeutic landscape model focuses on health promotion and the role of everyday landscapes as landscapes of health.

In Thailand, Liamputong & Suwankhong (2015) studied the intense motivation for regaining good health and healing, thus transforming their body into a landscape of 'healing and recovery'. The transformation of the therapeutic landscape of the body was performed mainly through the changes of diet, exercise and living conditions in their daily lives. It had been found that the home and community constitute therapeutic landscapes of emotional well being and healing in the form of social support. Social support played a major role in helping people deal with their illnesses. '*One important aspect of therapeutic landscapes is the cultural landscape*'. This cultural space constitutes both the everyday and the extraordinary therapeutic landscapes. Within the cultural landscape, cultural beliefs and religious/spiritual practices were of particular importance. It has been affirmed that the connections between cultural beliefs/spiritual practices and places are crucial for healing and recovery. The people adopted cultural beliefs and religious/spiritual practices commonly performed in their locality to be their therapeutic landscapes for dealing with their sickness (Liamputong & Suwankhong, 2015). The author agree with the result mentioned, both outsiders and locals who intend to come for hot spring bathing, they hopefully expect better health

conditions after regularly hot bathing at Hin Dad or Lin Thin hot springs. More importantly socializing and talking among the community members can help them staying healthier because they keep encouraging each other and share their own healthy experiences including local wisdom practices (Participant No. 17 -19 (23 December, 2018) & Participant 15 (18 August, 2019).

Figure 92: Disable visitor comes to the hot spring, expecting for better health condition
Source: Author (December, 2018)

Secondly, Participant No. 5, 6 and 11 (18 August, 2020) Economic factors; hot springs are valued for the financial benefits that they bring to the local communities in terms of tourism related revenues. For example, local products and food items are sold to the visitors who come to relax in the hot springs and entry ticket charge at the hot springs. Using the funds collected from visitors of the hot springs, the community management committees will be able to maintain the hot springs.

Figure 93: Local Shops within Hin Dad Hot Spring area
Source: Author (August, 2019)

4.2 Harmonious Relationship between Wild Elephant Communities and Kwai Noi river Vesus Conflict Relationship between Local People and Wild Elephants

Figure 94: The routine of wild elephants cross the Kwai Noi river and play the water, Chanday Village, Tha Khanun Subdistrict, Thong Pha Phum
Source : Sadet Huiouan (January, 2021)
Source : Prathom Na Klang (January, 2020)

The moment of wild elephants at Prangka Si Village, Moo 3, Tha Khanun Subdistrict, Thong Pha Phum, Mr. Prathom Na Klang, director of Ban Paklampilok School (Participant No. 4, 31 January, 2020) who took the photos at a coffee shop opposite of Prangka Si Village, informed the routine of the herd of wild elephants usually swim in Kwai Noi river at the spot almost every day as their way of wild life. When the level of natural water sources begin to fall down, wild elephants will come to the river

normally during evening or night. Tides are the rise and fall of water levels caused by the combined effects of the gravitational forces exerted by the moon and the sun, and the rotation of the earth. The wild elephants learn it from their life experiences then they know their proper time. They always come down to the same spot to play water. While they swim in Kwai Noi river in the midst of the rushing water, some senior elephants act as a mentor elephant to take care of junior ones and prevent baby elephants from being swept away by the water currents. The senior ones stand and wait below to use the trunk and turn their bodies for the floating baby elephant to hold in the water. This routine experience creates some excitement for tourists sitting for coffee or even local people also enjoy wild life watching.

Figure 95: A herd of wild elephant is spotted along the Kwai Noi River in Thong Pha Phum district, Kanchanaburi
Source: Piyarat Chongcharoen (December, 2020)

There are many wild elephants news reported within Thong Pha Phum area. They have often been walking from the jungle to seek food in the village nearby and raid local farmland because there are no enough sources of food in their habitat. For instant, Arthit Somboon (Participant No. 3, 26 December, 2020), assistant village chief of Ban Ong-ti village, said a herd of more than 20 wild elephants was spotted walking across the Kwai Noi River in the evening to forage for food on farms in Tha Khanun subdistrict, Thong Pha Phum. The herd, made up with bull and female elephants and babies, was led by Chao Nga and Chao Happy (the names of the wild elephants which are the leaders of the herd). The two jumbos led the herd to eat bananas, coconuts and

cassava grown by local residents. More than 20 rai of farmlands had been destroyed. Local residents were gripped by fear as the elephants emerged from the jungle to raid farmland. Some residents did not go to their rubber plantations to tap rubber latex because of fear of elephant attacks. The local people called on authorities to seriously address the problem by pushing wild elephants into the forests. However, sometimes locals have protected their farms by using illegal procedure such as exceed voltage of electricity shock fence. In fact, electric fencing is increasingly used as a tool for elephant conservation in human-dominated landscapes and deterring elephants from raiding crops. Although wild Asian elephants are listed as endangered species under the IUCN (International Union for the Conservation of Nature, 2020) Red List of Threatened Species, their conservation is hampered by humans as a reaction to crop depredation caused by elephants. Each year, both people and elephants died as a result of human–elephant conflict (Jaichon, C., 2020). Understanding the human–elephant conflict phenomenon is critical to both conservation success and the livelihood of human communities in close proximity to wild elephant habitats. The population of elephants in Thong Pha Phum district rose to over 300 elephants. The patrol teams have been set up to keep a close watch on the movement of a herd of wild elephants crossing the Kwai Noi River to forage for food on farms in Thong Pha Phum district while people using Highway 323 are warned to watch them out on the road. The team consisted of Thong Pha Phum National Park officials, police and local residents. They conducted patrols along Kanchanaburi-Thong Pha Phum route in Tha Khanun subdistrict to alert people using the road to watch out for wild elephants crossing the road. Most of the case happens, the patrol system will be managed by local involvement (Participant No. 3, 26 December, 2020). In Thailand, guarding, together with traditional deterrents, are the most common strategies (WCS Thailand, 2007).

To seek the solution together between government organizations and local residents, on 21 June 2020, at Weluwan Temple, Thong Pha Phum District, Kanchanaburi,

Thong Pha Phum community, Seub Nakha Satien Foundation and Thong Pha Phum National Park discussed with Pitak Kotchasan Foundation (*'Pitak Kotchasan'* means Elephant Guardian) which is a local NGO for elephant conservation in Thong Pha Phum District. Their meeting was to share activities, elephant data collections, and finding some similar objectives for possibly working together. They found out Pitak Kotchasan Foundation works with village-volunteered elephant response units and makes artificial water holes in the forest. They agreed to share particular data on elephant distributions in each month as well as, they also concurred to support coexistence livelihood between humans and elephants. In addition, they have agreed on creating an alternative income for villagers who faced elephant impacts (Thailand Science Research and Innovation, 2020).

Figure 96: Thong Pha Phum community, Weluwan Temple, Seub Nakha Satien *Foundation and Thong Pha Phum National Park involved to find the solution to reduce human–elephant conflict*
Source : https://humanelephantvoices.org/activities/thongphaphum630625/ (2020)

4.3 Sai Nam Tum Khow and Karen House

Participant No. 14 (18 August, 2019) Hin Dad is a village located next to a large stream *'Kui Meng'*. Long time ago, some indigenous Karen villagers therefore invented the water power in the stream as a labour-saving tool for pounding rice. This method of pounding rice by using hydro-power has been called *'Sai Nam Tum Khao'*,

'Sai Nam' means water, *'Tum'* means pounding and *'Khao'* means rice. The tool consisted of a mortar, a gear shaft, a lever, and a propeller or turbine. Rice mortars are made from hard wood such as red wood because it is durable and strong. It can be drilled in a deep groove in the middle that required depth and smooth surface. The gear is the part attached to the turbine. The pestle is made from solid wood and will have wooden limps attached to the end of the gear shaft. The turbine is a device to turn the water in the creek to be hydro power that helps in pounding rice. When the turbine is spun by a water stream causing the beams to tilt up and the gear rotates, the pestle falls and hits the paddy in the mortar. When the rice in the mortar is ready, then scoop them out and put into a new pound. Their ancestors taught them to build and used to utilize this tool prior in Sangkhlaburi district next to Thong Pha Phum. However, at the present *'Sai Num Tum Khao'* pounding tool is not exist in the area because they have some new rice mills in the town where local people have to pay to use it, as well as, there are still some villager using *'Khrog Kra Dueng'*, original rice mill in Lin Thin of Thong Pha Phum.

Figure 97: 'Sai Nam Tum Khow' is a tool to pound the rice by use hydro-power
Source: http://www.mculture.in.th/album/119931/สายน้ำตำข้าว

Figure 98: Pounding Rice Tool ‘Khrog Kra Dueng’ Lin Thin Village, Thong Pha Phum
Source: Author (2019)

Participant No. 14 (18 August, 2019) About 50 years ago when there was no rice mill. The villagers normally woke up early morning to pound paddy, this activity was their morning exercise as well. A number of household in Thong Pha Phum had a *'Krok Kra Dueng'* used to pound paddy for peeling into the husked rice. The inhabitants of Karen tribes in the past created a traditional mortar to pound rice. Padauk wood would not recommend to make the mortar and pestle because the smell of Padauk wood contaminated the rice, even if after cooking the rice, the smell will remain and may make the rice turns yellow and look unappetizing. The shaft was made of hardwood such as Phayom, Phayung, Takhian woods, etc. After pounding, women did their duty of winnowing the rice to remove the rice husk and bran from the rice with the wind. There was also the intelligence of folk wisdom; when there were broken kernels and grits scatter on the ground, they used them as pet food they had under their houses.

Figure 99: A Karen House in Lin Thin, Thong Pha Phum. House owner shows the *pounding tool under the house*
Source: Author (2019)

When saying about traditional rice pounding tool, the house function of Thai-Karen people also reflect their cultures and understand their way of life. Nindet, S. (1998) A Karen House is a bamboo house and called *'Ruean Khrueang Phuk'* because it is built by tying the bamboo together. The main structure of the house is mostly made of bamboo. House roof is made of various materials such as *'Faek'* leaves (vetiver), bamboo leaves, *'Kho'* leaves, *'La'* leaves (similar to Areca palm leaves), and banana leaves. The roofs extended out like bird wings are usually roofed with cut-off bamboos. A gable is mostly roofed with *Kho* leaves and the gable-ends cross each other like buffalo horns. Up above to Karen house, it will be seen a wide veranda, called *'Bueng Lang Khut'*. The veranda is usually built without any cover, and it is used for drying rice or for any activities. Participant No. 14 (18 August, 2019) The house floor has two levels. The first level, called *'Chichoeng'*, is used as a lodge to welcome visitors. The other level is a little higher, used for the visitors to lie down taking a rest as to honor them. The next area, called *'Dophling'*, is the house owner's rest room. Visitors are not allowed to enter this part because they believe that it will violate a convention or tradition. The next area is use as a kitchen. The floor level is the same as the veranda (*Buenglangkhut*), and a rice barn, called *'Phlangthu'*.

Participant No. 14 (18 August, 2019) Since the Karen people build their houses by lifting the floor very high from ground, they use the space under the house for various purposes such as for hulling rice, storing a lot of firewood and unhusked rice. In some places, rice barns are built separately from the house. The high lifting floor can also prevent dangerous animals (Nindet, S. 1998). In the scope area, there are more houses that have been adapted with new raw materials apart from bamboo and they normally have their won home garden to grow some endemic herbs for household use.

Figure 100: Karen Houses adapted with new raw material-roof but traditional functioning
Source: Author (2019)

Figure 101: Their pets are free under house, some chicken are free-range or simple bamboo fence
Source: Author (2019)

Figure 102: The simple home garden almost every household
Source: Author (2019)

4.3 Wisdom of Bamboo Weaving

The Support Arts and Crafts International Centre of Thailand visited and studied Baan Nong Charoen Community, Lin Thin Subdistrict, Thong Pha Phum District in Kanchanaburi, which is a source of handicraft production. There is a person who is honored as the teacher of art and handicraft, basketry category (Bamboo-Rattan weaving). Teacher Lon Puangsuwan, who carries out the distinctive pattern of bamboo and rattan weaving. The teacher has brought the wisdom of bamboo weaving from ancestors. The wisdom of handicrafts planned to be the community of learning handicrafts to focus on conservation of cognitive wisdom skills. Ban Nong Charoen Community was originally occupied by Karen people and many still live in. Nowadays, there are more Thai people coming to live with Karen groups as well. The people work for rubber plantation, pomelo, rambutan, and durian plantations. The Karen people who still maintain their customs and traditions in Ban Nong Chareon by still having Karen arts and handicrafts called '*back-strapped loom*' weaving for household use. The bamboo weaving pattern is outstanding and unique with 4 strands of Bullet wood flower pattern (Pi Kul flower) basketry, selected only local bamboo grown in the area because it gives a warm white feature and smooth texture. Participant No.6 (18 August, 2019) Basketry workshop maintains the traditional wickerwork, such as basket, and has evolved into a flower vase. To maintain a

beautiful and finely polished pattern at present, knowledge has been passed on to next generation people in the community and nearby areas or other places in order to conserve the local wisdom not to be lost. Teacher Lon set up also sell in the front of the house. If anyone is interested in practice, she is happy to teach basketry work.

Figure 103: Wisdom of Bamboo Weaving of the Nong Charoen Community, Lin Thin Subdistrict
Source: https://www.facebook.com/sacict/posts/2550124695017108/

4.4 Thong Pha Phum Market and Alms Offering Tradition at Kwai Noi river

Figure 104: Map of Thong Pha Phum Town
Source: https://www.google.com/maps/place/ตลาดสดทองผาภูมิ

The district is anchored by its central town in the River Khai Noi valley. The size of Thong Pha Phum town covers only two square km on the west side of Kwai Noi river, between Highway 3272 and Thetsaban Sailak Rd. The larger Highway 323 is found

over on the east side of the river and it continues north to Sangkhlaburi district, Kanchanaburi. In the heart of town, the Municipal Market is located between the river and Thetsaban Sailak road. If continue north up this street and Thong Pha Phum Hospital can be found and only one hospital for medical service in Thong Pha Phum, set at the north end of town. The small town likely lacks of foreign tourists, this makes it feel authentic market where everyday of local lives shown their way of life without desire attracting foreign tourism services. This market operates early morning to late afternoon, where food carts dish out grilled chicken and fish along with variety of local food and native vegetables and fruits grown in the area. It is also the place to browse fresh water fish, especially *'pla khang' (Asian redtail catfish)* that the area is known for. Some Myanmar fresh products sold in the market as well due to the face that there is a number of Myanmar people live and work in the area where near the border line. Another activity can be seen in the morning market is alms offering. The alms offering to the monks is one of the traditions that Buddhists have been practicing since the Buddhist era. Early morning in Thong Pha Phum, local people usually offer food to the monks as normal Buddhists do. Such tradition has been seen within cultural landscape; community market, local streets and so on. However, Thong Pha Phum's Kwai Noi river is accountable as social value and aesthetic value. With walking distance from town is ***'Wat Tha Khanun'***, a temple with a limestone massif topped by a bell-shaped chedi and a Buddha shrine. Scale the vertical cliff via a long set of stairs to enjoy a view of the Kwai Noi river and the town beyond. The temple also has a gold-painted mondop, a white Chinese-style Buddha image and a spacious meditation hall.

Figure 105: Thong Pha Phum Market located next to Kwai Noi river on the west side
Source: Author (February, 2020)

Figure 106: Early Morning at Thong Pha Phum Market
Source: Author (February, 2020)

Alms offering to the monks by the river is also a traditional lifestyle of the locals living along the river which nowadays can still be found. Visiting Thong Pha Phum market, visitors can join the daily alms-giving ceremony at market. During

conversation with the local market vendors, they pointed out to the Tha Khanun temple where the monk walking from and convinced the author to visit there to offer alms near the riverfront at the suspension bridge. They recommended because walking along the way from market to the bridge is not that far and this is their usual practice which the locals normally do as well, Then it can be seen the cultural landscape they pursued. Along the walking way, there are some local old house and shophouse along way. To join the alms offering at the suspension bridge, must be ready at the spot before 07.00 AM. The monks normally come back from walking for alms and cross the Kwai Noi river by suspension bridge where their temple located near the river. The monks accept offerings from people who are lined up near the bridge. There were both local people and tourists held their packed food, water and flowers offering to the monks.

