Establishing the Participatory Area-based Mechanisms for the Development of the Old Town in Surat Thani Municipality, Thailand to Improving the Quality of Economy, Society and Environment to the Smart City

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Abstract

Surat Thani old town into a smart city through collaborative efforts across sectors, utilizing participatory action research and community action planning, leaders from various sectors were engaged. Qualitative and quantitative methods were employed, with data analyzed through content analysis and descriptive statistics. The study area included several key locations within Surat Thani Municipality. Results indicated the successful development of creative mechanisms for the town's preservation and transition to a smart city, achieved through sector-wide participation. Seven community researchers, representing different sectors, facilitated the process. Proposed guidelines and innovations were formulated to guide preservation and development efforts, emphasizing participatory planning and the integration of smart city concepts. The research outcomes informed policymaking, academic collaboration, and commercial ventures, contributing to Surat Thani's vision as a livable smart city. The findings were utilized to create a master plan and strategic framework for short, medium, and long-term development goals. Collaboration among academic institutions and government agencies further enhanced the implementation of these plans. Commercially, public relations media were utilized to promote tourism and community development, fostering additional income opportunities within the community.

Keywords: *Smart City, Old Town, Sustainable City, Community Development, Surat Thani.*

Introduction

The concept of Smart City (SC) has emerged as a new trend in addressing the challenges associated with urban development. It has been suggested that the focus of SC should shift from an approach centered on providing infrastructure to one that enhances the quality of life and sustainability for citizens (Chang & Smith, 2023; Smith & Lee, 2022). A smart city is a sustainable city that solves urban problems and improves citizens' quality of life through industrial revolution technology and governance among stakeholders (Brown, & Garcia, 2021). This approach is essential due to rapid urban expansion. Smart cities thus arise to solve urban problems in various aspects such as transportation, environment, welfare, economy, safety, energy, and the efficient distribution of urban resources (Myeong et al., 2022; Muvuna et al., 2020). In recent years, governments and the private sector have invested heavily in smart city projects. Smart cities are becoming increasingly important as urban populations continue to grow and technology advances (Capdevila & Zarlenga, 2015). With the significant worldwide investments made by governments and the private sector in smart city projects, there is a growing need for systematic research on the current state of smart city research and applications (Dumay, 2016; Shami et al., 2022). Surat Thani Province, Thailand today encompasses various physical dimensions such as environment, society, culture, and economy. The urban areas are concentrated mainly in "Surat Thani Municipality," which serves as the core of prosperity or the "Central Business District" of Surat Thani Province. This area includes commercial zones, residential areas, command centers, public spaces, and various cultural districts. In addition, it was found that the "Old Town Surat Thani Municipality" is located within Surat Thani Municipality, Mueang Surat Thani District, Surat Thani Province. This area covers "Ban Don Market," "Ban Na Dan," and the "Continuous Area," which consists of Talad Lang Community, Na Dan Community, Wat Sai Community (Sarn Chao Market), Tha Ruea Community, Tapi Community, and Rat Uthit Community. and the adjacent areas include the 100

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Year Arch Bridge Market (Setthapakdi Bridge), Surat Thani Municipal Fresh Market. Area along the Tapi River (south side) and Surat Thani City Pillar Shrine Using the old community database of the Natural Environment and Arts Division. The Office of Natural Resources and Environmental Policy and Planning, Ministry of Natural Resources and Environment, Thailand, determined the characteristics of the location or environment through a field survey and a literature review. It was found that the current social situation of Surat Thani Municipality is experiencing changes in population structure, transitioning into a fully aging society (Department of Public Works and Town & Country Planning, 2009). As a result, the quality of the health system is facing challenging situations from all sides, in addition, Surat Thani Municipality faces challenges in promoting equality for marginalized groups, including the elderly, persons with disabilities, women, and gender minorities. Furthermore, there are policy and development issues, particularly in the "Old Town" area. Including information from a study of the Strategic Management Office of the Southern Provinces on the Gulf of Thailand, it has been determined that there are factors that accelerate rapid changes in the physical, social and cultural aspects of urban areas. old in Surat Thani Municipality It has been affected and problems have arisen in many areas. which can be summarized in each aspect as follows (1) Regarding physical and environmental aspects, there is a lack of rehabilitation and development of infrastructure and facilities in the area, which impacts the accessibility and usability of public spaces for all individuals. Additionally, there is a need for civilized architecture to enhance the urban environment. (2) Regarding social and cultural aspects (quality of life), there are various issues such as health problems, community conditions, safety concerns in life and property, sub-stance abuse problems, and especially the lack of conservation and restoration of old community areas with historical significance. (3) In terms of economy and politics, there is a lack of promotion of vibrant and sustainable life in the old town area, down-town areas, and insufficient income to sustain livelihoods in urban communities. Particularly, there is a significant problem of lack of systematic and sustainable development master plans. The research team aims to conduct a research project on creating a participatory spatial mechanism for developing the old city of Surat Thani Municipality, aimed at enhancing quality, economy, society, and environment towards a smart city (Thawinpipatkul, 2001; Kanjonathiti, 2009). This endeavor will involve cooperation among all relevant sectors, including the public sector, private sector, social sector, and academic sector, in the framework of integrating Participatory Action Research (PAR) and Community Action Planning (CAP) concepts, this research aims to establish a collaborative mechanism involving all relevant sectors to drive the conservation and development of the old city district (Kemmis, & McTaggart, 2005; Guy et al., 2020). This initiative aims to create employment opportunities and promote socioeconomic equality for people of all ages, enabling them to lead happy and fulfilling lives in a high-quality urban environment.