Figure 107: Alms Offering at Thong Pha Phum Market in the morning
Source: Author (February, 2020)

Figure 108: Alms Offering along the street of shop houses, Thong Pha Phum Market in the morning (August, 2018)
Source: https://th.readme.me/p/19448

Figure 109: Shop Houses in Town near Market in early morning
Source: Author

Figure 110: Shop Houses in Town near Market in early morning
Source: Author (February, 2020)

Figure 111: Sign of Tha Khanun Temple and golden Chedi when walk across Kwai Noi river, Thong Pha Phum, Kanchanaburi
Source: Author (December, 2018)

Figure 112: Buddhist tradition, alms offering at the suspension bridge across to Tha Khanun Temple. Buddhists waiting here every morning.
Source: Author (February, 2020)

Figure 113: The monks walk back to Tha Khanun Temple after alms offering
Source: Author (December, 2018)

Figure 144: Tha Khanun Temple, Thong Pha Phum, Kanchanaburi
Source: Author (December, 2018)

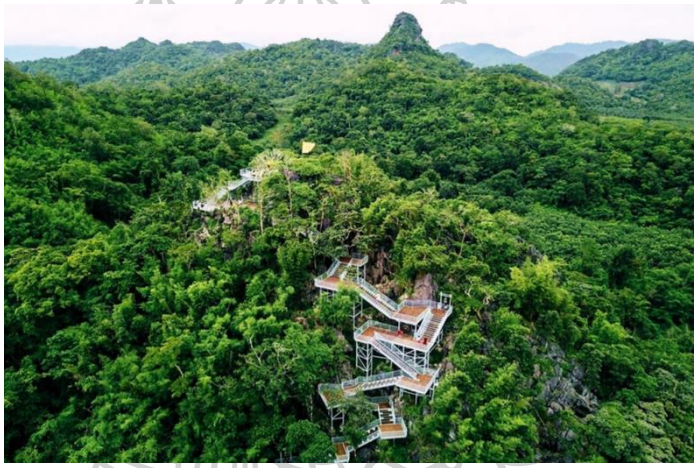


Figure 114: There are 1237 stairs up to the hill to worship the footprint of Buddha
Source: https://cities.trueid.net/central/kanchanaburi/B5-trueidintrend_9405

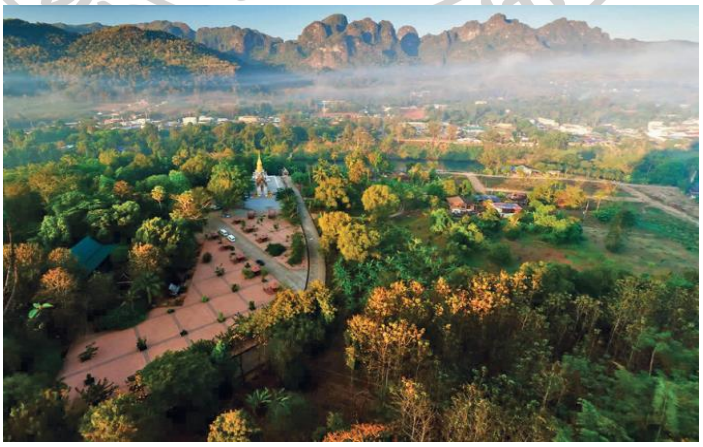


Figure 115: View on top of the hill at Tha Khanun Temple
Source: https://www.watthakhanun.com/background.html

The monk usually practice alms offering daily in the morning, some walk on the streets and some go by boats along Kwai Noi river. However, they may not be able to go outside for alms offering due to ecclesiastical mission or weather condition without prior notice. It means that monk would not go for a morning alms-bowl on the street or along the river like in ordinary day. In this case, the Buddhists can go to the temple instead in order to offer monk some food. People gather food in a hall and help each other to prepare food including water as a set enough for monks. When the preparation is completely done monk would come into the hall; then the religious rite would be performed.

Figure 116: The monks go for alms offering by boats along Kwai Noi river in the morning
Source: https://www.facebook.com/mekkiriresort/

4.5 Health Promotion for Buddhism Monk

The Buddhist monks who practice Dharma teaching in the *'Tharn Nam Ron'* (means Hot Stream) Temple near the hot spring site, normally come to bath in the Hin Dad hot spring. There are separated area for only monk provided at the site. The main purpose is to improve their health conditions which different to Japanese monks' custom of bathing. Takayoshi Yamabe (2009), regarding to the great public bath at Todaiji Temple, a World Heritage Site, is thought to be the birthplace of the practice, and a place where both monks and the public performed ablutions. The priests of temples not only purified themselves but also gave the public the opportunity to bathe, giving rise to a custom of 'virtuous bathing.' Monks assisted in the baths as part of their

training. The people bathed in natural hot springs before that time, and hot spring bathing makes appearances in regional records of local history and customs. Japan's native Shinto religion also had the custom of pouring water on the body for purification. Nevertheless, the monks of *'Tharn Nam Ron'* temple, they do not use hot spring water as the Japanese ritual and custom of body purification. They normally come for hot mineral bathing to promote their health and rest their body aching after heavy physical work at the temple.

Figure 117: Monks from Tharn Nam Ron Temple nearby hot spring

Figure 118: Monks of Tharn Nam Ron Temple nearby hot spring regularly visit the hot spring for their health promotion
Source: Author (2018)

5. Spiritual Value

The Shrine of Jīvaka Komārabhacca at the Hot Spring

Figure 119: The Shrine of Jīvaka Komārabhacca (The Buddha's Doctor) at Hin Dad Hot Spring
Source: Author (2019)

Figure 120: The Shrine of Jīvaka Komārabhacca near Lin Thin hot spring
Source: Author (2019)

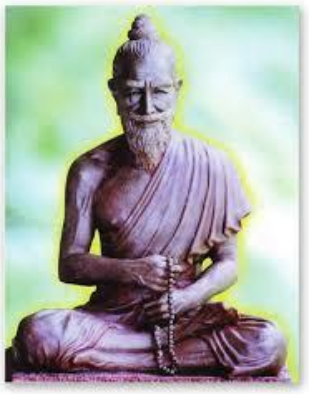


Figure 121: The Image of Jīvaka Komārabhacca
Source: https://alchetron.com/Jivaka-Kumar-Bhaccha

During observation of both hot springs, the walk way to Hin Dad hot spring and near OTOP shop zone of Lin Tin hot spring there are the shrine of Jīvaka Komārabhacca each site which the officers of subdistrict administration and local people believe and respect him as the Buddha's doctor. The hot spring establishment provides spiritual practice at the place, therefore, his dedication shall be recognized and enhanced by local people and Thai visitors. Chatnarat, P. & Karchung, K. (2019) described Traditional Thai massage is a type of traditional medicine which is almost always taught in a Buddhist context in Thai traditional medicine, but the religious practices peculiar to that country need not deter beginning students from other cultures from studying this art form. Both Thai traditional medicine and the cultivation of Loving Kindness are compatible with any spiritual tradition. The most important lesson which Buddhism has to offer is that it is universally desirable to make a sincere attempt to live honestly, humbly, and compassionately. Spiritual practice that emphasizes these virtues will benefit the practice of healing by decreasing the self-centeredness of the practitioner and increasing his or her attention to and compassion for others. Every Thai massage therapists respect Jīvaka Komārabhacca as their teacher. The author had been trained for 150-hour Traditional Thai massage ten years ago, all students have to pray for Jīvaka Komārabhacca and ask him to protect and support their therapy career before studying the massage and starting to work. According to Chatnarat, P. & Karchung, K. (2019), around 2,600 years ago back in the Sakyamuni Buddha's time,

there was one prominent physician who always cured people with a traditional remedy whether poor or rich, ugly or beautiful, noble or lowly, king or beggar, etc. His name was Jīvaka (Pāli: Jīvaka Komārabhacca; Sanskrit: Jīvaka Kumārabhṛta). In the 5th century BCE, he was the personal physician to the Buddha and the King Bimbisāra. Sometimes he was narrated as "Medicine King" because he figures notably in several countries throughout Asia as the traditional model healer and worshiped by many Āyurvedic physicians and traditional medicine healers. Consequently, having his shrine in front of the hot spring site will encourage both therapists and visitors to feel more safety and healthy.

Figure 122: Traditional Thai Massage Building at Hin Dad Hot Spring
Source: Author (2018)

Significance

'*Kui Meng*' hot spring was its local first name as it situated next to the Kui Meng stream, so the locals there called such name. After it was operated officially by Hin Dad Subdistrict Administrative Organization, the name '*Hin Dad*' hot spring had been called more publicly. The period of significance for the hot springs involved Japanese Army in World War II during 1941-1943. However, during World War II, Japanese army and P.o.W. (prisoner of war) called it '*Hin Dato*' similar to their Japanese accent derived from village name '*Hin Dad*' around the hot spring and their army camp (Australian War Memorial, 2021). Sukjareon, A. (2009) told some evidences were found

in the area; many underground bunkers and secret tunnels, therefore it can be assumed this area had actually established a military base before. The Japanese soldiers unexpectedly found a spot of natural hot spring near the Kui Meng stream. Then, they built two cement ponds for hot bathing near Kui Meng stream to relax themselves and relief their fatigue during World War II. To honour their military seniority, the Japanese soldiers intentionally separated one bath cement pond for their senior commanders and another pond for minority soldiers. The idea of separation area also applied in the current hot spring usage by dividing the classified area of ponds for monks and disables because of their religious restriction and physical difficulty. In addition, they divide into 3 ponds with different heat levels, namely, a highly hot spring, a medium temperature hot spring, and a small hot spring with a low temperature suitable for children.

In terms of a sense of place, the hot springs were usually soaked by Japanese soldiers in World War II same as their culture called *'onsen'*. Many labors were suffered and died during construction of railway to Burma in this area (Sukjareon, A. 2009). The hot springs were then found to commemorate them with reflection of their suffering during World War II. However, rather than reflect on human brutality, they also represent the relaxation period of Japanese soldiers at the same time. It can be said that the hot spring site can symbolize both sorrow and happiness. For time being, next generations of locals people who had rarely connected to the emotional impacts of World War II, not really commemorate them with reflection of their suffering anymore. In opposite way, both locals and tourists have been visiting with enjoyment of hot springs landscape without recognizing the sorrow of past war.

After World War II, the hot spring gained local recognition as a health community in Kui Meng village among Thong Pha Phum district. When Japanese army moved out from their camp site, they still left the cement ponds at the hot spring area. The locals there have known about the hot spring bathing, therefore, more local Thai people and Karen (indigenous people) continuously used to soak in the hot spring pond. They

believed it was holy water and helped to relieve their illness. This period of significance remains unchanged for historic vernacular landscape of hot spring, as the majority of bathing feature were utilized in manner significant to the development of the landscape during this period. However, around 1990, it was renovated by Subdistrict Administration Organization by adding more features around the hot spring site (see Figure 156 below) to welcome more visitors and promote the tourism.

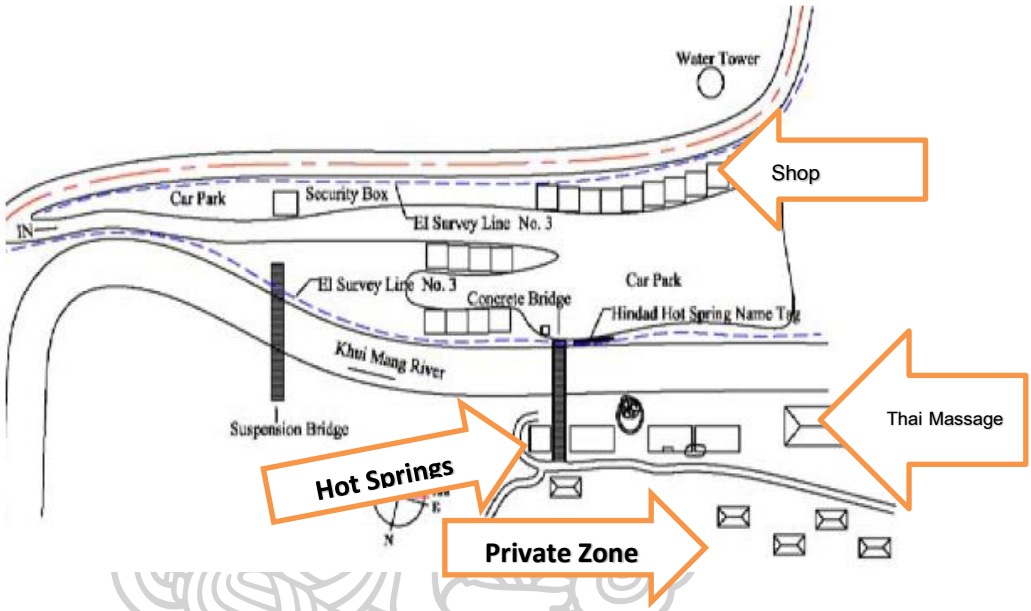


Figure 123: Map of Hin Dad hot spring features (Adapted by Author)
Source: Pham Huy Giao, Prinya Putthapiban and Chanarop Vichalai

Another 10 kilometers away from Hin Dad hot spring, there is another hot spring, now called *'Lin Thin'*. Tinphasuk, P. (2018) told the local villagers were discovered since before World War II, since in those days the village in that area named *'Dai Katao'*, which is Mon language, meaning hot springs. This name *'Dai Katao'* had been called for long time before the war occurred. It could be assumed that the indigenous people already known that hot water source was here in the Kwai Noi river. During World War II, it had been used by Japanese military forces. They built many army camps in Thong Pha Phum District as a passageway to Burma, where army camps were set up to rest the soldiers and keep supplies along the Kwai Noi river until reaching the destination. At Dai Katao village, they employed Thais and Karen people

riding elephants to haul wood to build railway. The Japanese soldiers preferred to soak in the hot water to relax, while the Karen Thai people in the area believed that can be used to drink and eat to heal diseases and to prevent evil spirits. After war, none used it anymore. Until 1950 this hot spring was unexpected found again by two community leaders and named it '*Nong Chareon*' hot spring as the name of village. A subdistrict medical practitioner and subdistrict headman surprisingly found in the middle of Kwai Noi river, while both of them travelled along the river by small fishing boat. However, after reported incident, nothing has been developed further for a better place for hot spring bathing establishment (Tinphasuk, P.,2018). Until 2009, more research have been studied in the area to develop this hot spring to be another tourist attraction. Then, the name changed to '*Lin Thin*' as the name of subdistrict. The project of '*Lin Thin*' hot spring had been proceeded with Government fund support. The project had finished in 2011 and officially opened for visitors in 2012 (Sukjareon, A. 2009). The atmosphere is very plentiful of greenery nature and water. Nowadays, both local people and visitors like to bath hot spring due to skin treatment, blood circulation, body aches and joint pain, muscle inflammation, bone pain and numbness.

Area of Significance

Since after World War II, the reputation of the healing waters of the hot spring has been grew among various groups of people who traveled through or settled in the area. Prior to the establishment of hot spring bath, Japanese soldiers were the first to utilize the thermal waters as their cultural practice during World War II. The next people used as indigenous tradition, their leader held the hot spring in high regard as a neutral zone and a place of healing and that various groups made pilgrimages to the site to use the thermal waters for cauterizing wounds and curing illness. After Hin Dad hot spring until now, the next generation of local people to actively use these geothermal resources. More locals visit the hot spring site for their purported curative effects on muscle aching as well as their enjoyment. Their bathing behaviors are varied by the

purposes; foot soaking or/and body bathing so as to acquire the full range of health benefits offered by the mineral waters.

Even as new advances in medicine lessened the need for such pilgrimages, the appeal of hot spring and healing waters was strong, fueling the drive to develop more hot spring health resorts in Kanchanaburi, especially aesthetic landscape near the waterscape. Nonetheless, the hot spring attraction has not yet been quite famous among both national and international visitors. The area may be counted as secondary tourism attraction because more tourist tend to visit waterfalls in Kanchanaburi but most locals usually come to enjoy bathing and soaking their feet at the end of the day or after operating hours as regular visitors. The hot springs can draw attention from visitors in each year. There may be a sense of place that refer to Japanese culture as the universal standard. However, through the appearance of Thong Pha Phum hot springs' atmosphere which has reflected Thai characteristic of hot spring usage. Thai local people's dress code for bathing a hot spring presents the Thai characteristics (as shown in Figure 158). The behaviors of previous local lives and existing local community seen in the hot springs, has been gradually changing in terms of social norms.

Figure 124: Japanese Hot Spring Bathing
Source: https://livejapan.com/th/article-a0000327/

Figure 125: Thai Hot Spring Bathing
Source: Author (2017)

Figure 126: Western Tourists wearing bikini while most Thais wearing top and shorts
Source: https://www.paidooo.com/อาบน้ำแร่-แช่น้ำตกในป่า

Authenticity

Authenticity is presented against copying or reconstructing without any creativity. Formal copy cannot represent the authenticity of heritage and may stifle creativity and the unnamed quality of heritage. Alivizatou (2012 p.139) has mentioned, "*Authenticity does not mean blind perpetuation of traditions, but rather a more creative engagement with how to make relevant the traditions of the past in the present, something that implies change and transformation rather than cultural stagnation.*"

An authentic property is based on not only independence and fluidity in form and shape, but also on internal criteria of the nature and significance. *"Authenticity is not a value itself; however, it refers to the concept of value in the very essence of itself"* (Stovel, 1995 cited in Talebian, 2005 p.65). Authenticity possesses abstract origin and roots of the significance and value of the property and is the vehicle for transmitting and realization of this concept in the time and place of the real world. The authenticity cannot be undermined over time. Although the physical aspect of heritage is experiencing gradual changes consciously or unconsciously over time; in different cultures, the correlation between memory and authenticity continues regardless of the physical aspects and do not necessarily require its physical continuity.

The hot springs respond to alternative medication, changing demand and expectations of local and outside visitors. There is a special relationship between waterscape, heat power (under neat the ground), minerals, rural fabric and surrounding natural landscape. Accordingly, there are complex values associated with landscape in and around hot spring area. The area can also be held to be a *'Therapeutic Landscape'*. This realization prompted people to have an intense motivation for regaining good health and healing, thus transforming their body into a landscape of healing and recovery. The home and community also constitute therapeutic landscapes of emotional wellbeing and healing in the form of social support. Social support played a major role in helping the people deal with their illnesses. Liamputong & Suwankhong (2015) concluded that *"One important aspect of therapeutic landscapes is the cultural landscape"*. The cultural space constitutes both the everyday and the extraordinary therapeutic landscapes. Within the cultural landscape; way of life, cultural beliefs and spiritual practices were of particular importance. It has been affirmed that the connections between way of life, cultural beliefs, spiritual practices and places are crucial for healing and recovery. The hot springs bear an important testimony of conscious human care for health which connected specific lifestyle.

Since Hin Dad hot spring started officially operating to provide outdoor public hot mineral bathing and spaces for casual meetings and communication, they became significant center where a new socialization arose. They greatly assisted in the transformation of the society which led to rise of cultural diversity. The hot spring fabric was created to respect and use surrounding landscape of high quality, including cool stream, promenades, check dam, suspension bridge, walking trails and forestry plantation. Another site, Lin Thin hot spring illustrates the influence of innovative ideas on modern development. This outdoor place had been established in 2011 and officially operating in 2012. Lin Thin hot spring provides some appropriate treatment rooms for private spa treatments but not in Hin Dad site. Importantly both sites offer social spaces including hot mineral bathing ponds, hot mineral foot soaking areas. Both Hin Dad and Lin Thin hot springs have been strengthening relationship between people, nature and its multilateral curative sources since now and then. Especially evening till nighttime after outside visitors left at closing time, more local elderly people normally come for hot bathing and casually chat on local important news or even general topics for entertainment.

Even though the attribute of *'hot bath'* tradition in this area derived from Japanese Military during World War II, Thai people preserved it in this property with a unique combination of Thai treatments (Traditional Thai massage, Thai herbal compress, foot soaking and foot massage) and leisure time, features providing physical activities and walks in well-tended landscape. Apart from their balneo-therapeutic function, they were and they still are internationally notable venues for relaxation, leisure and activities focusing on health, tolerance of beliefs. This therapeutic landscape is clearly marked with quality of nature and a variety of objects for both therapeutic and social purposes, such as baths and Thai treatments, perfectly embedded in stream, river, forest, park, gardens, promenades and recreational areas. The hot springs represent compact rural cultural landscape in Thong Pha Phum, Kanchanaburi.

Integrity

"Integrity is a measure of the wholeness and intactness of the natural and/or cultural heritage and its attributes. Examining the conditions of integrity, therefore requires assessing the extent to which the property: a) includes all elements necessary to express its outstanding universal value; b) is of adequate size to ensure the complete representation of the features and processes which convey the property's significance; c) suffers from adverse effects of development and/or neglect." (UNESCO WHC, 2005, Paragraph 88)

To analyse the integrity and how it can be used to preserve the heritage of landscapes. Gullinoa, P. & Larcherb, F. (2013) studied a comparative study of UNESCO rural landscapes selected from the 2011 World Heritage List. Documents describing the historical, rural, and agro-ecological features of each of the fourteen rural sites were analysed. From this, several historical and ecological parameters were chosen as "values to have" and several socio-economic and management parameters were chosen as "values to maintain" to assess the integrity of each landscape. They found integrity to be a value of both cultural and natural landscapes and that it is key to site identity. UNESCO assigns a high value to the following parameters: historical features, traditional crops and local products, land-use and agricultural practice permanence, and the presence of architecture related to agricultural activity. It can be seen that the relationship between culture and nature to characterize best the integrity of a rural landscape, rather than nature or culture alone. The author found the integrity to be a value of both cultural and natural landscapes and that it is key to site identity. There are the evidences that can be evaluated as follows;

'Therapeutic landscape' represents all the main aspects of balneology based on the use of mineral water with appropriate warm temperature. In its entirety, the existence of

attributes of heritage values is for each unit guaranteed by appropriate legal protection and by setting up a buffer zone which managed by five National Parks around the hot spring area. Any pressure of territorial and construction development are controlled by relevant tools and protection of values is supported by mutually interconnected legal measures in order to protect cultural values, mineral springs, nature and landscape in accordance with the laws and legislation of Thailand. The patterns of tourism management in hot spring for health tourism development in each hot spring sites are different in Thailand depending on the organizations that managed the area (Chuamuangphan, N., 2016). For example, some sites taken care by the National Park Department. Some of them are controlled by the Subdistrict Administration Organization (SAO). Some sites are locally managed by the community members. As a result, the levels of participation in each site were different. In case of Hin Dad and Lin Thin Hot springs of Thong Pha Phum, Kanchanaburi are controlled by local government, the Hin Dad and Lin Thin Subdistrict Administration Organization (SAO) respectively and partial local involvement. Chuamuangphan, N. (2016) explained that hot springs where managed by the National Park Department, was lack of local participation and also lack of service staff members, in terms of tourism and hospitality services. However, in the way of conservation, it seems to be completely done for natural and environmental conservation. In opposite, the SAO managed the hot springs with more local involvements because SAO officers tend to easily approach to the local people and known the village leaders well. Any projects required local involvement then capable village leaders will convince their villagers to participate. Nevertheless, the SAO officers tend to have inadequate knowledge of natural conservation and ecology system.

Both hot springs, levels of local participation in tourism planning are different and varied by situations. The SAO management allowed local people to share their ideas on hot spring development. Both sites are also allowed the local people to open shops and sell their local products at the site, however, the tenants are required to pay some

fee to maintain the site. The shops are normally operated in Hin Dad site but not in Lin Thin site because the shop zone (OTOP zone) was built quite far around 450 meters from the hot spring bathing area. Therefore, the shop finally cannot operate due to only few customers visited the shop. However, along the way to Lin Thin hot spring there are some local houses where sells local food and products in front of their houses.

5.2.2 Surrounding Geological Tourism Resources in Kanchanaburi

The study area of Thong Pha Phum has a distinct landscape including valleys, streams, Kwai Noi river, hot springs, waterfalls and caves. The complex relationship of these ensembles distinguishes the landscape from other settlements.

(1) Waterfall

Pha Tad Waterfall

Figure 160: Pha Tad Waterfall
Source: https://www.asiatravelgate.com/pha-tad-waterfall-kanchanaburi-thailand/

Participant No. 20 (14 February, 2020) Pha Tad waterfall is a three-tiered waterfall located 7 kilometers away from Hin Dad hot spring. Within the park area, it is very well decorated and harmony with the environment. Serene and verdant surroundings, it can also be seen as a great place for recreation and discovering nature. The water source of Pha Tad Waterfall comes from Kala mountain range flowing to Kui Meng stream until towards limestone cliffs at the area of this waterfall. The waterfall will end at Kwai Noi river. Although this is a three-tier waterfall, visitors do not have to walk up to the high hill as many waterfall because it in fact widely spread to the ground. Therefore, the waterfall scene is fascinating with widely beautiful view from the fall. There is a good walkway reaching to this waterfall, not difficult for visitors to climb up. The walkway is also surrounded with endemic flowers and trees. The area of Pha Tad Waterfall is clean and well managed by the national park, which is only 300 meters far from the center of the national park.

(2) Cave

Thiphuche Cave

Participant No. 21 (14 February, 2020) she determined for the next adventure trip in Thong Pha Phum. She said *'Tum Num Lod Thippuchae'* where she really needs to as a group with local guides only due to the difficulty of the cave route. She loves adventure trip such as trailing and caving which planning well is essential for her recreation. Bangbo, N. et al (2007) explained *'Thipuchae'* is a Karen indigenous language means *'Cave'* therefore the indigenous people called *'Thipuchae'*. The cave usually has the water falling into the cave, hence Thai people called by its characteristics *'Tum Num Lod'* in Thai; *Tum means Cave, Num means Water and Lod means Flow through.* The cave is indicated as *'Active Cave'* that is growing continuously. According to Watson, H. M. (1972), geologists divide the caves into two main types. Firstly, a '*Relict Cave'*; abandoned, inactive cave segment or non-active cave, dry cave and no running water. Secondly, an *'Active Cave'* is a cave that still has water flowing inside the cave which speleothems are growing. This type of

cave is very dangerous during the rainy season, and Thipuchae cave is an active cave where believed that no humankind had lived inside before because normally the relict caves are caves that have been used and accommodated by humans since ancient times. Due to the fact it is a dry area making it suitable for living and use as a burial place (Chusongdej, R. 2003). According to Chusongdej, R. (2003) studied that there are a few cliff sheds of a cave in Thailand where used for ancient funeral rituals, such as Sai Yok Cave in Kanchanaburi, Mo Khiao Cave in Krabi and Pang Mapa Cave in Mae Hong Son.

Bangbo, N. et al (2007) told their adventure trip, they found amazing beauty of the ancient stalagmites and stalactites, hidden in the cave for thousands of years. The indigenous people have known the cave long time ago but none can find the way out of the cave. Most local cave explorers who wanted to challenge, kept coming out at the same way where they entered. Until 2007, their group of cave experts had explored the cave until they found the small way out of the cave where none could find before. They said it was marvellous adventurous experience. When starting climbing at the entry tunnel cave, the team members had to descend the waterfall cave with a height of 25 metres in the dark, only can see the way with a head-flashlight. The cave was naturally decorated with stalagmites and stalactites, shown the incredibly-beautiful nature. It can be seen various shapes of stalactites and stalagmites, more importantly some features are quite rare, not commonly seen. They can only be found in fragile and pure caves. The natural sculptures found inside the cave, such as the four stone clusters, the rock pillars that support the huge cave pillars, the limestone streaks along the cave walls, the limestone weirs, the stalactite tubes, spiral limestone and so on. On the roof of the cave, there was a big flock of bats. From the entrance, there was a walking along the twisted stream tunnel with a depth of 100 metres. Then, it came across at the 15-metre height of waterfall inside where only abseil skill could help to go down under the cave. To continue through out the cave, the more walk, the way was so narrower that crawling was sometimes required during the route. At the exit was a small channel can only pass one by one. It was amazed with the beautiful rocks in many shapes like the glazing peach ones. The cave

safely explored during October to June and it takes approximately 5-6 hours to finish the whole route of 1 km length.

In addition, there was a number of rare cave wildlife found in the cave. This rare insect, named *'Hairy Mary'*, is spider-like, a long-legged insect in the phylum arthropod, referring to an articulated animal whose function is to decompose a carcass and small animals inside the cave (Rogers, D.C., Ian, M. S., Valerie M. and Norton. R., 2016). Arthropoda is one of the nine phylums of the Kingdom Animalia in the taxonomy of animals. It is in a group of invertebrates; commonly referred to as arthropods, such as horseshoe crab, spider, tick, shrimp, crab, millipede, centipede, and other insects. Its excellent ability is to easily adapt to the changing environment (Rogers, D.Cet la, 2016). They also found a blind eel (or hag fish) in the cave but there was no photo evidence to be seen from their filed trip. Even though there is no light, they have the optic nerve. It lives by attaching itself to living fish & literally sucking their insides out. A single snout at the top of the head is surrounded by barbels & the circular mouth forms a powerful sinking disc with a tongue containing flat, rasping teeth. A close relative of the lamprey.

Figure 127: 'Hairy Mary' is spider-like, a long-legged insect in the phylum arthropod.
Source: Hyperventure Cave Survey Team (2016)
http://www.hyperventure.com/thai/home/index.php

Figure 128: Inside the cave
Source: Hyperventure Cave Survey Team (2016)
http://www.hyperventure.com/thai/home/index.php

(3) Forest Monastery

Phatad Tharnsawan Temple Forest Monastery

Figure 129: Entrance of Phatad Thansawan Temple Forest Monastery
Source:https://www.facebook.com/PrachasamphanthKhawsar/photos/a.1137318406285773/1137409519609995

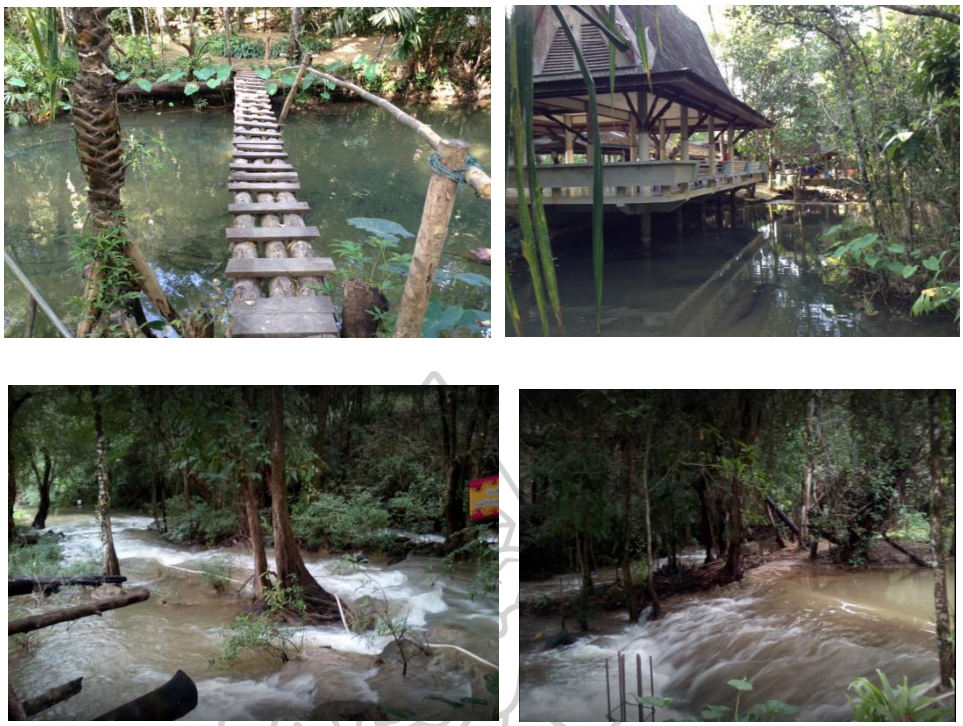


Figure 130: Kui Meng Stream flows next to Phatad Thansawan Temple Forest Monastery
Source: Athiphan Tasanun (October, 2017)

Figure 131: The monks teach the people called‘Layman’ at Phatad Thansawan Temple Forest Monastery
Source: Sarawuth Tienthong (January, 2020)

Participant No. 22 (15 February, 2020) talked about her peace recreation at Phatad Thansawan Temple Forest Monastery, a Buddhist monastery in the Thai forest tradition of Mahayana Buddhism located in the forest near Kui Meng stream,

Hin Dad, Thong Pha Phum. The monastery benefits from a balance of wilderness, seclusion and typical accessibility of a Buddhist forest monastery. The Phatad Thansawan Temple Forest Monastery (2020) The temple area is 77 rai, forest area 3,000-4,000 rai, where is a place to practice meditation for both Buddhist monk and general people. The monk teacher, Dech Phra Khun Luang Pho Santhan Katapoono has begun to develop since 1980. There is an original natural forest mixed with a new planted forest, peace and quiet, away from distractions. It called a '*Sappaya*' place where is very suitable for conducting and practicing meditation. Therefore, there are many Buddhists who regularly come to practice it. According to Jeta Grove Foundation (2020), the Buddhist 'forest monasteries' of Southeast Asia tend to be simple dwelling places for the monastic community '*Sangha*', where located in peaceful natural settings – usually forests. Their main purpose is to facilitate the practice of meditation and the simple living of the Buddhist monastic way of life. The Office of Forest Resources Management (2015) described the forest monasteries in Thailand have played a role in helping to protect threatened forests and the many forms of life they host, and to provide sanctuaries where people can come to join the monastic community for whether shorter or longer periods, practicing meditation while living in nature in a similarly simple manner. The primary purpose of Temple Forest Monastery is to serve as a place where Buddhist forest monks are able to live, and where those interested can become monks and receive a traditional meditation training. In addition, the monastery acts as a religious center for local and regional Buddhists, and also as a resource for those of any non-Buddhist interested in learning traditional monastic life, simple way of life, where one can receive guidance and find opportunities for meditation and quiet reflection. The monastery aims to provide an accessible contemplative sanctuary for anyone interested in this way of life. The Buddha taught a path of spiritual awakening, a way of 'practice', that they can use in their daily lives (Jeta Grove Foundation , 2020).

The Office of Forest Resources Management (2015) this temple forest monastery joined the project for a Buddhist park cooperated with the National Forest Reserve called such the land *'Phra Rusri and Khao Bo Rae'* (means Hermit and Mineral Spring Mountain). The Buddhists have practiced Dharma and participated in the maintenance of forests at the same time. To ensure the project suitable for all stakeholders, the competent authority under the forestry law hereby certified that stakeholders who discussed with the President of the 'Sangha' (monk) must be local people in community nearby the monastic lodge under the conditions of Forest Department, Thailand. Most of the trees found in the area were from the temple's support, some were planted in conjunction with Nong Chok School nearby and Buddhists practicing meditation in the temple. They would like to make merit by helping the temple and surrounding area to be shady and greenery zone. The Office of Forest Resources Management (2015) supported the project because the important objectives are; firstly to allow the monks and local people in the community nearby to join the forest restoration and development and assisted the competent officials in the conservation of sustainable forest resources. Secondly, the monks who participate in the Buddha Park project can be a place of rest, educational resources and learning about natural resources and environment, along with the practice of Dhamma. Finally, to reduce any problems in terms of monks invading forest areas to a lesser extent.

5.3 Recommendations for sustainable development of hot spring destination toward health tourism and recreation

From the previous chapters, it is quite obvious that hot springs and its surroundings have potential to become an important cultural landscape of Thong Pha Phum. Giving reasons that the landscape is consisted of aesthetic value, historical value, scientific value, social value and spiritual value. With appropriate site interpretation and heritage management, these hidden values would help creating authentic and local distinctive sense of place to attract potential future visitors who are interested in

health tourism and learning different cultures. This may lead to sustainable cultural tourism to the area.

5.3.1 Guideline of Standard of Health Tourism; Natural Hot Spring of Thailand

From the study of the Guideline of Standard of Health Tourism; Natural Hot Spring of Thailand (2014) the latest edition, divided into 2 sections; section one is the core standard of hot spring site itself and section two is the potentials to be a health tourism attraction; natural hot spring. The section one is quite clear, practical and easy to understand, however, in section two the author found some vagueness and doubtfulness of 2 criteria; criterion (i) item 1.6 and criterion (ii) item 2.6. Consequently, the research sub-questions came up were *"what are the **settings** of hot springs integrated health tourism and recreation?"* and *"what **sustainable management strategies** of hot spring destination are needed?* Below is the table from the guideline book in page 11, it guides **criterion (i) item 1.6** of **Potential to be a health tourism attraction; Natural Hot Spring**

Table 12: Sample of table shown criterion (i) item 1.6
Natural hot spring sources attract enough for being tourism attractions.