Materials and Methods

This study utilizes both quantitative and qualitative data collection methods obtained from two formats: preliminary data gathered directly from field sources through group discussions and structured interviews focusing on spatial context is-sues. This includes questionnaire surveys where respondents answer questions them-selves, conducted with community leaders and members within the old city district of Surat Thani Municipality (Alameda County Public Health Department, 2004). These communities include Talad Lang Community, Na Dan Community, Wat Sai Community (Sarn Chao Market), Tha Ruea Community, Tapi Community, and Rat Uthit Community. and the adjacent areas include the 100 Year Arch Bridge Market (Setthapakdi Bridge), Surat Thani Municipal Fresh Market. Area along the Tapi River (south side) and Surat Thani City Pillar Shrine. Additionally, it involves entrepreneurs, private organizations or associations, administrators, and officials from Surat Thani Municipality and relevant government agencies in the studied area. Furthermore, field surveys were conducted to observe, inquire, interview, and record in-formation, utilizing tools appropriate for achieving the research objectives. As for geographic data, basic data was collected through studying documents, books, references, research reports, and internet sources until comprehensive data from both for-mats was obtained. The research framework is outlined according to the concept depicted in Figure 1.
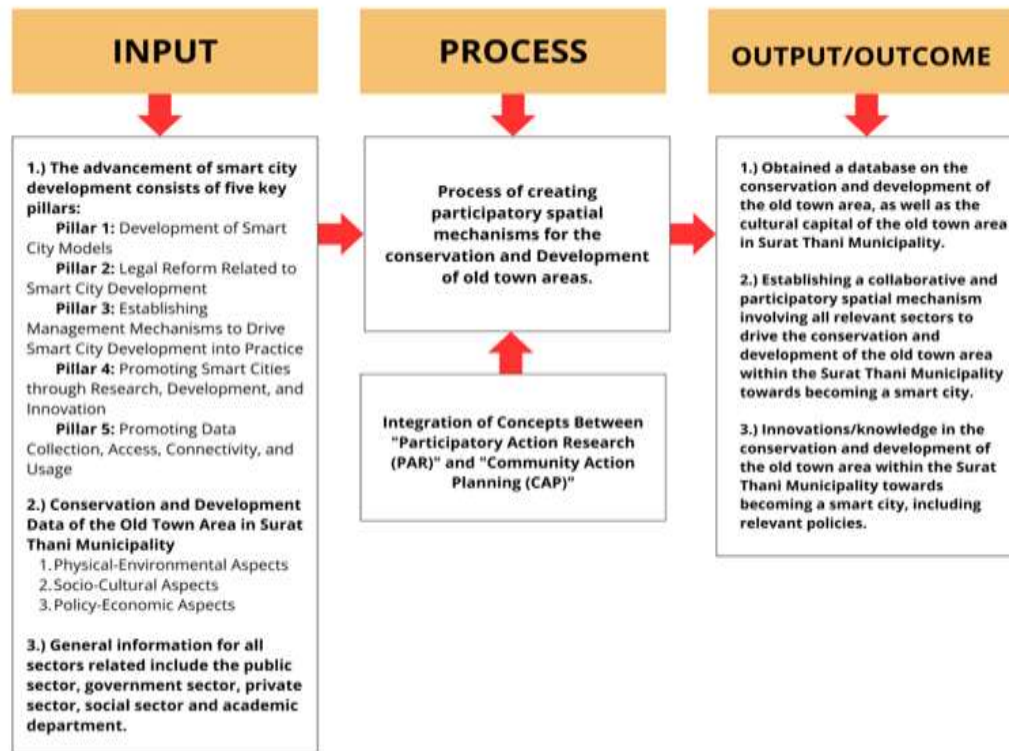
Figure 1. Conceptual Framework Showing Proposed Hypothesis

Population and Sample

This study employs a purposive sampling method for qualitative research. The population and sample groups consist of a total of 22 individuals.

The group of community leaders or representatives in the area consists of a total of 7 individuals, comprising 1 leader or chairman from each community and an additional representative from the contiguous area (equivalent to 1 community).

The group of representatives from Surat Thani Municipality consists of 5 individuals, including the mayor or deputy mayor, the head of the engineering office, the head of the health and environment office, the head of the planning and development division, and the head of the social welfare division.