ส่วนที่ 2 ศักยภาพในการเป็นแหล่งท่องเที่ยวเชิงสุขภาพประเภทน้ำพุร้อนธรรมชาติ			
เกณฑ์ที่ 1 แหล่งน้ำพุร้อนธรรมชาติมีจุดดึงดูดด้านการท่องเที่ยว **หลักเกณฑ์** แหล่งท่องเที่ยวมีลักษณะเฉพาะที่เกิดขึ้นตามธรรมชาติ ไม่มีการดัดแปลงจนทำให้สภาพธรรมชาติที่มีอยู่เดิมเปลี่ยนไป และสามารถเป็นจุดดึงดูดความสนใจให้กับนักท่องเที่ยวได้			
ดัชนี/ตัวชี้วัด	**คะแนน (A)**	**ค่าน้ำหนัก (B)**	**ค่าคะแนน (A*B)**
1.6 สภาพความสมบูรณ์ของธรรมชาติบริเวณโดยรอบ			
• แทบไม่มีสภาพธรรมชาติเดิมเหลือ	1	2	
• พบความเสื่อมโทรมที่เกิดขึ้นเองตามธรรมชาติ	2	2	
• พบความเสื่อมโทรมที่เกิดขึ้นเองตามธรรมชาติ แต่มีความพยายามในการรักษาธรรมชาติ	3	2	
• ธรรมชาติยังคงสภาพเดิม	(4)	2	8
• ธรรมชาติยังคงสภาพเดิมและสวยงามมาก	5	2	
ค่าคะแนนที่ได้	**8 คะแนน**		

Source: The Guideline of Standard of Health Tourism; Natural Hot Spring (2014: p11)

The sample of table in Guideline of Standard of Health Tourism; Natural Hot Spring (2014: p.11) described in Thai above but translated in English as follows;

Part 2 Potential to be a health tourism attraction; Natural Hot Spring

Criterion (i)*: Natural hot spring sources attract enough for being tourism attractions.*

Guideline*: The tourist attraction is unique and created by nature. No any modification that changed the existing natural state. It can be a point to draw attention from tourists.*

1.6 Integrity of the surrounding nature

1) There is almost no original natural state left. = Score 1 points

2) Found a naturally occurring degradation. = Score 2 points

3) Found a naturally occurring degradation but there have been efforts to preserve nature. = Score 3 points

4) Nature remains its original. = Score 4 points

5) Nature remains its original and very beautiful. = Score 5 points

The author wondered how they can evaluate all above, what are the details explaining about surrounding nature, what is 'nature' covered? They actually are not described in the guideline book. Therefore, the answers have been gradually disclosed while the author collecting data for settings of hot springs integrated health tourism and recreation.

'Natural Settings' are described in previous chapter that included (1) Waterscape and Landscape (2) Animals and Plants and (3) Topography. The three factors should be included in its indicators of ***Integrity of the surrounding nature***. The author may recommend to add the factors to clarify and define the surrounding nature below with underline as example;

Part 2 Potential to be a health tourism attraction; Natural Hot Spring

Criterion (i)*: Natural hot spring sources attract enough for being tourism attractions.*

Guideline*: The tourist attraction is unique and created by nature. No any modification that changed the existing natural state. It can be a point to draw attention from tourists. The surrounding nature may involve waterscape or/and landscape, endemic animals and plants and topography.*

After adding one underlined sentence to define '*surrounding nature*', the reader or user of guideline book may understand more and ease to judge the surrounding nature of hot springs. The evaluator then will judge more efficiently and fairly. This additional sentence in the guideline may assist both evaluator and hot spring manager to classify the surrounding nature. Moreover, it will help the hot spring site to sustain the surrounding nature where blended well with the waterscape or/and landscape, endemic animals and plants and topography, as well as, they may eventually find out its uniqueness.

Another issue is **Criterion (ii) item 2.6** of **Potential for Tourism Carrying Capacity** in Part 2: Potential to be a health tourism attraction; Natural Hot Spring. It guides the hot spring manager to find out more activities for tourists/visitors to enjoy while visiting hot spring. The below index and indicators (Table 13) were standardized for hot spring tourism that tended to support tourism in local surrounding areas as well. The author also agree with this criterion because the hidden aim was the effort to sustain the hot spring tourism by spreading more tourism activities into surrounding areas where may involve with local community. It may help locals to gain more jobs and earn some more income together within the hot spring village. Nevertheless, the reader or user of hot spring guideline book may doubt what type of activity could be claimed as a tourism activities. Therefore, the author then came up with the word '*Recreation*' included in the research title and research question. There are many

definitions of *'Recreation'* which explained in chapter 1, most definition are related to *'Activities'* for example; *"Recreation is considered as an **activity** through which leisure may be experienced and enjoyed"* (Grant Cushman and Allan Laidler, 1990) *and "Recreation contributes to emotional stability by affording rest, relaxation and creative **activity**. Also give tone to the body by a healthful stimulation of the nerve centers"* (Aafid Gulam, 2016) as well as, back to the root of word, Collins Australian Pocket English Dictionary defines *"Re-create means to renew or enliven through the influence of pleasurable surroundings"* Consequently, it brought up the research sub-question *"What are the settings of hot springs integrated health tourism and **recreation**?"* and *"what **sustainable management strategies** of hot spring destination are needed toward health tourism and **recreation**?* Below is the table from the guideline book in page 14, it guides **criterion (ii) item 2.6** of **Potential for Tourism Carrying Capacity**.

Table 13: Sample of table shown criterion (ii) item 2.6 Potential for Tourism Carrying Capacity

ส่วนที่ 2 ศักยภาพในการเป็นแหล่งท่องเที่ยวเชิงสุขภาพประเภทน้ำพุร้อนธรรมชาติ			
เกณฑ์ที่ 2 ศักยภาพในการรองรับนักท่องเที่ยว หลักเกณฑ์ บริเวณแหล่งน้ำพุร้อนธรรมชาติและบริเวณโดยรอบมีศักยภาพที่จะสามารถรองรับนักท่องเที่ยวรวมถึงการพัฒนาต่างๆ ที่จะเกิดขึ้น			
ดัชนี/ตัวชี้วัด	คะแนน (A)	ค่าน้ำหนัก (B)	ค่าคะแนน (A*B)
2.4 กิจกรรมการท่องเที่ยวบริเวณแหล่งน้ำพุร้อนธรรมชาติและบริเวณโดยรอบ			
- ไม่มีกิจกรรมอื่นนอกเหนือจากการเที่ยวชมแหล่งน้ำพุร้อนธรรมชาติ	1	1	
- นอกเหนือจากการเที่ยวชมน้ำพุร้อน ยังมีกิจกรรมการท่องเที่ยวชนิดอื่นภายในแหล่ง 1-2 ประเภท	2	1	
- นอกเหนือจากการเที่ยวชมน้ำพุร้อน ยังมีกิจกรรมการท่องเที่ยวชนิดอื่นภายในแหล่งน้ำพุร้อน 1-2 ประเภท และบริเวณใกล้เคียงมีแหล่งท่องเที่ยวประเภทอื่น	3	1	
- นอกเหนือจากการเที่ยวชมน้ำพุร้อน ยังมีกิจกรรมการท่องเที่ยวชนิดอื่นภายในแหล่งน้ำพุร้อนมากกว่า 2 ประเภท	(4)	1	4
- นอกเหนือจากการเที่ยวชมน้ำพุร้อน ยังมีกิจกรรมการท่องเที่ยวชนิดอื่นภายในแหล่งน้ำพุร้อนมากกว่า 2 ประเภท และบริเวณใกล้เคียงมีแหล่งท่องเที่ยวประเภทอื่นอีก	5	1	
ค่าคะแนนที่ได้	4 คะแนน		

Source: The Guideline of Standard of Health Tourism; Natural Hot Spring (2014: p14)

Part 2 Potential to be a health tourism attraction; Natural Hot Spring

Criterion (ii)*: Potential for Tourism Carrying Capacity*

Guideline*: The natural hot spring site and the surrounding area have the potential for Tourism Carrying Capacity and various future development.*

2.4 Tourism activities in the natural hot spring site and surrounding area

*1) There is no **tourism activities** other than sightseeing a natural hot spring.* = *Score 1 points*

*2) In addition to sightseeing a natural hot spring, there are 1-2 other kinds of **tourism activities** on site.* = *Score 2 points*

*3) In addition to sightseeing a natural hot spring, there are 1-2 other kinds of **tourism activities** on site and other tourist attractions nearby areas.* = *Score 3 points*

*4) In addition to sightseeing a natural hot spring, there are more than 2 other kinds of **tourism activities** on site.* = *Score 4 points*

*5) In addition to sightseeing a natural hot spring, there are more than 2 other kinds of **tourism activities** on site and other tourist attractions nearby areas.* = *Score 5 points*

The word 'recreation' can be a part of 'tourism activity' as well as, recreation may involve not only 'tourism' but also local 'way of life' or 'life style'. That is the reason why recreation is important for the research topic because it related to both tourists and local people. The study found many recreations within hot springs and surrounding nature in the scope area. It can be said that recreation in the area can be a part of sustainable development because local involvement takes place in the process to develop the tourism place where both social setting and natural setting are essential. The variety of recreation within surrounding nature in the scope area. The recreation

may vary upon human's intention, wildlife or/and animal's unintentional behaviors and inconstant nature state. Hence, some recreations periodically created such as happening daily, weekly, monthly, quarterly, yearly, seasonally and so on. The recreation in the area shown as sustainable examples below;

5.3.2 Recreations and Recommended Places in Thong Pha Phum

(**1**) **Wildlife Watching, Trekking and Camping** at Kroeng Krawia Forest Park Education Center, Tha Khanun Subdistrict by Central Forest Industry Organization, Forest Park Project 4 of the Forest Industry Organization, Ministry of Natural Resources and Environment with the area of 16,602.12 rai. The total area of conservation is 827.43 rai, accounting for 5.08% of the forest plantation area. There are important streams, including Ulong stream which comes from the east of the forest park area and flows through the forest park plot down to the south side of the forest to combine with Kwai Noi river (The Office of Kroeng Krawia Forest Park Education Center, 2015). The forest park opens for public enjoyment with a small entry fee to maintain the park and environment; wildlife watching, trekking and camping are allowed inside the park at its designated area where forest park staff normally take care visitors. They will receive the proper information and guide how to sustainably enjoy wildlife watching, trekking and camping. Furthermore, there are wild elephants at Prangka Si Village, Moo 3, Tha Khanun Subdistrict, Thong Pha Phum, Mr. Prathom Na Klang, director of Ban Paklampilok School who took the photos in January, 2020 at a coffee shop opposite of Prangka Si Village, informed the routine of the herd of wild elephants usually swim in Kwai Noi river at the spot almost every day as their way of wild life. When the level of natural water sources begin to fall down, wild elephants will come to the river normally during evening or night. Both locals and outside visits can enjoy watching them spend their time as usual.


Figure 132: Camping Area and Figure 173 Bird watching
Source: http://www.painaidii.com/review/113408/suan-pa-krerng-national-parkcenter-71180/lang/th/ (May, 2015)

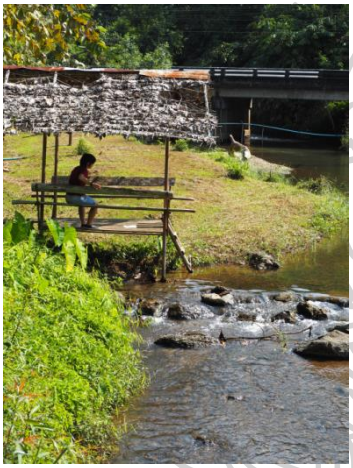



Figure 133: *Ulong Stream at the site and Figure 175 Seating near camping area*
Source: Author (December, 2018)

Figure 134: Routine of wild elephants is to bath and play in the Kwai Noi river Prangka Si Village, Moo 3, Tha Khanun Subdistrict, Thong Pha Phum
Source: Prathom Na Klang (January, 2020)

(2) **Kayaking, Canoeing and Rafting** at Chaloem Phra Kiat Rama IV Public Health Park under Thong Pha Phum Subdistrict Municipality where located next to Kwai Noi river behind Thong Pha Phum market. The public place to rest and exercise of the both tourists and local people in this area. At this point during the evening, more locals come to exercise and often bring their children to play in the river especially on the weekend because the weather is quite good the water drained from the Vajiralongkorn Dam is usually clear. This part of Kwai Noi river is the first area that receives water from the dam. It is located 5 kilometers away from the front of the dam. During high season, there are many groups of kayaking, canoeing and rafting teams normally choose this spot to start their river trips due to the fact that the spot is publicly and easily access into the river. The parking facility is available and free inside the park. They built the stairs for people to walk into the river and the ramp for canoe and kayak to be able to access easily into the water. In addition, there are many exercise equipment provided for better health promotion inside the park. It can be said that the park is a good place for recreation where both tourists and locals spend their leisure times.

Figure 135: Start Canoeing at Chaloem Phra Kiat Rama IV Public Health Park
Source: Keawrat, M. (April, 2020)
https://www.youtube.com/watch?v=aRh1yzKTjuU&ab_channel=martkheawrat

Figure 136: Start Canoeing at Chalermprakiet Rama IV Health Public Park

Source: เพื่อนพาย Journey (August, 2017) https://www.youtube.com/watch?v=X3hqww-W0Wk&ab_channel=dirtboy2521


Figure 137:Family's recreation and Figure 180 Wet Rafting
Source: Saranya Aousombatkul (June, 2020)
https://adaybulletin.com/life-travelwithbaby-thongpapoom/50844
http://www.banhuayulong.com/index-11.htm

Figure 138: Top view of Chaloem Phra Kiat Rama IV Public Health Park (February, 2018)
Source:
https://www.facebook.com/tatkan/photos/a.146278105448935/1619577474785650/

(3) **Running through the Mist Event** at Thong Pha Phum Subdistrict Municipality, together with the Office of Health Promotion Foundation, Thong Pha Phum Rotary Club, Thong Pha Phum Hospital, Electricity Generating Authority of Thailand (EGAT) organized the 1st "Run through the Mist" in Thong Pha Phum officially called "The 1st Thong Pha Phum Mini and Half Marathon 2018" starting point at the front of Thong Pha Phum Subdistrict Municipality, Kanchanaburi on 23 December, 2018

passed Vajiralongkorn Dam (Khao Laem Dam) with beautiful scenery and cool with the morning mist waiting to receive the runners as if they were rushing into the mist. Participant No. 23 (23 December, 2018) said the nice leisurely 5K, 10K and 21K consolidation run in the morning where given it was quite foggy when the runners set off, thought a chance of hearing birdsong and seeing unique serenity along the way. The event has been repeated in December every year, more runners have been participated in the event. The sport event can be counted as recreation which local organizations have supported and promoted health tourism and invited more outside visitors to enjoy their health lifestyle together with local runners among community. Participant No. 23 (23 December, 2018) She also commented that the first time event, there was a problem about car parking for runners and some little issues of community at starting point. As a consequence, the second time they moved the starting point to the Vajiralongkorn Dam instead because of adequate parking space. The local community also moved to displayed and sold their local product at the new spot.

Figure 139: Runners experienced cultural landscape as their recreation along the route
Source: Author (December, 2018)

Figure 140: Running through the Mist (December, 2020)
Source: http://www.tpm.go.th/activi.html

(4) **Visiting a local event** *'Tanon Nang Yong Thong Pha Phum'* (means siting on the stool along the road at Thong Pha Phum) organized at Budsapawanit Road (Soi Dharma), Thong Pha Phum Subdistrict, Thong Pha Phum District, Kanchanaburi. Mr. Prathet Bunyong (2020), Mayor of Thong Pha Phum Subdistrict, said that he has organized a tourism promotion project called *'Tanon Nang Yong Thong Pha Phum'* since 2009 by supporting from local people in the community. They have brought local products and food to sell in the event as well as, they provided a performance of the local culture of Thong Pha Phum District from Karen and Mon tribes to show during the period of event. Normally, the event has been held between 29 December and 1 January for 4 days every year. It also arranged one morning time of 1 January for people to make merit and offering food to the monks at the venue. The idea of event came from the 3 communities whom have lived on Busapawanit Road (Soi Thamma) for long time. The road is the old road where has been shopped and traded among 3 communities since the old community of Thong Pha Phum District until now. The objectives of organizing the event; firstly to promote a sustainable way of life and culture of Thong Pha Phum, such event can be claimed as sustainable strategies; revival way of life. Secondly, to gain more jobs and generate more income for local people in Thong Pha Phum district. Lastly, to promote tourism and image in Thong Pha Phum district to be known widely because of charming scenery, nature, forests and rivers (Bunyong. P., 2020)

Figure 141: Sitting on the small stool and eating food (December, 2016)
Source: https://travel.trueid.net/detail/Ojlv0yaVo8K

Figure 142: The local people showed their own traditional clothes (December, 2019)
Source: https://www.siameagle.com/กาญจนบุรี-ชวนเที่ยวงานส่งท้ายปีเก่า-ต้อนรับปีใหม่/

(5) **Meet fruit farmer and Eat in the farm** *'Thong Pha Phum Rambutan'* grown in the area using non-chemical agricultural processes. It is a good quality agricultural product, good taste, which was registered as a geographical indication (Geographical Indication: GI) in 2020. It is unique to the species as it is local produce and a seasonal fruit product. The local farmer groups focus on promoting *'Thong Pha Phum Rambutan'* because the main customers of this rambutan is Thai tourists traveling as families and groups. They receive news and public relation information about planting, growing places, farm tours including eating fruit buffet in the farm. There is

a distinctive quality of rambutan; it is quite round, small, beautiful hair, thin skin, small seed, thick texture, sweet, crispy, not too juicy. This characteristics found only grown in Thong Pha Phum district. This rambutan grown well in a upland area, common soil is loam and clay. It prefers a forest with frequent rain. Such topographical and climatic conditions, rambutan has a good taste and it is unique and different from other areas. In Thong Pha Phum district, there is a large area of rambutan plantation of 1,054 rai, yielding 519 rai with an average yield of 620 kilogram per rai (Bumroongsuk, B., 2020).

Participant No. 12 (16 February, 2020) Mrs. Naree Khonkhayan and Mr. Bamrung Suk are local couple farmers specializing in Thong Pha Phum Rambutan and the owner of Thong Pha Phum Rambutan plantation. They told that they began to pioneer fruit orchards on the area of 9 rai in Moo 7, Lin Thin Subdistrict of Thong Pha Phum. At the beginning this area is a rubber plantation but he is allergic to the smell of chemicals used for wearing in latex. Therefore, he decided to cut down all the rubber trees, then they decided to plant rambutan that is clean, safe, delicious and intended to refuse using any chemicals. They have tried and failed many times until obtaining a correct method of growing and caring for the rambutan plant to produce a tasty and crispy one, specially delicious unlike other gardens. They have a plan to open the fruit farm for tourists to eat in a buffet style. Paying an entrance fee for each person, can eat until they are full. In addition to the outstanding rambutan of Thong Pha Phum, there are Monthong Durian and Longkong that are sweet and fragrant in their farm as well as organic vegetables are grown in their farm. This farm was the pioneer of rambutan farm tour in Thong Pha Phum, after there are more rambutan farms spreading more in the area such as; Vichien Farm, Nilmanee Orchard, Uncle Dang Garden, Aunt Orn Garden etc.