The group of representatives from private sector entrepreneurs or associations in the targeted area consists of 5 individuals, namely representatives from product vendors, food suppliers, tourism and accommodation operators, public transportation and logistics entrepreneurs, and a representative from the Surat Thani Provincial Chamber of Commerce.

The group of representatives from relevant government agencies in the targeted area consists of 5 individuals, namely representatives from the Surat Thani Provincial Office (Strategic and Provincial Development Information Unit), the Provincial Office of Public Works and Town Planning, the Tourism and Sports Office of Surat Thani Province, the Environmental Office of Region 14 (Surat Thani), and the Surat Thani Provincial Administrative Organization. As for the sampling method, quota sampling is employed for quantitative research. This includes a group of community members in the targeted area, totaling 350 individuals, with 50 individuals from each of the 6 communities and an additional 50 individuals from the contiguous area (equivalent to 1 community).

Research Tool

The tools used in this study are tailored to align with the objectives of the research. For qualitative data collection, these tools include community maps, timelines, community calendars, and interview templates. The interviews are conducted with community leaders or representatives in a participatory manner, as well as with entrepreneurs, private organizations or associations, administrators, and officials from Surat Thani Municipality and relevant government agencies in the studied area. This comprehensive approach ensures a thorough and reliable understanding of the community, covering both its challenges and potential. Additionally, field surveys are conducted to visually observe and record physical and environmental data, as well as social and economic events within the community. These observations are then synthesized into observations and depicted on large-scale maps with symbols. Moreover, the research team has developed an interview template and sought advice from three experts to ensure content validity and reliability, considering the timing and nature of the study activities. The interview template is tested, refined, and revised before being used for actual data collection (United Nations Development Programme, 2015).

Quantitative data collection involves using questionnaires, adapting qualitative data from earlier phases to design and develop the questionnaire through community participation, including entrepreneurs, private organizations or associations, administrators, and officials from Surat Thani Municipality and relevant government agencies in the study area and adjacent areas. This is done through structured interviews and 28 open-ended questions in spatial context issues to ensure rich data. The research team sought advice from three experts to ensure content validity and reliability, tailored to the timing and nature of the study activities. The questionnaire was then piloted, re-fined, and adjusted before being used for data collection.

Data Analysis and the Statistical Methods

This study employs qualitative data analysis using content analysis quantitative data analysis using inferential statistics. It involves calculating percentages, means, and standard deviations, presenting data in the format of research tools such as figures, tables, descriptions, and summarizing the research findings. The study also sets up Likert scale questions to measure satisfaction levels, categorized into 5 levels, and scores for questionnaire responses (Lynch, 1960). as follows:

Very satisfied: assigned 5 points.

Satisfied: assigned 4 points.

Neutral: assigned 3 points.

Dissatisfied: assigned 2 points.

Very dissatisfied: assigned 1 point.

Then, the average scores of the questionnaire responses are calculated using the following interpretations:

Mean score 4.51 – 5.00 indicates very high satisfaction.

Mean score 3.51 – 4.50 indicates high satisfaction.

Mean score 2.51 – 3.50 indicates moderate satisfaction.

Mean score 1.51 – 2.50 indicates low satisfaction.

Mean score 1.00 – 1.50 indicates very low satisfaction

Research Area

The target area of this study is the old city district within the Surat Thani Municipality, covering the areas of "Ban Don Market," "Na Dan" and contiguous areas. This includes details comprising (1) Talad Lang Community, (2) Na Dan Community, (3) Wat Sai Community (Sarn Chao Market), (4) Tha Ruea Community, (5) Tapi Community, and (6) Rat Uthit Community and the adjacent areas include the 100 Year Arch Bridge Market (Setthapakdi Bridge), Surat Thani Municipal Fresh Market. Area along the Tapi River (south side) and City Pillar Shrine of Surat Thani. This is based on the old community data provided by the Department of Natural and Cultural Heritage, Department of Environmental Policy and Planning, Ministry of Natural Resources and Environment Figure 2.

Figure 2. Research Area

Results and Discussion

From the study, the data conducted to achieve the objectives, aimed at analyzing the problems and potentials arising from the situation and context of the old city area within Surat Thani Municipality, commonly known to locals as "Ban Don" from the past to the present, through the participation of all relevant stakeholders. This comprised two sub activities: the educational activity and the data analysis and synthesis activity, conducted from June to September 2020 under the main theme of conserving and developing the old city area within Surat Thani Municipality. It covered various aspects such as physical environment, sociocultural and policy economic aspects, along with general data from all relevant sectors, including the public, governmental, private, social, and academic sectors. In summary, the study aimed to

analyze and synthesize data to address issues and potentials concerning the old city area in Surat Thani Municipality, known as Ban Don with comprehensive participation from all relevant sectors.

Community and Population Patterns in the Old City Area of Surat Thani

From the study, it was found that the Surat Thani Municipality has a population of approximately 127,753 people, consisting of 60,812 males and 66,684 females, with a population density of 1,852 people per square kilometer. Surat Thani Municipality is one of the municipalities with the lowest population density in Thailand, covering an area of 68.97 square kilometers. According to the list of community committee chairpersons registered with the Surat Thani Municipality, there are a total of 70 communities. Within this project, six communities are identified, including the Talad Lang Community, Na Dan Community, Wat Sai Community (Sarn Chao Market), Tha Ruea Community, Tapi Community, and Rat Uthit Community. And the adjacent areas include the 100 Year Arch Bridge Market (Setthapakdi Bridge), Surat Thani Municipal Fresh Market. Area along the Tapi River (south side) and Surat Thani City Pillar Shrine. These findings allow for a comprehensive understanding of each community and contiguous area.

Talad Lang community was established around the year 1997. It was named after a nearby road called "Talad Lang" (Lower Market), hence adopting the name of the street for the community. Most of the population in this community are Thai with Chinese ancestry, as this area historically attracted many Chinese immigrants who settled here. People in the community tend to be hospitable and often gather for various religious and community activities. The community is known for its notable landmarks, such as the Thep Mitrakam Education School, which features a beautiful Christian architectural shrine. Similarly, the Mater Dei School also boasts impressive architectural features. Currently, Mr. Arak Bunnag Kanjanakorn serves as the chairman of the Lower Market community (Boonyakanjakorn, & Prasitnava, 2020).

Na Dan Community was established around the year 1997. The reason for the name "Nadan" is largely due to the presence of a customs checkpoint located within the current area of the Mu Ko Ang Thong National Park. This customs checkpoint collects taxes on goods transported by ships. Most of the population in this community are Thai with Chinese ancestry, as this area historically attracted many Chinese immigrants who settled here.

Notable landmarks in the Nadan community include the Wat Pathana Rarm Temple, which is an important temple for the people of Surat Thani. There's also the Phra Yo Market, the Fish Bridge, Municipal School 3, and the Gob Gan Market. Visitors to the Nadan community will encounter ancient wooden houses, which are reminiscent of the ancient Chinese culture that once thrived in the area. Currently, Mr. Yukol Sakolvirat serves as the chairman of the Nadan communit (Sakolwirat, & Prasitnava, 2020).

Wat Sai Community (Sarn Chao Market) was established around the year 2014 and is located near the Sai Temple. This temple used to be an ancient temple and holds significant importance for the people of Surat Thani as another revered temple. Most of the people residing in the Sai Temple community are of Chinese descent, as this community is close to the Nadan community, which has a large population of Chinese immigrants.

Notable features of the Wat Sai Community include the Shrine Market, which sells goods from the late afternoon to the evening, attracting tourists and locals alike. Additionally, many people from surrounding communities come here to shop. Evidence from archaeological excavations suggests that the Sai Temple may have been built during the reign of the Sriwichai Kingdom, between 1300 and 1800. This temple was a popular place for people to come and pay homage to Luang Pho Chui (Phra Anusorntham), the former abbot, and to visit the Two-Story Wooden Pavilion built over 100 years ago in 1932 B.E. by the people of Surat Thani. The community has also collaborated with the Sai Temple to preserve this old wooden structure to educate future generations about its history. Previously, it was used as a pavilion and the site of the Damrasattaya School in 2476 B.E., where novices studied. Additionally, during World War II on December 8, 1941, B.E., the Japanese landed troops in Surat Thani province, and they used the Sai Temple Pavilion as their headquarters. Currently, Mr. Somchai Tetchaphiwat serves as the chairman of the Sai Temple community (Techapiwat, & Prasitnava, 2020).

Tapi Community was established around the year 2554 B.E., and is another community located in the heart of Surat Thani province. Most of the people in this community are Thai with Chinese ancestry. This community is situated in the central area of Surat Thani province, which has a long history of significant trade.

Notable features of this community include the Muttidajjatidhamma Foundation, which houses the largest carved white granite statue of a reclining Buddha in the world. There's also the Tapi Hotel, an old hotel located within the community. The Mitsakorn Market is a market that sells food from the late afternoon to the evening. Additionally, there's the Dhammabucha Temple, an ancient temple that used to be a school for the people of Surat Thani in the past. The Tri Thammaram Temple is another ancient temple with a historical significance dating back to the reign of King Rama V. Moreover, there's the Municipal Court, which is an important area for the people of Surat Thani, including tourists, who often come to pay their respects. Currently, Mr. Pissit Viriyakulpattana serves as the chairman of the Tapi community (Techapiwat, & Prasitnava, 2020).