Figure 143: “Thong Pha Phum Rambutan Farm Tour” and “Meet Farmers and Eat in Farm”
Source: https://www.facebook.com/Thongphaphumgarden/photos/

Figure 144: “Thong Pha Phum Rambutan Farm Tour” and “Meet Farmers and Eat in Farm”
Source: https://www.facebook.com/Thongphaphumgarden/photos/pcb.126391629059954/126391489059968

(**6**) **The Buddhism Park Project** is the sustainable strategy to protect the forest found in the area by integrating religion, local community, and local government authority. The religious fate The office of Forest Resource Management (2015) created the project that aimed to allow the monks and people in the community nearby to take part with the Buddhist activities at the same time they have to join the forest restoration and development as well as assist the competent official in the conservation of sustainable forest resources. Therefore, the Buddhism Park project can be a place for recreation and learning resources in terms of natural resources and environment, along with the Buddhist practices for both monks and Buddhists (locals and outsiders). This project was expected to reduce or mitigate the problem of monks invading forest areas to a lesser extent.

The Buddhism Park project had required the monks participating in the project will acknowledge that the project implementation is neither a permit to build a temple in the forest area nor give the area to the monk's accommodation to take care of it directly but the monks have to join the project with communicating with the Forest Department competent officer. Moreover, the Buddhism park is still legally belong to Forest Department and The monks must maintain the area as the same forest condition. Buddhist monks have the right to use the land to practice Dharma and Buddhism without danger to forest resources in the project area. Not allow any construction, improvement, alteration of buildings or the natural environment in the area without permission from the Forest Department. The office of Forest Resource Management (2015) created a numbers of initiative activities that have to be performed by Monks and Buddhists to follow the Park rules. It is practical to sustain the forest and help people learn about both Dharma and nature at the same time including; (1) Install a sign to introduce the Buddhist Park Project. (2) Prepare a layout which clearly identified the direction of area. (3) Plant and maintain trees and space as well as, post a sign to display name of the plants in the form of an arboretum and moral-teaching signs. (4) Organize an annual National Tree Day activity. (Visakha

Bucha Day) or on other special occasions; lecture on planting and nourishing trees and distribute seedlings. (5) Survey satisfaction among stakeholders towards project participation after the implementation of the project. Such project is actually for sustainability that involve local people, monks and local government organization. The religious belief will impact on the actions of Buddhists who help the monks and develop the temples. They believe it is a part of making merit; doing good results in auspiciousness in life. More people then keep coming to practice meditation and listen to the sermons while help the monks to clean the place, plant the trees, maintain the nature around the area.

Figure 145: Monks and local people planted the trees in the forest at Buddhism Park Phatad Tharn Sawan Forest Monastery
Source: The Office of Forest Resources Management (2015), Guidelines for Operation Officials to Establish Buddhism Park, Forest Department Unit 10, p. 28-29

Figure 146: Practicing meditation is treated as their recreation
Source: https://www.facebook.com/PrachasamphanthKhawsar/photos/pcb.4765208080163436/4765207760163468
Source: https://www.youtube.com/watch?v=xTgbehPA3Gk&ab_channel=NaruechaP.
By Naruecha, P. (October, 2020)

The mentioned six examples above are recreations that have been seen in the community surrounding area of hot springs. All have local involvement which is essential for sustainable development. They can be found as recreation because the author defined recreation as an activity through which leisure may be experienced and enjoyed vary from cultural way of life and unique life style. This may help to illustrate the recreation as tourism activity, so the reader or user of hot spring guideline book will be able to seek more relevant activities in their community and support hot spring tourism around their areas. Having said about the mentioned standard of hot spring in the guideline book, the maintenance of hot spring has not been explained in the book. It said only cleaning at least two times per week is minimum of the required standard. During collecting data, it had been seen some photos in the news announced when hot springs closed due to flash flooding almost every year. After flooding situations recovered, there was a group of people in charge of cleaning and maintaining the hot springs in Hin Dad site. The author wondered how to clean hot springs properly by concern on its heritage values.

Figure 147: Routine of floor cleaning at Hin Dad hot spring
Source: Amelie P. (February, 2020)
https://th.tripadvisor.com/LocationPhotoDirectLink-g2237742-d8317437-i260084173-Hin_Dad_Hot_Spring-Thong_Pha_Phum_Kanchanaburi_Province.html

Figure 148: Cleaning Hin Dad hot spring after flooding (September, 2019)
Source: https://www.facebook.com/558channel/photos/pcb.2511514875748417/2511514832415088

Figure 149: During flooding, local community members help to remove obstacles from the stream nearby hot spring (September, 2020)
Source: https://www.thairath.co.th/news/local/central/1937368

Participant No. 5 (17 August, 2019) hot spring staff explained that Hin Dad Subdistrict Administration Officer spent its official budget hiring outsourcing cleaning company to responsible for regularly cleaning hot spring site throughout the year. The process of government procurement is public announcement to seek the right company by use e-bidding online. The evidence can be found online and the name of local cleaning company was on the website that passed e-bidding process.

ประกาศองค์การบริหารส่วนตำบลหินดาด
เรื่อง ประกวดราคาจ้างจ้างเหมารดูแลความสะอาดบริเวณแหล่งท่องเที่ยวน้ำพุร้อนหินดาด ประจำปีงบประมาณ พ.ศ.๒๕๖๓ ด้วยวิธีประกวดราคาอิเล็กทรอนิกส์ (e-bidding)

องค์การบริหารส่วนตำบลหินดาด มีความประสงค์จะ ประกวดราคาจ้างจ้างเหมารดูแลความสะอาดบริเวณแหล่งท่องเที่ยวน้ำพุร้อนหินดาด ประจำปีงบประมาณ พ.ศ.๒๕๖๓ ด้วยวิธีประกวดราคาอิเล็กทรอนิกส์ (e-bidding) ราคากลางของงานจ้างในการประกวดราคาครั้งนี้เป็นเงินทั้งสิ้น ๕๕๐,๐๐๐.๐๐ บาท (ห้าแสนห้าหมื่นบาทถ้วน)

ผู้ยื่นข้อเสนอจะต้องมีคุณสมบัติ ดังต่อไปนี้

๑. มีความสามารถตามกฎหมาย

๒. ไม่เป็นบุคคลล้มละลาย

๓. ไม่อยู่ระหว่างเลิกกิจการ

๔. ไม่เป็นบุคคลซึ่งอยู่ระหว่างถูกระงับการยื่นข้อเสนอหรือทำสัญญากับหน่วยงานของรัฐไว้ชั่วคราว เนื่องจากเป็นผู้ที่ไม่ผ่านเกณฑ์การประเมินผลการปฏิบัติงานของผู้ประกอบการตามระเบียบที่รัฐมนตรีว่าการกระทรวงการคลังกำหนดตามที่ประกาศเผยแพร่ในระบบเครือข่ายสารสนเทศของกรมบัญชีกลาง

๕. ไม่เป็นบุคคลซึ่งถูกระบุชื่อไว้ในบัญชีรายชื่อผู้ทิ้งงานและได้แจ้งเวียนชื่อให้เป็นผู้ทิ้งงานของหน่วยงานของรัฐในระบบเครือข่ายสารสนเทศของกรมบัญชีกลาง ซึ่งรวมถึงนิติบุคคลที่ผู้ทิ้งงานเป็นหุ้นส่วนผู้จัดการ กรรมการผู้จัดการ ผู้บริหาร ผู้มีอำนาจในการดำเนินงานในกิจการของนิติบุคคลนั้นด้วย

๖. มีคุณสมบัติและไม่มีลักษณะต้องห้ามตามที่คณะกรรมการนโยบายการจัดซื้อจัดจ้างและการบริหารพัสดุภาครัฐกำหนดในราชกิจจานุเบกษา

๗. เป็นบุคคลธรรมดาหรือนิติบุคคลผู้มีอาชีพรับจ้างงานที่ประกวดราคาอิเล็กทรอนิกส์ดังกล่าว

๘. ไม่เป็นผู้มีผลประโยชน์ร่วมกันกับผู้ยื่นข้อเสนอรายอื่นที่เข้ายื่นข้อเสนอให้แก่องค์การบริหารส่วนตำบลหินดาด ณ วันประกาศประกวดราคาอิเล็กทรอนิกส์ หรือไม่เป็นผู้กระทำการอันเป็นการขัดขวางการแข่งขันราคาอย่างเป็นธรรม ในการประกวดราคาอิเล็กทรอนิกส์ครั้งนี้

๙. ไม่เป็นผู้ได้รับเอกสิทธิ์หรือความคุ้มกัน ซึ่งอาจปฏิเสธไม่ยอมขึ้นศาลไทย เว้นแต่ รัฐบาลของผู้ยื่นข้อเสนอได้มีคำสั่งให้สละเอกสิทธิ์และความคุ้มกันเช่นว่านั้น

๑๐. ผู้ยื่นข้อเสนอต้องลงทะเบียนในระบบจัดซื้อจัดจ้างภาครัฐด้วยอิเล็กทรอนิกส์ (Electronic Government Procurement : e - GP) ของกรมบัญชีกลาง

ผู้ยื่นข้อเสนอต้องยื่นข้อเสนอและเสนอราคาทางระบบจัดซื้อจัดจ้างภาครัฐด้วยอิเล็กทรอนิกส์ ในวันที่ ๒๕ ตุลาคม ๒๕๖๒ ระหว่างเวลา ๐๘.๓๐ น. ถึง ๑๖.๓๐ น.

ผู้สนใจสามารถขอรับเอกสารประกวดราคาอิเล็กทรอนิกส์ โดยดาวน์โหลดเอกสารผ่านทางระบบจัดซื้อจัดจ้างภาครัฐด้วยอิเล็กทรอนิกส์ตั้งแต่วันที่ประกาศจนถึงก่อนวันเสนอราคา

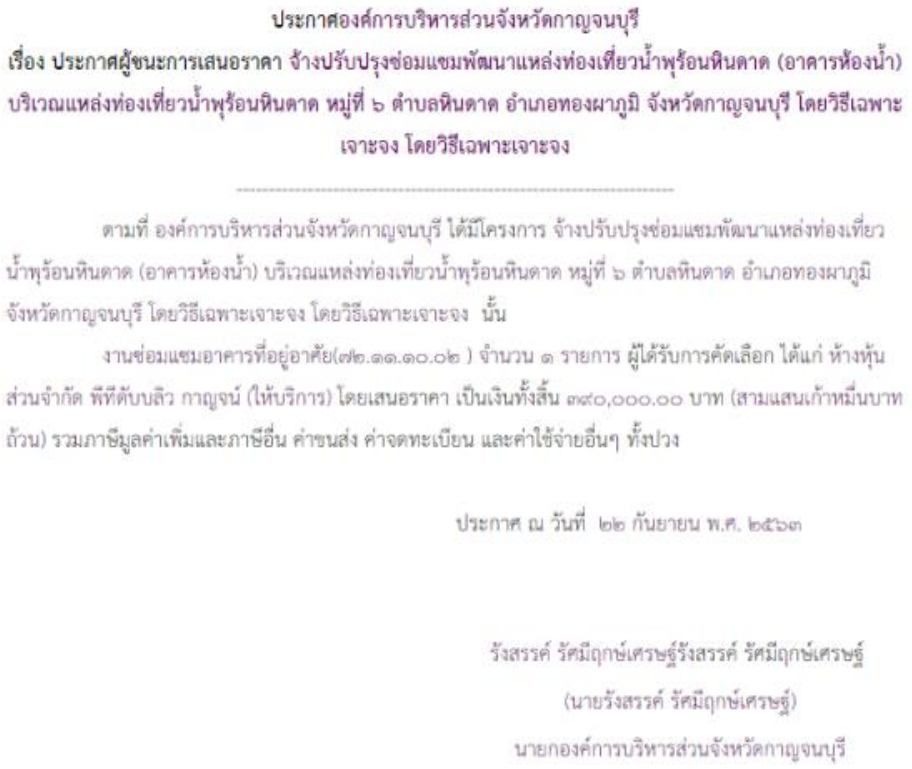
ผู้สนใจสามารถดูรายละเอียดได้ที่เว็บไซต์ http://hindad.go.th หรือ www.gprocurement.go.th หรือสอบถามทางโทรศัพท์หมายเลข ๐๓๔๕๑๐๓๓๓ ในวันและเวลาราชการ

ผู้สนใจต้องการทราบรายละเอียดเพิ่มเติมเกี่ยวกับรายละเอียดและขอบเขตของงาน โปรดสอบถามมายัง องค์การบริหารส่วนตำบลหินดาด ผ่านทางอีเมล์ www.b๗๓๐๗๐๕@dla.go.th หรือช่องทางตามที่กรมบัญชีกลางกำหนดภายในวันที่ ๑๘ ตุลาคม ๒๕๖๒ โดยองค์การบริหารส่วนตำบลหินดาดจะชี้แจงรายละเอียดดังกล่าวผ่านทางเว็บไซต์ http://hindad.go.th และ www.gprocurement.go.th ในวันที่ ๑๘ ตุลาคม ๒๕๖๒

ประกาศ ณ วันที่ ๑๖ ตุลาคม พ.ศ. ๒๕๖๒

(นายยุทธนา ลีมประสิทธิชัย)
นายกองค์การบริหารส่วนตำบลหินดาด

Figure 150: Official Announcement for local government procurement Cleaning the hot spring site from Hin Dad Subdistrict Administration Office (SAO) Source: http://hindad.go.th/public/procure/data/download/filename/procure_40_1.pdf



ประกาศองค์การบริหารส่วนจังหวัดกาญจนบุรี
เรื่อง ประกาศผู้ชนะการเสนอราคา จ้างปรับปรุงซ่อมแซมพัฒนาแหล่งท่องเที่ยวน้ำพุร้อนหินดาด (อาคารห้องน้ำ) บริเวณแหล่งท่องเที่ยวน้ำพุร้อนหินดาด หมู่ที่ ๖ ตำบลหินดาด อำเภอทองผาภูมิ จังหวัดกาญจนบุรี โดยวิธีเฉพาะเจาะจง โดยวิธีเฉพาะเจาะจง

ตามที่ องค์การบริหารส่วนจังหวัดกาญจนบุรี ได้มีโครงการ จ้างปรับปรุงซ่อมแซมพัฒนาแหล่งท่องเที่ยวน้ำพุร้อนหินดาด (อาคารห้องน้ำ) บริเวณแหล่งท่องเที่ยวน้ำพุร้อนหินดาด หมู่ที่ ๖ ตำบลหินดาด อำเภอทองผาภูมิ จังหวัดกาญจนบุรี โดยวิธีเฉพาะเจาะจง โดยวิธีเฉพาะเจาะจง นั้น

งานซ่อมแซมอาคารที่อยู่อาศัย(๗๒.๑๑.๑๐.๐๒) จำนวน ๑ รายการ ผู้ได้รับการคัดเลือก ได้แก่ ห้างหุ้นส่วนจำกัด พีทีดับบลิว กาญจน์ (ให้บริการ) โดยเสนอราคา เป็นเงินทั้งสิ้น ๓๙๐,๐๐๐.๐๐ บาท (สามแสนเก้าหมื่นบาทถ้วน) รวมภาษีมูลค่าเพิ่มและภาษีอื่น ค่าขนส่ง ค่าจดทะเบียน และค่าใช้จ่ายอื่นๆ ทั้งปวง

ประกาศ ณ วันที่ ๒๒ กันยายน พ.ศ. ๒๕๖๓

รังสรรค์ รัศมีฤกษ์เศรษฐ์รังสรรค์ รัศมีฤกษ์เศรษฐ์
(นายรังสรรค์ รัศมีฤกษ์เศรษฐ์)
นายกองค์การบริหารส่วนจังหวัดกาญจนบุรี

Figure 151: Official Announcement for local government procurement, Repairing the toilet in Hin Dad hot spring, Kanchanaburi Province Administration Office (PAO)
Source: http://process3.gprocurement.go.th/egp2procmainWeb/jsp/procsearch.sch?servlet=gojsp&proc_id=ShowHTMLFile&processFlows=Procure&projectId=63097443823&templateType=W2&temp_Announ=A&temp_itemNo=0&seqNo=1

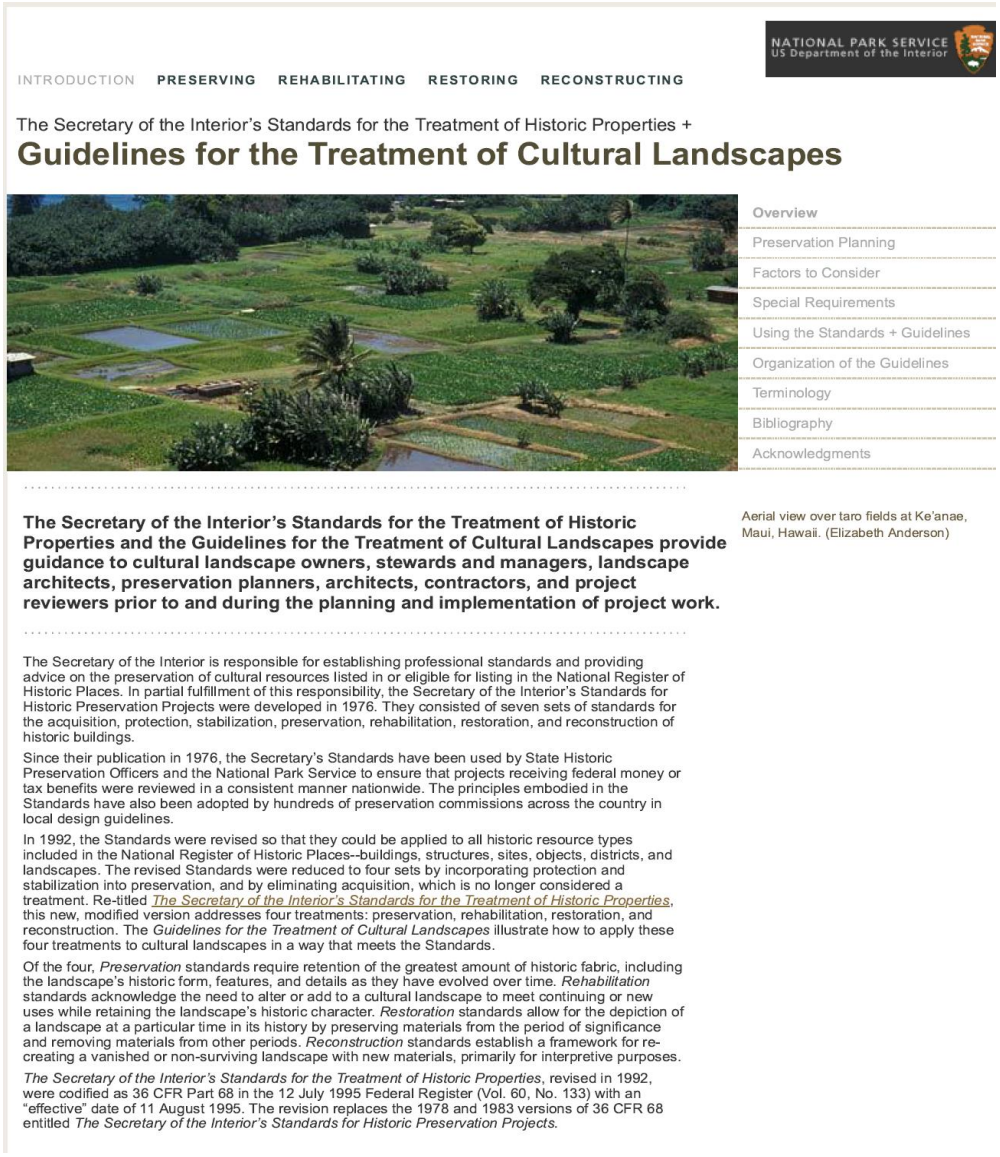
The author would like to assist finding out the way for taking care cultural landscape of hot springs. The good practice from secretary of the Interior's Standards for the Treatment of Historic Properties and the Guidelines for the Treatment of Cultural Landscapes (1996) recommends for '*Water Features Cultural Landscapes*' as follows;

5.2.3 The Guidelines for the Treatment of Cultural Landscapes (1996) 'Water Features Cultural Landscapes'

The author studied the guidelines that can be applied to the hot spring site. It divided into '*Preserving, Rehabilitation and Restoring*' cultural landscapes of water features. The guideline is informative tool that the author quoted the useful information and

shown the website of the guideline book to assist sustaining the hot spring and associated water courses below. If any hot spring manager would like to treat hot spring appropriately, there are procedure to apply to the hot spring site as a cultural landscape.