Rat Uthit Community was established around the year 2013. It is called Rat Uthit because there is a road named Ratsadutit, so the community took its name from the road. The Rat Uthit community is in a vital trading area, one of the important areas for the people of Surat Thani. Most people in the community are Thai with Chinese ancestry. Many engage in trade and have established shops and companies. The community's highlights include the Quality-of-Life Development Center and the promotion of elderly occupations by the Surat Thani Municipality. In the past, it was the location of the Surat Thani Municipality School 1 (Taeng on Pha Dim Witthaya). Surat Pittaya School is also an important educational institution in the area. There are many significant places along the community's boundary, such as the Dhammabucha Temple, the Tri Thammaram Temple, and the Municipal Court.Currently, Ms. Kanokwan Jarujarit serves as the chairman of the Ratsadutit community (Wiriyakulpattara, & Prasitnava, 2020)

Tha Rua Market community was established around the year 1992. It is another community located in the heart of Surat Thani province. The houses in this community are beautifully old-fashioned. People living in the community include both Chinese, Thai, and Vietnamese residents. One of the highlights of the Tha Rua Market community is its architecture, which features a blend of Chinese and European styles. It includes a 100-year-old curved bridge and row houses that are beautiful works of art. There is also the Pung Tao Gong shrine, an important ancient shrine for the Chinese community in Surat Thani province. Currently, Mr. Thada Buranaprasert serves as the chairman of the Tha Rua Market community (Jarujareet, & Prasitnava, 2020)

The contiguous area, such as the 100 Year Arch Bridge Market (Setthapakdi Bridge), offers a wide variety of products suitable for people of all ages, including handmade items, second-hand goods, souvenirs, clothing, and various foods. In the distinctive atmosphere of Chino-European architecture, with a bridge connecting century-old buildings, the newly established landmark of Surat Thani province, Night Plaza, should not be missed by tourists who enjoy capturing trendy atmospheres. There are numerous beautiful spots for photography, including the beautifully painted front doors of each house, maintaining the classic charm of ancient Chinese folding doors. All these efforts aim to preserve the old buildings and the bridge connecting them within the municipality of Surat Thani, while enhancing the landscape to create beauty around the old buildings and serving as a tourist attraction for Night Plaza (Burapapatsorn, & Prasitnava, 2020)

Physical and Environmental Aspects in the Old Town Area of Surat Thani City.

The general physical characteristics of the Surat Thani Municipality, which covers Talat subdistricts, Makham Tia subdistricts, Bang Kung subdistricts, Bang Chana subdistricts, and Bang Bai Mai subdistricts in Mueang District, Surat Thani Province, it was found that the area is approximately 68.97 square kilometers. It is the 8th largest city in Thailand. The terrain is predominantly flat along the Tapi River, and there are several tributaries that converge, including Khlong Tha Koop, Khlong Ban Mai, Khlong Chim Wang (Som Wang), Khlong Makham Tia, Khlong Bang Yai, Khlong Bang Bai Mai, Khlong Bang Kruud,

Khlong Bang Chan Bon, Khlong Chanak, Khlong Bang Kung, Khlong Bang It, and Khlong Tha Thong, before flowing into the Gulf of Thailand.

For the Old Town area of Surat Thani Municipality, it was found to cover an area of approximately 0.94 square kilometers, or approximately 0.65% of the total area of Surat Thani Municipality. This area encompasses three continuous main zones: "Ban Don Market," "Na Dan" and continuous areas, which include a total of 6 communities: Talad Lang Community, Na Dan Community, Wat Sai Community (Sarn Chao Market), Tha Ruea Community, Tapi Community, and Rat Uthit Community. And the adjacent areas include the 100 Year Arch Bridge Market (Setthapakdi Bridge), Surat Thani Municipal Fresh Market. Area along the Tapi River (south side) and Surat Thani City Pillar Shrine. These findings are based on data from the Old Community Zone provided by the Department of Environmental, Natural, and Cultural Resources, Policy, and Planning Division, Ministry of Natural Resources and Environment. The geographical boundaries of the Surat Thani Municipality Old Town area are as follows:

North: From the intersection of Nakhon Chum Road-Front City Road to Don Nok Road (under the Sri Ta Pi Bridge) along the Ta Pi River, Front City Road, Prida Rat Road, Don Nok Road, Nari-Sirita Road, Sri Ta Pi Road, Don Nok Road to the intersection of Front City Road-Pracha Nimit 34 Alley.

South: From the Surat Thani City Pillar Shrine intersection (New Market Road-Don Nok Road) along New Market Road to the intersection of Kanjanavithi Road-Thep Mitr Road.

East: From the intersection of Front City Road-Pracha Nimit 34 Alley along Pracha Nimit 34 Alley, Thep Mitr Road, to the intersection of Kanjanavithi Road-Thep Mitr Road.

West: From the Surat Thani City Pillar Shrine intersection (New Market Road-Don Nok Road) along Don Nok Road to the intersection of New Market Road-Don Nok Road (under the Sri Ta Pi Bridge).

Regarding the climate of the area, it was found that the Surat Thani Municipality is influenced by two types of monsoons: the Southwest Monsoon or rainy season, which brings moist air and rainfall from the Indian Ocean, resulting in rainy conditions from mid-May to mid-October, and the Northeast Monsoon or dry season, which brings cool and dry air from the northeast of China, covering Thailand from mid-October to mid-February. The study area is particularly affected from January to April each year, resulting in cooler temperatures and continuous heavy rainfall (Surat Thani City Municipality, 2020)

Social-Cultural Aspects of the Old Town Area of Surat Thani.

Before, the Surat Thani Municipality was named "Amphoe Ban Don," which is another name for the Surat Thani Municipality and has been a local name used since ancient times, with temporal divisions according to significant historical periods, resulting in a thriving urban community (Figure 3) based on the characteristics of that area. Due to its location on a hill, it was less prone to flooding. The Surat Thani Municipality, located at the mouth of the Tapi River, has thrived in all aspects of infrastructure, society, economy, and politics. It has commercial areas, administrative centers, educational institutions, as well as beautiful tourist attractions and temples, making it a hub of cultural diversity. This has been the driving force behind improving the quality of life for the people and advancing the economic system, in line with the Smart City Development Plan for Thailand, initiated by the Digital Economy Promotion Agency. The Surat Thani Municipality has been designated as one of the 8 cities in Group 5 of the Southern Region to be promoted as a Smart City (Office of Digital Economy Promotion, 2020; Njuguna et al. 2020).
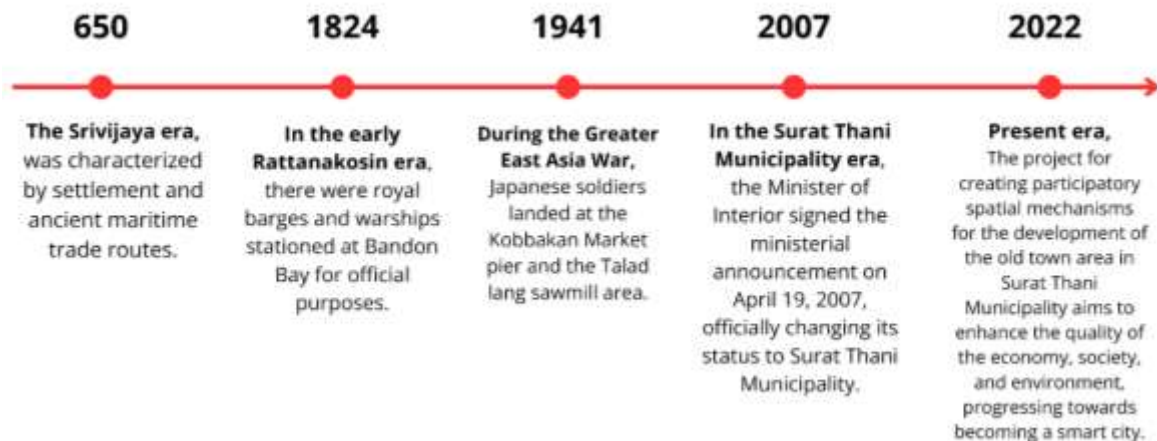
650	1824	1941	2007	2022
The Srivijaya era, was characterized by settlement and ancient maritime trade routes.	In the early Rattanakosin era, there were royal barges and warships stationed at Bandon Bay for official purposes.	During the Greater East Asia War, Japanese soldiers landed at the Kobbakan Market pier and the Talad lang sawmill area.	In the Surat Thani Municipality era, the Minister of Interior signed the ministerial announcement on April 19, 2007, officially changing its status to Surat Thani Municipality.	Present era, The project for creating participatory spatial mechanisms for the development of the old town area in Surat Thani Municipality aims to enhance the quality of the economy, society, and environment, progressing towards becoming a smart city.

Figure 3. Timeline divisions of the old town area of Surat Thani Municipality

Art and architecture in the old town area: From the study, it was found that art and architecture are important components that give the old town area of Surat Thani Municipality a distinctive and unique identity. Under the guidelines of the jointly established value between the research team, the community, and relevant stakeholders, there are four categories:

Old buildings that should be preserved, restored, and developed.

Old buildings that should be restored and developed.

Old buildings that should be documented, as well as government buildings or important religious sites.

These categories were determined through surveys and questionnaires conducted with owners or stakeholders of the buildings in the old town area of Surat Thani Municipality. The data collected for analysis and synthesis included usage patterns, building types, building height (number of floors), addresses, geographic coordinates, owner names, owner suggestions, building images, and building histories. During the interviews, the research team informed the owners or stakeholders about the project's origin and objectives, and indicated their willingness to provide information voluntarily, with the option to withdraw from the interview at any time.

In addition, in the old town area of Surat Thani Municipality, there are valuable buildings totaling 551 in the municipality. These buildings are categorized as follows.

Type A: Old buildings that should be preserved, restored, and developed. There are 49 buildings in this category.