Guidelines for the Treatment of Cultural Landscapes (1996) 'Water Features Cultural Landscapes'



NATIONAL PARK SERVICE
US Department of the Interior

INTRODUCTION PRESERVING REHABILITATING RESTORING RECONSTRUCTING

The Secretary of the Interior's Standards for the Treatment of Historic Properties +

Guidelines for the Treatment of Cultural Landscapes

Aerial view over taro fields at Ke'anae, Maui, Hawaii. (Elizabeth Anderson)

The Secretary of the Interior's Standards for the Treatment of Historic Properties and the Guidelines for the Treatment of Cultural Landscapes provide guidance to cultural landscape owners, stewards and managers, landscape architects, preservation planners, architects, contractors, and project reviewers prior to and during the planning and implementation of project work.

The Secretary of the Interior is responsible for establishing professional standards and providing advice on the preservation of cultural resources listed in or eligible for listing in the National Register of Historic Places. In partial fulfillment of this responsibility, the Secretary of the Interior's Standards for Historic Preservation Projects were developed in 1976. They consisted of seven sets of standards for the acquisition, protection, stabilization, preservation, rehabilitation, restoration, and reconstruction of historic buildings.

Since their publication in 1976, the Secretary's Standards have been used by State Historic Preservation Officers and the National Park Service to ensure that projects receiving federal money or tax benefits were reviewed in a consistent manner nationwide. The principles embodied in the Standards have also been adopted by hundreds of preservation commissions across the country in local design guidelines.

In 1992, the Standards were revised so that they could be applied to all historic resource types included in the National Register of Historic Places--buildings, structures, sites, objects, districts, and landscapes. The revised Standards were reduced to four sets by incorporating protection and stabilization into preservation, and by eliminating acquisition, which is no longer considered a treatment. Re-titled *The Secretary of the Interior's Standards for the Treatment of Historic Properties*, this new, modified version addresses four treatments: preservation, rehabilitation, restoration, and reconstruction. The *Guidelines for the Treatment of Cultural Landscapes* illustrate how to apply these four treatments to cultural landscapes in a way that meets the Standards.

Of the four, *Preservation* standards require retention of the greatest amount of historic fabric, including the landscape's historic form, features, and details as they have evolved over time. *Rehabilitation* standards acknowledge the need to alter or add to a cultural landscape to meet continuing or new uses while retaining the landscape's historic character. *Restoration* standards allow for the depiction of a landscape at a particular time in its history by preserving materials from the period of significance and removing materials from other periods. *Reconstruction* standards establish a framework for re-creating a vanished or non-surviving landscape with new materials, primarily for interpretive purposes.

The Secretary of the Interior's Standards for the Treatment of Historic Properties, revised in 1992, were codified as 36 CFR Part 68 in the 12 July 1995 Federal Register (Vol. 60, No. 133) with an "effective" date of 11 August 1995. The revision replaces the 1978 and 1983 versions of 36 CFR 68 entitled *The Secretary of the Interior's Standards for Historic Preservation Projects.*

Figure 152: Website to access
Source:https://www.nps.gov/tpS/standards/four-treatments/landscape guidelines/index.htm

Figure 153: Tree naturally grown between Kui Meng stream and Hot Springs, it tended to blend into stream and needed to be protected as its natural state.
Source: Krarokdum (February, 2002) http://www.weekendhobby.com/offroad/bpboard/question.asp?id=112

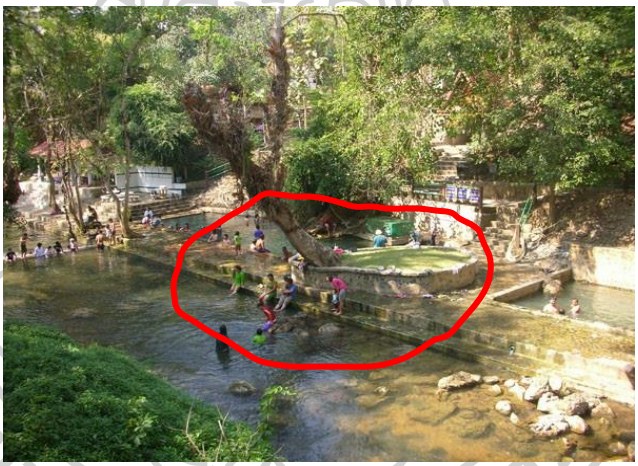


Figure 154: Tree naturally grown had been protected by adding up more soil to secure its root and kept its shape and live.
Source: Thailand (August, 2016) https://www.thailandtopvote.com/ที่เที่ยว/ที่เที่ยว -77-จังหวัด/32531/

4. Efficient elderly community networking in sustainable use of local natural resources and auditing

Due to the health promotion policy implementation for Thai elderly, in local level they receive complimentary entry into many hot springs in Thailand including Hin Dad and Lin Thin hot springs, Thong Pha Phum, Kanchanaburi. Srichamroen, W. (2020) studied that Thai government has included health promotion in its national policies and strategies to directly address the health of the elderly. Multiple government organizations at various levels are involved in this health promotion

policy and its related efforts. With an emphasis on ensuring that the elderly in the community benefit from national health promotion policies, and have access to health promotion services, the policies directed government organizations to work together as a network to implement the health promotion policy for the elderly at the local level. The Local Administrative Organizations (LAOs), decentralized government organizations, acted as the centre of the networks in each subdistrict across the country. Networks play a role as an essential mechanism in the health promotion policy implementation for the elderly and in reaching out to the smallest unit of the community: individual older people. Such a policy has carried out in Thong Pha Phum's hot springs as well. This policy helps not only health promotion but also auditing process without knowing it can.

Participant No.6 (19 August, 2019) told that local old people normally come to Lin Thin hot spring to relax and talk together as a group within community in the evening. They will act as auditors without anyone authorized them to do because they use their local natural resources as their way of life. Then they really want to keep it as its natural condition like their own place. If anything gone wrong in the hot spring property, they will report to village leader or hot spring officers. For example, the private spa room or toilet were not ready to use and never been fixed for long time. They really want to know even how much money the project spent to repair the property. They usually tend to involve in any hot spring matters. Most of them complain about its maintenance issues because pumping in private zone mostly under maintenance. When they found any unsatisfactory, they then talk among the group of community. Such a scenario seems to be an important part of opening to public scrutiny. Actually people will not brave enough to object to the suspicion, but for elderly they do brave to fight and discuss. The objection should be considered as part of the formal process, it would make the results of their audits available to the public. In addition, local people should have the right to inspect the accounts, raise

issues about them and question the hot spring officers. There is an opportunity to provide local people with a simpler and more coherent set of opportunities to question and challenge. Most hot spring staff have good relationship with the local elderly. This leads the problems of hot spring services have been solved faster and easier.

Participant No. 5 (18 August, 2019) also supported such scenario that happened in Hin Dad hot spring as well. Most local elderly usually come to the hot spring early morning or night to avoid tourist's crowd. Their regular groups of community members relax and communicate updated news here at the hot spring like a coffeehouse forum, while they discuss on both personal health and social issues. If there any problems in hot spring not in proper use, they will report to the village leader or hot spring staff who they closed relationship with. To support such scenario, here is evidence suggested that better health and community engagement lead to greater well-being later in life. Rowe and Khan (1997) defined successful aging as the absence of disease and disability, high levels of physical and cognitive functioning, and active engagement in life. The literature on successful aging suggested that to comprehensively understand 'living well' and 'being well', one must attend to factors beyond the aging body, including the social and physical environment in which one lives. Active engagement in life is a critical factor for successful aging. Research indicates that community engagement is strongly associated with health and well-being in late life (Tiernan, C., Lysack, C., Neufeld, S., & Lichtenberg, P. A.,2013).

In this context, it can be seen an important continuing role for elderly community audit – providing essential assurance to local people and communities that public money is being spent properly for hot spring development. This kind of auditing is neither official nor any part of the governance arrangements provided by monitoring officers, but elderly community engagement can be accountable for setting out arrangements for good governance. It can be treated such an unofficial auditing as a part of hot spring sustainable development. The audit is one of the key mechanisms providing accountability for public resources. Such an unofficial auditing like this may

work differently up to their relationships among community. Giving local elderly the freedom to inspect by their own independent audit with more open-minded atmosphere to discuss. It also shown that flexibility to consider different approach for auditing. This is a practical expression of the localism and devolution. This will additionally help driving the sustainable tourism development as well as, reducing cultural heritage restraint.

CHAPTER 6
FINDINGS AND DISCUSSION

6. Introduction

This study has explored and analyzed the cultural landscape of hot springs toward health tourism and recreation. The findings presented here are the result of using qualitative research methods which included analysis of literature pertaining to global hot spring destinations (Chapter 4), cultural landscape and sustainability (Chapter 5), observations made at two main hot spring sites and nearby hot springs and interviews with key representatives of the hot spring tourism, as well as with visitors at hot springs in Thong Pha Phum, Kanchanaburi.

This section summarises the key findings of the study, which support the conceptual framework. The findings suggest that hot springs considerably influence destination development, are important components in health tourism and cater for a significant consumer demand.

6.1 Key Findings

1. Hot springs have rarely been mentioned in terms of cultural landscape of Thailand - significant gap.
2. Hot springs are directly related to different sectors; health tourism and recreation.
3. Hot springs are limited on rainy season due to flash flooding in Ausgust.
4. Hot springs are used as an alternative health resource.
5. High awareness of therapeutic value from natural mineral content.
6. Therapeutic landscape is a part of hot spring's cultural landscape.
7. Uniqueness of hot springs is its location paralleling with cool water course nearby.
8. Hot spring tourism is popular with all age groups especially elderly.
9. Elderly group plays important role to sustain hot springs in community.

10. Hot spring is selected to improve and maintain good health both physical and mental, to prevent illness, to relax and to relief stress.

11. Hot spring has its roles to be a place for local community members to communicate.

12. Visitors expect both health and recreation from the hot spring site at the same place.

13. Recreation which local people enjoy could be recreation for tourists as well.

6.2 Interpretation of Findings from Interview

Question: What is the main purpose of using Hot Springs?

Answer from local group

- *to rest and talk or update any news*
- *to discuss any problems in community lately*
- *to relieve any stiffness or muscle tension and meet some friends*
- *to heal the body and mind and hope to have good sleep*
- *to talk with friends basically while do foot soaking*
- *to relief the leg's muscle weakness, try some alternative medication*
- *to chat among local people group in the evening when no tourists around like a coffeehouse forum, sometime early morning to relax in a quiet ambient*

Answer from international tourist group

- *seek any new spots to relax as a hot spring goer, the different atmosphere is obvious reason but one thing clearly differ from Japanese onsen is the fun feeling with sense of humour of Thai people who enjoy what they do openly express their enjoyment and talk a lot. In opposite, Japanese onsen lovers normally prefer quiet and peaceful*

ambient of hot baths. They also talk but different way and repeat hot baths morning and evening everyday while going to 'Ryokung' (traditional hotel included onsen or not is depend on the locations). Dress code to wear while doing hot baths in public is not an issue, it should up to the etiquette of different cultures and own comfort.

- prefer outdoor site within the nature like Hin Dad hot spring. Bikini wearing in hot spring is comfy for individual then no need to look at this issue too much, whatever is comfortable wearing and not against the social rules. Cross cultural communication illustrated by dress code as long as we understand each other cultures. Thai old ladies put on Thai robe covering the breasts, it is seen by foreigners as their beauty of culture. This is one thing of new experience that love to learn.

- love a cool stream beside the hot spring, can do cold plunge and swop to hot baths.

- enjoy something differ from own home experience and have some relaxation.

Answer from domestic tourist

- to play a cool stream mainly, and swop with hot spring some
- to help for good sleep at nigh and release muscle tension
- to enjoy family trip with good selected places, like good food, good sleep and massage
- to experience hot spring middle in the green nature where situated in the forest

From above answers, they divided into 3 groups of respondents to tell the hidden different purposes of visiting a hot springs. Apart from the reason of relaxation, it can be seen that main purpose of most local people was "to meet and talk" to their friends while soaking either foot or body. The hot springs likely have a role of a place for

community to communicate. As two groups of tourist tended to focus on their new hot spring experiences and enjoy something differ from their usual lives.

Question: Currently, what are your health problems/issues? Do you use the hot springs to improve your health conditions?

Answer

Surprisingly, most participants have health problems either physical or mental health problems in different levels of seriousness, however, they know that hot spring bathing can heal or relief their symptoms but may not kill those health issues. They just hope to gradually reduce some level and hope better health enough.

There were some physical health problems found; gout, paralysis, rheumatism, sore foot , coronary heart disease, backache, sprained ankle, cramp, swelling leg, stiffness and muscle tension. Some of them raised spiritual issue on their belief in Jīvaka Komārabhacca, there is the shire of Jīvaka Komārabhacca, the Buddha's Doctor established near both hot springs to worship and prey for better health and better life. This is a spiritual reliance for both locals and Thai visitors.

In addition, more mental health issues found; insomnia, depression, migraine, mental fatigue, and most caused from "stress". This health issue leads to the need of recreation which they told they sought something else to do more around the place to gain more enjoyed experiences. Not only tourists expected some recreation but also local people who would like to have some more recreations.

Question: Do you use the hot springs for recreation? Do you use the River Kwai Noi and associated water ways for your recreation?

Answer

Apart from relaxing in the hot spring bath, soaking in a cool natural water nearby was the important element of hot springs in the study area where Kui Meng stream near Hin Dad hot spring and Kwai Noi river nearby Lin Thin hot spring. The uniqueness of both hot springs is paralleling with cool watercourse nearby. Most visitors likely enjoy more activities on site. Therefore, the cool watercourses near both hot spring sites are significant to enhance the level of recreation on site.

Recreation found within Hin Dad hot spring site; picnicking in the designed zone, walking in the promenade and crossing a small suspension bridge, taking photograph or personal video, watching birds, enjoying plants and flowers, shopping local products and eating food in the upper zone near car parking. The recreation found within Lin Thin hot spring site; picnicking in the designed zone, rafting opposite the riverbank, as well as paddling boat, kayaking and canoeing can be accessed from the pier of Lin Thin hot spring but visitors have to prepare their own tools and equipment. Sometime there are small group cruising from nearby resort or homestay along Kwai Noi river to visit the hot spring as one stop of its tour program.

Question: Do you use the River Kwai Noi and associated water ways for other purposes?

Answer

Some local people shared their family member's job as fishermen along Kwai Noi river. They have been doing fish cage fishery for almost ten years. The serious

problem was chemical contaminated water flown into the river from unknown sources, this made fish died as a whole at that time.

One local said she has a relative who work as local fishing trainer and a fishing tour guide. He always brings his tourists to Kwai Noi river at the same spot where easily access to. As well as, more local groups have their part time job as a local guide access Kwai Noi river to operate a small tour for kayaking, canoeing and rafting.

One local described most agriculture farmers who have grown fruits and vegetables near the Kwai Noi river and its associated water ways, access into the natural resources for watering their plantation, garden or orchard. More farmers now interested in organic product because the important reason is the price of non-toxic fruit is quite high. They will be able to earn more, however, they invested both time and money capital to prepare their soil and areas ready to grow the organic plants. Another supported that she has some friends grow organic herbs which good rate to sell such as Turmerics (Khumin) and Galingale (Krachai). Not only planting for sale but also for eating in family as home garden, so non-chemical method is useful and healthy for them. The organic agriculture then help protecting the natural resources especially Kwai Noi river will be less chemical contamination.