Type B: Old buildings that should be restored and developed. There are 354 buildings in this category.

Type C: Old buildings that should be documented, as well as government buildings or important religious sites. There are 50 buildings in this category, along with 98 government buildings or important religious sites.

Out of the total of 551 buildings, there are 4 buildings that are of utmost historical or architectural significance. These buildings are:

City Pillar Shrine of Surat Thani

Two-story pavilion in Wat Sai

Khun Kamthorn's House (Jin Heng Boatyard, Ban Don)

Sertthapakdee Building with curved bridge (Chino-Portuguese or Sino-European architecture), these buildings are depicted in Figure 4.

Figure 4. An Example of A Building With Historical or Architectural in the Old Town Area of Surat Thani Municipality

Culture, customs, and local wisdom, from studies, surveys, and community calendar creation, reveal that the cultural heritage and local wisdom found in Surat Thani Municipality are multicultural societies since ancient times. The indigenous people around Surat Thani Municipality, also known as Ban Don or Don Village, were significant groups such as the "Southern Thai People" indigenous people who migrated between the two sides of the Andaman Sea and the Gulf of Thailand since prehistoric times. Thai people from the central region who relocated to this area from Nakhon Pathom, Ratchaburi, and Phetchaburi provinces since around 1927. "Thai-Chinese People" descendants of Chinese immigrants who settled in Surat Thani Province in various waves, with clear records dating back to the reign of King Chulalongkorn (Rama V) since around 1850, originating from the southern regions of China, such as Guangdong, Hakka, Teochew, Hokkien, and Hainanese. "Thai-Vietnamese People" migrants, who moved to Surat Thani Province in 1959, during the premiership of Field Marshal Sarit Thanarat and the military administration, suspected that these Vietnamese migrants might be communists. There-fore, the Thai government, at that time, brought some Vietnamese from several provinces in the northeastern region to the southern provinces, including Surat Thani and Phatthalung. Most of the Vietnamese who migrated were from northern and southern Vietnam. Those who moved here mostly spoke the language of northern Vietnamese (Gleeson, 2008).

Moreover, the groups of people who migrated and settled around Surat Thani Municipality have inherited, adapted, and modified their own culture, customs, and local wisdom to become the identity of Don Village, which has been practiced regularly every year. These include the vegetarian festival or the tradition of abstaining from eating meat, Chinese New Year celebrations, and the tradition of paying homage to the moon in addition, Surat Thani Province has annually organized the Chak Phra, Tod Pha Pua, and Long Boat Racing festivals. The Chak Phra festival of Surat Thani Province stands out more than elsewhere

because it features processions of the Buddha images both on land and on water. This is facilitated by the suitable topography, with a river passing through the heart of the city.

In addition to the Chak Phra festival, the Tod Pha Pua ceremony is another tradition that accompanies it. This involves hanging colorful fabric in front of each house starting from the 15th day of the 11th lunar month until the end of the year. Houses, buildings, and shops are decorated with colorful fabric, and it is essential to include a piece of cloth for the Buddhist monks.

Furthermore, there is the tradition of long boat racing alongside the Chak Phra and Tod Pha Pua ceremonies. This event adds excitement and liveliness to the festival. The Chak Phra, Tod Pha Pua, and long boat racing festivals have become annual traditions in Surat Thani Province. Various temples, government agencies, state enterprises, private organizations, and local authorities participate in these festivals in Mueang Surat Thani District, Surat Thani Province.

Moreover, the Tenth Month Festival is a charitable event held on the 1st day of the 10th lunar month, inspired by Nakhon Si Thammarat Province. It is believed that deceased relatives who are suffering in the city will be granted permission to visit their descendants during the tenth lunar month. Descendants often take their ancestors to temples during this month. Communities usually hold ceremonies on the 13th day of the 10th lunar month. On this day, preparations are made to buy snacks and various items, mostly from Mueang Surat Thani District. Essential items include five distinctive snacks: Khanom pong, Khanom la, Khanom ba, Khanom deesam, and Khanom kong. Residents gather all these items and put them in a "Puk" (a tray). Then, preparations are made for "Bun Praht" by arranging food, snacks, fruits, and flowers on high platforms in the temple courtyard. Afterward, the descendants compete for the snacks, known as the "Ching Preht" ceremony. It is believed that whoever eats the snacks obtained from the competition will receive blessings for themselves and their families.