A representative of private sector group shared her overall picture of tourism in Kanchanaburi. There are a large number of resort benefit from Kwai Noi river's serenity where their location closed to the river, they then built their own hot spring spa inside the resorts to be able to invite more customers to enjoy private experience of artificial hot spring spa with Kwai Noi river view and greenery nature.

Question: What are your general perceptions about the values of hot springs and associated water ways? Do you know of any oral stories or songs about the values of

hot springs and associated water ways? When and how did you learn about these stories/songs?

Answer

Mostly they talked about its historical value, since world war II (1943-1945 in Thailand) Japanese soldiers used to bath in the hot springs of Thong Pha Phum, Kanchanaburi. However, it was a story telling then the author sought more primary evidence to show that they really been accessed to the hot springs and Kwai Noi river in Thong Pha Phum during the war. Surprisingly found the record of prisoner of war (P.o.W.) in the official website that had been written right after their returning home in 1945, it is one of the interesting evidence to find out how their difficult lives spent on the area at that time. As a consequent, another layer of area where people interacted with its natural resources during World War II can be discovered. The hand-written record explained together with hand-drawing maps shown a Japanese camp named 'Hin Dato' (Hin Dad) where there was a river near the camp had been supplied to the camp for cooking rice or soup. It can be said that Kwai Noi river during war was interacted with not only locals but also foreigners who did neither belong to nor native in the area. It also represents the significance of cultural heritage. In terms of hot spring, it shown the camp's name 'Spring Camp' in a map, so it can be assumed that the P.o.W recognized that there was a hot spring in the area, however, no photograph taken to illustrate Japanese soldiers soaking the hot springs, only written evidences found in such the records.

Question: Are you aware of any government regulations regarding the proper disposal of wastes into the water ways or misuse of nature? Are you a member of any conservation association?

Local group

A group of old ladies, they normally come to the hot spring in the evening to avoid crowded tourists. They get a chance to meet friends during soaking and it is complementary entry for old people aged from 60 years and up. If anything in the hot spring is not in proper condition, they will definitely report to the staff or the village leader. They want to keep its nature state then they can utilize it as long as possible because it helps them improve their health and acts as a meeting point for them as well. They also expressed that they know the hot water inside the hot spring ponds coming from the natural water resources; nearby river or stream and actually from underground water resource which they have to look after them as well.

One lady said if people are the ones who utilize this water resource, they will conserve it because of their direct impacts, for example, doing some farming whether small or big farms definitely required a natural source of water. But the ones who do not care for any water conservation, are ones who have nothing to do with any natural water resource.

Another lady told about a conservation activity, many times local people combined a group of people to build a weir or check dam in the Kui Meng stream or any other associated streams. Sometimes the local government assisted to do such a project but sometimes they built by themselves without any government support. The ones who help mostly related to farmers' families and friends.

The lady in the group also reminded her friends that they had a good conservation project initiated since few years ago, it was a religious event called “Thod Pha Pa” Buddhism ceremony, a picked-up robes offering ceremony is a good chance for people to collect the big merit as religious belief. Lin Thin community leader arranged the conservation project integrated together with religious ceremony. The leader team members promoted community members to decorate the “Pha Pa” parade with used plastic bottles and vessels. This helped people to collect more plastic trash

to reuse them decorating their parade on the event day in July, 2016. They keep doing such a product every year in different communities and temples in Kanchanaburi.

Domestic Tourist

They likely to say almost the same things such as do not litter in the water, do follow the rules and regulation on the signs, do not bring food to eat inside hot spring area, do not bring anything back home (such as rocks, plants, flowers, soils, etc)

One youngest tourist aged around ten asked her mom *"Can we swim in the hot spring?"* Then her mom answered *"No, neither allow swimming nor jumping in here, not a swimming pool. We can only soak your body or foot quietly."* This shows the visitors have read the rules and regulation on the sign before enter, however, there is no rules saying *"no swimming"* but it is the etiquette of hot spring in Europe or Japanese Onsen. It can be said that some visitors are educated enough to learn by themselves before starting the trip to somewhere new.

International Tourist

A group of tourists was hot spring lovers who have been visiting hot springs or onsen in Japan every year in different places out of Tokyo. Three tourists (family group) came form Tokyo, Japan. They visited Hin Dad hot spring, Kanchanaburi in February, 2020 and Bo Khueng hot Spring, Ratchburi in December 2017. They shared their photos taken at many hot springs and started telling their hot springs trips.

"In Japan, if we (family) are available at the same time we will go visiting friends and relatives in Saitama or Hagone provinces. Main purpose was both visiting relatives and onsen at the same trip. We normally do this trip like this. The differences of Thai and Japanese hot springs can be identified. For example, we prefer going to onsen in winter season and selecting to stay at any 'Ryokung' (Japanese traditional hotel) where they equipped with onsen inside the hotel. We have never experienced outdoor onsen

in Japan because every time we visited we selected such a traditional hotel because of its warmth inside the hotel during winter. In addition, the hotel always prepared very good local food which is quite rare in the city. This kind of hotel serves three meals per day and unlimited entry for onsen bathing during operating hours. Any other activities around like going to the temple, shopping some local products; vegetables and fruits, sight seeing the nature around. That is all about our onsen trip in Japan. In Thailand, we visited two hot springs; Hin Dad and Bo Khueng. Both are outdoor hot springs which we have never experienced. Of course the ambience and social norm were different. Whether cloth wearing in the hot springs and the feeling of entertaining people around you. Thai people use hot spring same as they play the waterfall, they truly enjoy their moments which I think it is unique and charming in the way they normally do as Thai way of life. Moreover, we like Traditional Thai massage not only at the hot spring but also every where available in Thailand."

Question: Would you like to set up more tourist attractions in this area of "Thong Pha Phum"? Would you like to have more recreation in this area of "Thong Pha Phum"

Domestic Tourist

The runner from the event "Running through the Mist 2018" she has started marathon running 20 years ago and always enjoy the running event arranging in the location with natural serenity. She has participated her running trip in natural settings almost 50 places around Thailand. She introduced that she works as a legal consultant for more than 20 years. She shared a good vision about "tourist attractions" and "recreation".

"Firstly, I need to explain what is meant in my mind by the term 'tourist attraction'. To put it simply, it is a place where government set up to get more money from both

international and domestic tourists then they try to promote and build this and that everywhere. But for me they do not need to do anything that much and no need to build new things because I prefer experiencing what they normally have around the area. Thong Pha Phum is such an good example for me to enjoy wonderful view along the running route as well as, I have seen the real atmosphere of both natural setting and social settings. This is what I really think I don't know the others like. I want to see, eat, do and enjoy whatever the locals do. So, 'recreation' simply find the one you love that the locals do and the earth naturally created for you to enjoy them, nothing is so difficult about it. However, if asking about what infrastructure do I need, safety road and lovely community are expected from me that the local government may need to realize. Importantly, as a tourist we really need to concern any effects on host communities both direct and indirect relations. The events and festivals of which local residents have been the primary participants and spectators are often rejuvenated and developed in response to tourist interest. I certainly felt this was the way when I went to the running festivals in upcountry of Thailand. The community atmosphere and vibe were just fantastic."

<u>International Tourist</u>

The group of two friends, they like exploring the nature especially wherever differs from their own usual home. They significantly expressed;

"Whatever the nature and community happy to provide us we love. We do not think they must do or set up anything for us as a tourist. Tourism is, at its core, an interactive service. This means that host-guest interaction is inevitable. It is the local way of life that the tourists (like us) are often coming to visit. We can't help conserving

your nature that much but wonder if this is always natural protection? Your social settings have changed immensely over the years and this is a normal part of evolution as well. So is it right that we should try to preserve the culture of an area for the purposes of tourism? Or should you keep it for yourselves as it is? Or we let them grow and change? Tourism can be a catalyst for strengthening a local community. As a tourist, we can accept it as the way of life changing. Most importance of good tourist is respecting communities and their homes."

It can be said that it is great if many destinations will make a conserved effort to preserve and protect the local culture. This often contributes to the conservation and sustainable management of natural resources, the protection of local heritage, and a revival of indigenous cultures, arts and crafts and way of life. While cultures are preserved and protected, globalization and innovation may be limited. Tourists tend to open mind to whatever the tourism destination provided or if something is changing, tourists also accept as long as that changes are strengthening local communities.

6.3 Limitations of the Study

As with any research project there have been some limitations, which have affected the scope of the study. These are listed below;

1. Previous theoretical contributions in Asia; only few academic information relating to hot spring and its heritage values as well as very rare about hot spring's cultural landscape. This imposed a significant limitation on the review of previous theoretical contributions for this dissertation.

2. Missing connection to archaeology literature in Thailand; although some research identified the geophysical and mineralogical factors of hot springs and recommended their potential use for Thailand tourism, there was the occasional connection made to archaeological evidences based on hot spring usage in the past, thus limiting in available archaeological sources of literature for the dissertation.

3. Language restrictions; a minor limitation in reviewing the relevant literature in Japanese language which found in the records of Japanese veteran written after the end of World World II and some copy of document found in the Japanese army camp during war. If those evidences were considered more, the story telling would become real and more weight to trust.

4. Conceptual framework; before asking permission from the thesis advisor to use conceptual framework, the researcher may have to test the validity and reliability of the conceptual framework. Testing may proceed by asking a number of academics and experts to recheck if it is compatible well with the research objectives.

CHAPTER 7
CONCLUSION AND RECOMMENDATION

7. Introduction

This study was conducted to research the cultural landscape of hot springs toward health tourism and recreation. To achieve this aim, the methodology presented in this chapter take multi-methods approach such as document analysis, site survey and other qualitative method may applied. The methods employed to collect and analyze relevant information on hot springs as a resource in health tourism and recreation. Interviews were one of the research methods used in the qualitative research approach. The study ranged from informal unstructured to semi-structured interviews with different levels of depth and typically took place in a conversational manner. Interviews had been carrying out during 2018-2020 to cover 30 participants. The tables of all participants combined in chapter 3. The informative results described in chapter 4 - 5 and the collected data for findings shown in chapter 6. The below is to conclude the research by answer the research question "What is the potential of the hot spring cultural landscape to cater for health tourism and recreation in Kanchanaburi Province and what management strategies are needed?".

7.1 The Research Conclusion

The hot springs belong to the land, as it naturally created in the land instead of imposing on a land. Hot spring tourism destination should not only focus on the hot springs themselves, but also associated geological area where should be thematically combined as a tourism destination. Therefore, on the basis of the project, it should try to use the original terrain and landscape to design a tourism route. Thus to create a more distinctive hot spring tourism destination that close to the watercourse and

nature, the design needs to respect the ecological elements of original natural environment of the site, such as hot springs, rivers, streams, ancient and native trees, retain the original, valuable ecological elements to make use as far as possible and seize the characteristics of these elements to highlight the site characteristics. Natural settings are physical environment factors which involved waterscape or/and landscape, animals or/and plants, and topography. Social settings are socio-economic factors that related to accessibility, community and culture within Thong Pha Phum. Both natural and social settings that found around the hot springs, determine good living environmental conditions for community that have the quality of health tourism and recreation in the area. Using its own advantages of natural and social settings, it may grow up to become the driving force of health tourism and recreation by concern on sustainable tourism development. The hot spring tourism destination could be as a signature of Thong Pha Phum to create a hot spring village or spa town in the future.

The hot springs are valued for cultural reasons and perceived to be a connecting link with the ancestors of the local communities. The locals explained that there were some rituals carried out by some local ancestors and indigenous people at the locations of the hot springs in belief of warding off any demons. Prior to the hot spring establishment, Japanese soldiers were the first to utilize the thermal waters for their curative qualities of body and mind during World War II (1941-1945 in Thailand). At the present day they do not use the hot spring site as holy ceremony anymore. The local community members especially elderly people usually come to the hot spring at the evening for socialization; meeting and talking about both personal and community issues. Meeting regularly at the hot springs of community, leads to cultural attachment and strengthen their harmonious relationships. Due to the fact that the hot springs regularly served for senior citizens without surcharge, the community members engage to contribute to their ecological sustainability by ensuring that there is a good degree of cleanliness and sanitation at the sites as well as regulating the human activities that would damage the hot springs. This shown that old locals themselves

having the roles to audit the standard of hot springs by keeping their eyes on their own community area. The hot springs are regarded as heritage properties of the communities where they are located and are thus safeguarded by their respective communities against environmental degradation. Aesthetic value of the open-air hot springs within the valley of Thong Pha Phum, visitors feel rejuvenated after soaking in these hot spring waters and breathing in the cool, refreshing mountain air. The hot springs sit beside running river and stream making for incredible vistas. While hot springs had been primarily used recreationally, development of Thailand's hot springs focuses not only on leisure but also emphasizes on medical benefits of hot springs. Due to its image of hot springs, the hotel or resort business located in scenic environments near hot springs and watercourses that may be called hot spring resorts. They provide an man-made hot springs adding a new dimension to rest and recreation within the resorts. The ambience of hot bathing towards the aesthetic experience surrounding the baths tends to enhance the resort business in Kanchanaburi. Hot spring resorts have been a pride of local government in Kanchanaburi, contributing to the tourism industry. Historical value found prior to the establishment of hot spring bath, Japanese soldiers were the first to utilize the thermal waters for their curative qualities of body and mind during World War II. The Hin Dad hot spring for the next people used as indigenous tradition, their leader held the hot spring in high regard as a neutral zone and a place of healing or use the thermal waters for cauterizing wounds and curing illness. Scientific value combined with some rare endemic plants which found as heritage value. *'Red Milk Thong Pha Phum'* is Kradangnga or Ylang Ylang species in the forests. In addition, a rare orchid called *'Thong Pha Phum's Lion'* and a native plant *'Lin Thin Lotus'* (Bua-Lin-Thin). Their habitat is terrestrial in forest of Thong Pha Phum only. Social value has been seen among community around hot springs, *'Therapeutic Landscape'* is significant relationships among the people living in the area. It had been found that the home and community constitute therapeutic landscapes of emotional wellbeing and healing in the form of social support. Social

support played a major role in helping people deal with their illnesses. '*One important aspect of therapeutic landscapes is the cultural landscape*'. Moreover, local products and food items have been sold to the visitors who come to relax in the hot springs. The entry ticket charged at the hot springs has been using as a fund to maintain the hot springs. Furthermore, '*Tharn Nam Ron*' Temple located near the hot spring site, the monks normally come to bath in the Hin Dad hot spring where provide a separated area for only monk at the site. The monks do not use hot spring water as any ritual and custom of body purification. They normally come for hot mineral bathing to promote their health and rest their body aching after heavy physical work at the temple. The relationships among community around hot springs have been fit in cultural landscape concept.

Associated watercourse is Kwai Noi river where the herd of wild elephants usually swim in river at the same spots almost every day as their way of wildlife. Furthermore, a large stream 'Kui Meng' which a distributary from Kwai Noi river, some indigenous Karen villagers long time ago invented the water-power in the stream as a labor-saving tool for pounding rice. This method of pounding rice by using hydro-power has been called '*Sai Nam Tum Khao*'. Their ancestors taught them to build and used to utilize this tool prior in Sangkhlaburi district located close to Thong Pha Phum. However, at the present '*Sai Num Tum Khao*' pounding tool is not exist in the area anymore. This could revive it as a display for learning in community. This shown water course interacting with local community in Thong Pha Phum. The ethnic group also live their local lives in the area, the Karen people still maintain their customs and traditions. They are still doing Karen arts and handicrafts called '*back-strapped loom*' weaving for household usage; such as bamboo container for holding rice, trapping fish, and storing things. The bamboo weaving pattern is outstanding and unique (Pi Kul flower) basketry. As a Buddhist community in majority, alms offering to the monks by the river is also a traditional way of life of the locals living along Kwai Noi river which

nowadays can still be found. At Tha Khanun temple where the monks walking across the river using a suspension bridge to meet local Buddhists in early morning. Offering alms near the riverfront at the suspension bridge or '*Luang Poo Sai*' Bridge is their usual practice which the locals normally do. In terms of spiritual value, the Shrine of Jīvaka Komārabhacca at the hot spring sites where local people believe and respect him as the Buddha's doctor. The hot spring establishment provides spiritual practice at the place, therefore, his dedication shall be recognized and enhanced by local people and Thai visitors. He represented as the traditional healer and worshiped by many Āyurvedic physicians and traditional medicine healers. Consequently, having his shrine in front of the hot spring site will encourage both on-site therapists and visitors to feel more safety and healthy. The cultural landscape of the area represents the quality place for health tourism and recreation at the same.

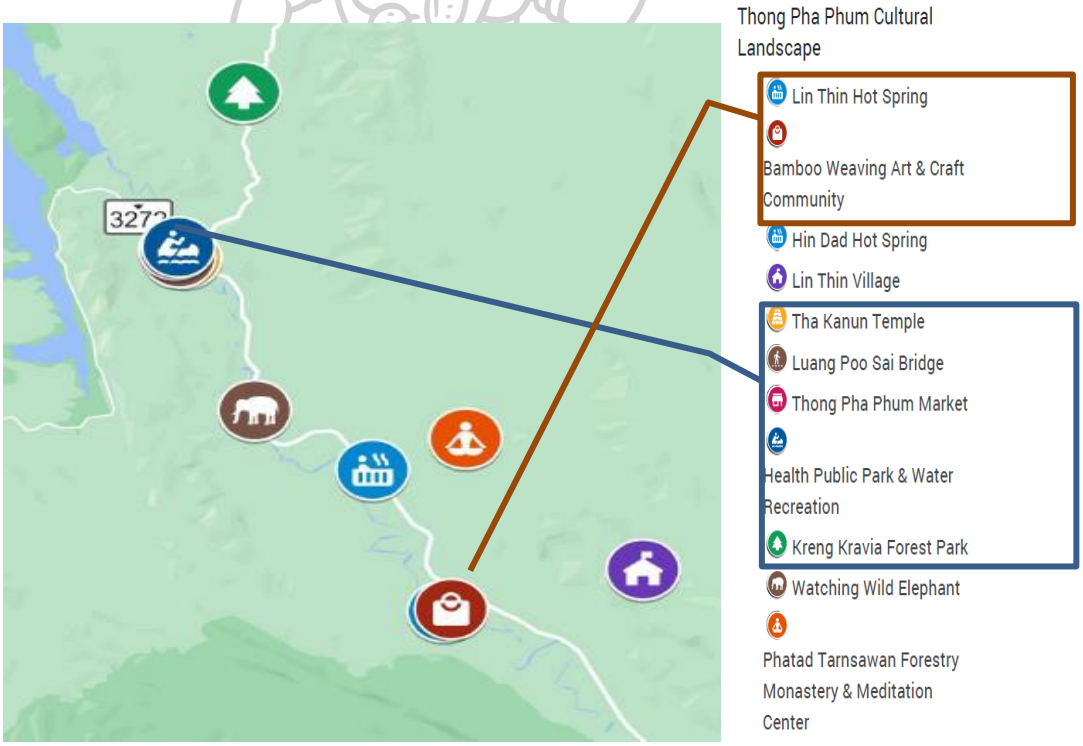


Figure 155: Map of Cultural Landscape of Hot Springs and Associated Nature
Source: Created by Author, Adapted from Google Map (April, 2021)

In Thailand, hot spring sites are unlikely as important as other tourism spots such as beach and sea. Conserving landscapes and utilizing local resources in hot spring areas are required to revitalize hot spring areas. The legal system used to conserve important cultural landscapes is one of the policies that assist in revitalizing hot spring areas. The Hin Dad and Lin Thin hot spring areas in Thong Pha Phum, Kanchanaburi are managed and evaluated by applying the guide for assessing the Quality Standard of Natural Hot Spring Site as Health Tourism (2014). This guideline book was based on the frameworks and concepts of the Physical Standards Framework Project, Natural Hot Springs Health Tourism Site of the Department of Tourism, Ministry of Tourism and Sports (2005). It had been written to control the standard of Hot Spring updated since then.

The causes of problems of hot spring resource management under the supervision of the local government organization. This was mainly due to the actions of related persons or stakeholders who may not have the adequate knowledge, understanding and skills required to properly maintain hot springs as a cultural heritage site. In addition, some locals involved do not clearly understand the concept of enabling communities to own hot springs. More local engagement in the management and distribution of benefits will support sustainable health tourism in the area. To full fill such weakness, development of knowledge, skills and abilities, known as "competency" of all involved parties to be able to manage hot spring tourism destination. The competencies of key stakeholders should be developed. For instance, usage of international standard for Treatment of Historic Properties and the Guidelines for the Treatment of Cultural Landscapes (1996) recommended for 'Water Features Cultural Landscapes' in terms of preserving, rehabilitation and restoring. Nevertheless, it required to translate in Thai language by architectural experts who are capable for assessing heritage values.

The local government organization has roles and duties according to the constitution, local participation must be promoted according to Constitution of the Kingdom of Thailand 2007, Chapter 5: Fundamental State Policy, Section 79, while the community has the right and duty to take part in the natural resources management according to the constitution as well due to Constitution of the Kingdom of Thailand 2007, Chapter 3: Rights and Liberties of the Thai People, Section 46 and 56.

The lessons learned from the relationship between communities and their respective hot springs, cultural heritage is a key factor that can be leveraged as part of community driven environmental sustainability. In other words, cultural heritage can be used as an entry point for environmental sustainability interventions either those that are government driven or community driven. However, in the current set up in Thong Pha Phum where environmental sustainability is largely a government driven initiative with the public being passive or reactive actors, cultural heritage driven environmental sustainability needs to be skewed towards community driven environmental sustainability initiatives as a way of getting the public to become proactive actors in driving environmental sustainability. Not only would the initiatives supplement the existing underfunded government efforts but also their being based on a cultural heritage that has come to define the community bond with nature is likely to be more sustainable. Therefore, culture can be seen as an enabler for environment sustainability. It is important that cultural-based environmental education is used as a medium for promoting community driven environmental sustainability. Ideally the starting point for such an initiative should be in communities where the "culture-environment relationship or bond" is very strong with a view of using this as stepping stone for future interventions. Ultimately such educational initiatives should use culture as a medium for communicating environmental sustainability.

It is challenging to conserve Thong Pha Phum's natures, Bruce Kekule (2012) said most national parks in Thailand including Thong Pha Phum is a target for poaching

and logging, which seem to go hand in hand. A number of wildlife is hunted for trophies and meat. It is sometimes common to see poachers in the park, cruising along the roads in vehicles or on motorcycles. Illegal logging still has been carried out along the Kwai Noi river. This has seriously eroded the river banks. Other forms of encroachment include cattle and buffalo corrals that are set up deep in the forest where fodder is easily available. Fruit orchards pop up in areas along the river inhibited by wild creatures and seem to thrive. Constant illegal activities are affecting the status of the wildlife and watershed integrity. Furthermore, illegal underground water pumping in the area may affect on the amount of hot spring water eventually. It can be seen as threats to the area as mentioned above.

7.2 Recommendation for Health Tourism Destination

To promote Thong Pha Phum as a health tourism destination, it is recommended to apply *'thematic'* tourism into the plan. There is an increased trend of thematic tourist activities that enable tourists to verify their own identity, promote their living styles and personal inclinations. Having a quality area of health promotion which based on hot spring site, Alternative medicine practices may be classified by their cultural origins or by the types of beliefs upon which they are based. Therefore, alternative medicine theme may be well compatible within the area. The 'health' trend of both domestic and international tourists will carry on because of not fashionable theme. Alternative Medication is the general term for a system of medicine and medical care that has not been verified scientifically or clinically applied in the field of Western medicine. It describes medical treatments that are used instead of traditional (mainstream) medicine. Some people also refer to it as 'integrative,' or 'complementary' medicine (Angell, M. et al., 1998). Health establishments will use the natural environment and local wisdom as tourism resources of health tourism destination, as well as recreation.

To motivate more international tourists to reach the area as health tourism destination, the author interpreted the qualified tourism places in the area to fit in the theme of "**Therapy Town**". According to Manual of Japan's Spa Therapy (2014), the number of alternative therapy was selected for matching and interpreting with the data in Thong Pha Phum as follows;

1. Thermotherapy/ Balneotherapy
2. Hydrotherapy
3. Exercise therapy
4. Nutrition therapy/ Diet Therapy
5. Physiotherapy
6. Meditation Therapy
7. Flower Therapy
8. Music therapy
9. Forest therapy
10. Gardening therapy

Figure 156:Model of Therapy Town in Thong Pha Phum, Kanchanaburi
Source: Created by Author, Adapted from Google Map

1. Thermotherapy/ Balneotherapy

- Lin Thin Hot Spring
- Hin Dad Hot Spring

2. Hydrotherapy

- Pha Tad Waterfall
- Pha Sawan Waterfall
- Pha Dang Waterfall
- Kreong Kravia Waterfall
- Jokkadin Waterfall
- Nang Khuan Waterfall
- Lin Thin Hot Spring
- Hin Dad Hot Spring

3. Exercise therapy

- Chalerm Prakiet Rama IV Health Public Park
- Kreong Kravia Forest Park
- Kwai Noi River
- Bike route in Vajiralongkorn Dam

4. Nutrition therapy/ Diet Therapy

- List of local restaurants certified by local government and nutritionist.

(Recommended restaurants must provide healthy menu available regularly)

5. Massage Therapy

- Lin Thin Hot Spring
- Hin Dad Hot Spring
- List of spa/massage enterprises certified by Ministry of Public Health.

(Recommended spa/massage enterprises must provide Traditional Thai massage available regularly)

6. Meditation Therapy

- Tha Khanun Temple Forestry Monastery
- Phatad Tarnsawan Temple Forest Monastery
- List of temples certified by Ministry of Department of Religious Affairs,Ministry of Culture.

(Recommended temples enterprises *must provide meditation practice available regularly)*

7. Flower Therapy

- Flower Garden in Vajiralongkorn Dam
- Orchid Farm in Flower Center, Tha Kanun
- Flower Arrangement School
- List of local flower arrangement school certified by local government.

(Recommended local flower arrangement school must provide flower workshop available regularly)

8. Music therapy

- Somjainueng Village (indigenous Myanmar people), Thakanun subdistrict
- List of local music school certified by local government.

(Recommended local music school must provide music workshop available regularly)

9. Forest therapy

- Tha Khanun Temple Forestry Monastery
- Phatad Tarnsawan Temple Forest Monastery
- Kreong Kravia Forest Park
- Thong Pha Phum Forest Park

10. Gardening therapy

- Sutto Organic Farm, Lin Thin
- Phu Phtad Organic Farm and Home Stay, Hin Dad
- Suan Lung Dang Forest and Farm, Hin Dad
- Ban Hin Leam Oganic Farm, Tha Kanun
- Chomlong Organic Farm, Huay Kayeng
- Maruay Organic Farm, Chalae
- Saun Po Chain Organic Farm, Sahakorn Nikom
- List of local organic farm certified by local government or Ministry of Agriculture and Cooperatives

(Recommended local organic farm must provide flower workshop available regularly)

The Model of "**Therapy Town**" in Thong Pha Phum, Kanchanaburi originally implemented by the author to propose recommendation of Health Tourism Destination with sustainability concern and local involvement. However, more types of alternative therapy may be added to support more local communities and more options for visitors. More spots may be added as well to spread local specialty tourism products. If local community leaders would like to add any spots into the list of Therapy Town as a Health Tourism Destination, they required to carefully select by setting up a series of criteria. Further information from Japan's Spa Therapy (2014) provided in the appendix section for the site manager or project leader to understand the meaning of therapy in the list.

Recently, Su (2020) updated Japanese hot spring tourism while COVID-19 struck. After the country closing to control spreading of the epidemic, Japan lost billions overall tourism. Hot springs hence expected to face a disproportionate decline. Not only are the signature communal baths that define hot-spring resorts completely inadequate in the age of "social distancing," but cautious tourists are also keen to avoid the process of getting to remote hot-spring towns. When most tourists prefer avoiding crowds, the essentially crowded nature of hot-spring resorts almost seems anachronistic. However, even beyond the ongoing crisis caused by COVID-19, hot spring tourism faces a long-term threat as tourists shift to other destinations. Especially among the Japanese youth, travel has become more about taking in new experiences. This scenario also consistent with the global trend toward experiential travel. The focus on new experience placing hot springs at a disadvantage point. Some hot springs have faced some difficulties in adjusting to such shifting tastes in travel. As hot springs compete for a reduced number of tourists in the COVID and the post-COVID eras, the consolidation of the industry will see more resorts shut their doors. The continuing strength of hot springs as a globally recognized and nationally treasured

tourism resource may largely depend on how the currently successful resorts continue to adapt to the changing tastes of consumers.

The model of "Therapy Town" may assist hot spring managers or community leaders to adapt themselves by expanding their local surroundings to gain more new experiences for new tastes of consumers. More recreations could be counted in the area as new interpreting without building any new things (to preserve a sense of place). Nevertheless, importantly enhancing a sense of humor into the land owners or place representatives, will help tourists feel more fun and happier. Due to a memorable service from the land, will last forever. They may be required to find out more good partnership to combine them into above implemented model. All age-tourists may select what they want, for instance, youngster may choose to enjoy diet therapy, exercise therapy, music therapy, flower therapy or forest therapy which seem to be also counted as recreation in the perception of youngsters. In an environment that prizes social distance and comprehensive anti-epidemic measures, on top of the decade-long trend toward diversified, experience-based travel, how hot springs can change their operational strategies and market attractions beyond their venerable hot spring baths will be a key to survival.

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APPENDIX

List of Therapy's Definition to interpreting the tourism destination

Thermotherapy *provides warmth to affected sites or to the entire body to increase metabolism and improve blood circulation and thereby restore and promote the body's natural healing powers. The client may "bathe only half their body" (up to stomach level), which can also be done at home, and far infrared radiation may be used as well as "heaters" or other special tools. Thermotherapy includes saunas baths, alternating baths, hot springs baths, and bedrock baths. Japanese spas use the following types of saunas: Finnish saunas, far infrared saunas, convection, gas saunas, steam saunas, mist saunas and salt saunas.*

Hydrotherapy *includes several essential tub bathing treatments. There are three critical elements in the use of "water" in bath treatments: "pressure", "temperature", and "water quality". When these factors change, it has a different impact on the body and the mind.*

Balneotherapy*; according to the mineral analysis method guidelines established by Japan's Ministry of the Environment, the following stipulations have been set down with regard to hot springs, mineral springs, and therapeutic springs: A mineral spring refers to a "spring of hot water or mineral water that is emitted from the ground, ordinarily containing a large amount of solid or gaseous matters or special substances, the temperature of which is significantly higher than the annual average atmospheric temperature around the spring". Under the Hot Spring Law, a "hot spring" is defined as including the moisture vapor and other gasses (excluding natural gas comprised mainly of hydrocarbons) that are emitted from a mineral spring and*

from underground. A mineral spring is differentiated from ordinary water such as tap water or water from a well

***Exercise therapy** is effective for lifestyle-related diseases. A moderate degree of exercise is good for healing mind and body. Exercise also cures or prevents other diseases caused by a combination of "stress and other lifestyle-related factors". Even taking a walk can free the mind, improve metabolism, and help heal the body. People who are concerned about their physical condition should consult a physician or specialized trainer to determine an appropriate degree of exercise.*

***Nutrition therapy** is a method of preventing and treating diseases primarily through the use of vitamins, minerals, and other nutrients, without resorting to so-called drugs.*

***Diet Therapy** establishes a daily rhythm based on regular meal times. Eat well-balanced meals consisting of a staple food, a main dish, and a side dish. Know your ideal body weight and eat the amount of food that corresponds to your daily activities.*

***Massage therapy** refers to the body work techniques of physical treatment using massage. It is the scientific manipulation of the soft tissues of the body, consisting primarily of manual (hands-on) techniques such as applying fixed or movable pressure, holding, and moving muscles and body tissues. Massage is delivered to improve the flow of blood and lymph (fluid in lymph glands, part of immune system), to reduce muscular tension or flaccidity, to affect the nervous system through stimulation or sedation, and to enhance tissue healing.*

***Meditation Therapy** is a method for improving blood pressure, aiding respiration in asthma patients, and alleviating daily stress. Meditation is a safe and simple way to achieve a favorable balance in mind, body and emotions. Meditation is based on the*

principle that "one is not affected by the two major causes of chronic stress (memory and anxiety) when one is remaining calm and concentrating on the present moment".

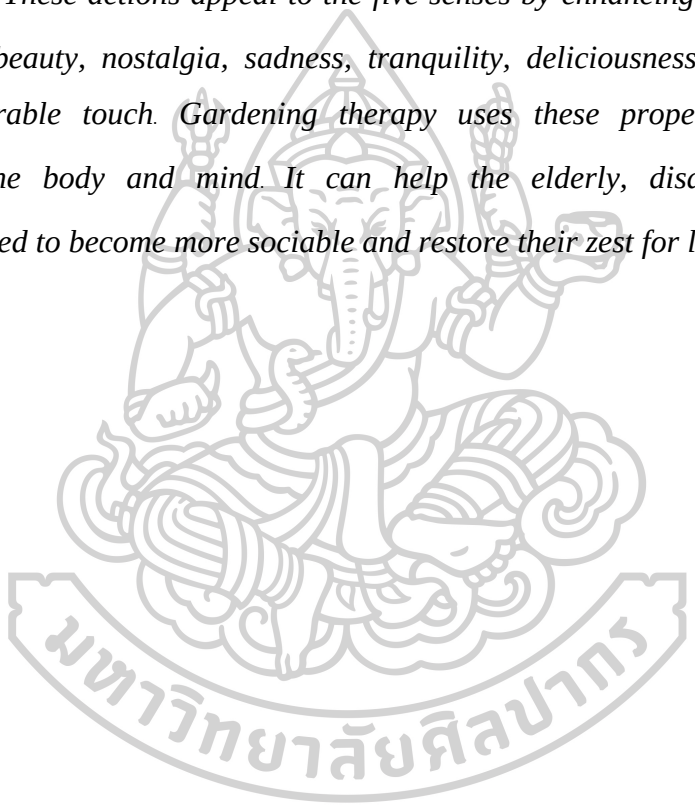
***Music therapy**; there are two major types of music therapy: active therapy, which entails performances and passive therapy, which entails listening. Psychological testing and autonomic nerve activity indices have shown that music has a favorable effect on both the mind and body. When people relax their bodies, they also begin to feel relaxed. Scientists have analyzed the frequencies of babbling brooks, birdsong, and other natural sounds in an attempt to find sounds that are soothing to everyone. Results have shown that such sounds share a common rhythm that affects the mind favorably.*

***Forest therapy** is an all-around therapy that makes use of the five senses in a forest environment. It includes such activities as forest bathing, walk rehabilitation using forest terrains, occupational therapy using trees and forestry products, and such psychological applications as walk counseling and group therapy approaches. Forest therapy uses outdoor activities to rehabilitate the five senses of the entire body. It can involve both work and recreation and be extremely useful in programs that deal with the mentally challenged or otherwise disabled persons, where it encourages interaction with nature in the form of such activities as carrying logs, growing mushrooms, strolling and singing, and playing in or near forest rivers.*

***Flower therapy** is generally known as a method of using flower essences for healing and health enhancement. There are other variations including flower bed therapy, which is based on the idea that by growing or displaying flowers, using their vital energy to enhance the health of body and mind, and flower arrangement therapy, whose practitioners believe that the flower chosen can tell a healing message and that just touching flowers can relax you. I addition, a flower's essence can act to clear up disharmony of the mind and emotions, thought to be a cause for many diseases. It can*

also encourage to become more aware of the part of nature that appears to be in disharmony or to have a disease, and then help resolving these problems. Flower remedies can help people become more responsible for their lifestyles and achieve happiness on their journeys to find themselves.

***Gardening therapy**; gardening consists of a series of actions that are indispensable to preserving life, including the preparation of soil, sowing, growing, harvesting, eating, and storing. These actions appeal to the five senses by enhancing your experience of happiness, beauty, nostalgia, sadness, tranquility, deliciousness, pleasant aromas, and pleasurable touch. Gardening therapy uses these properties effectively to revitalize the body and mind. It can help the elderly, disabled and socially disadvantaged to become more sociable and restore their zest for life.*



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