Economic Policy

The municipality of Surat Thani is a central business hub of the province, ranking as the 8th largest city in the country and serving as one of the key economic centers in the southern region. Particularly, the Central Business District (CBD) area, located in the old town district, is akin to the heart of the city, bustling with commercial activities, dense residential areas, educational institutions, religious sites, recreational spots, and historical-cultural landmarks. From studies and interviews conducted with community leaders from six communities, it was found that most residents within the municipality of Surat Thani engage in occupations such as agriculture, wage labor, private businesses, trading, civil service, and homemaking. Most residents have a monthly income ranging from 10,001 to 15,000 baht, followed by those earning between 8,000 and 10,000 baht per month. Incomes exceeding 15,001 baht per month accounted for 23.44%, while those earning 8,000 baht per month accounted for 21.09%. However, there is also a significant population of migrant workers and daily laborers who travel to work or conduct business within the municipality daily, especially in areas like the local market of the temple community of Wat Sai and the 100-year-old bridge market community of the pier market, although there is currently no data available on this due to the ongoing COVID-19 pandemic situation.

Results of Data Analysis and Synthesis

Satisfaction with the physical-environmental conditions or potential of the community in the old city area of Surat Thani municipality comprises three key aspects: physical-environmental, social-cultural, and policy-economic. Each aspect includes a framework/guideline with 5 sections and a total of 16 questions for the physical-environmental aspect, 5 sections with a total of 25 questions for the social-cultural aspect, and 6 sections with a total of 18 questions for the policy-economic aspect. The sample group's satisfaction is as follows Table 1.

Table 1. The Problems or Potentials of the Community in the Old Town Area of Surat Thani Municipality.

List	X	S.d.	Level
1. Physical-environmental aspects			
1.1 Infrastructure and facilities			
1.1.1 Condition of roads in the old town area and adjacent areas	2.47	0.97	Low
1.1.2 Tidiness of electrical and communication lines in the old town area and adjacent areas	1.49	0.56	Minimal
1.1.3 Availability of public spaces for workers in the old town area and adjacent areas	2.35	0.88	Low
1.2 landscape, sidewalks, and multipurpose plazas			
1.2.1 Condition of the landscape along the Tapi River embankment	2.86	0.94	Moderate
1.2.2 Condition of the landscape at the centennial bridge market	2.75	0.91	Moderate
1.2.3 Connectivity and open green spaces along the Tapi River and community areas	1.48	0.54	Minimal
1.3 Conservation and management of natural resources			
1.3.1 Conservation of aquatic wildlife in the Tapi River, such as black crabs and river shrimp	2.28	0.83	Low
1.3.2 Conservation of riparian forest along the Tapi River	1.49	0.57	Minimal
1.4 Environmental pollution management			
1.4.1 Air pollution management in the old town area and adjacent areas	2.42	0.72	Low
1.4.2 Waste management in the old town area and adjacent areas	1.95	0.88	Low
1.4.3 Wastewater management in the old town area and adjacent areas (sewerage system)	1.49	0.57	Minimal
1.4.4 Noise pollution management in the old town area and adjacent areas	2.27	0.77	Low
1.5 Prevention and mitigation of public emergencies			
1.5.1 Management of safety and security of life and property in the old town area and adjacent areas	2.25	0.83	Low
1.5.2 Emergency alerts and evacuation routes in the old town area and adjacent areas	1.49	0.53	Minimal
2. Social and cultural aspects			
2.1 Governance of public sector digital systems			
2.1.1 Digital governance of the public sector	1.17	0.66	Minimal
2.1.2 Capacity of municipal staff in Surat Thani city in information technology	1.60	0.61	Low
2.2 General public service provision			
2.2.1 General service requests	2.50	0.82	Low
2.2.2 Handling complaints and resolving persistent issues	2.38	0.83	Low
2.3 การให้บริการประชาชนด้านสุขภาพ			
2.3.1 Healthcare services	2.33	0.71	Low
2.3.2 Services for bedridden patients and vulnerable groups	2.51	0.58	Moderate
2.3.3 Elderly care services	2.58	0.60	Moderate
2.3.4 Prevention and care for severe infectious diseases	2.53	0.60	Moderate
2.4 education service provision and promotion to the community			
2.4.1 Capability of teachers/instructors affiliated with Surat Thani municipality in information technology	2.63	0.63	Moderate
2.4.2 Management of information technology in classrooms affiliated with Surat Thani municipality	2.72	0.69	Moderate
2.5 Cultural heritage, customs, and local wisdom			
2.5.1 Conservation and development of valuable old buildings in the old town area of Surat Thani municipality	1.48	0.52	Minimal

List	X	S.d.	Level
2.5.2 Promotion of Vietnamese Thai ethnic group in Tha Ruea market community.	1.49	0.54	Minimal
2.5.3 Promotion of cultural arts in the community of Wat Sai and the San Chao market	3.09	0.87	Moderate
2.5.4 Promotion of cultural arts in the ban lang community market	1.47	0.52	Minimal
2.5.5 Promotion of cultural arts in the Na dan community	1.55	0.59	Low
2.5.6 Promotion of cultural arts in the Tapi community	3.04	3.65	Moderate
2.5.7 Promotion of local food culture in the old town area.	2.15	0.74	Low
2.5.8 Building public awareness among personnel and the public on conservation/development of the old town area.	1.43	0.50	Minimal
2.5.9 Promotion of tradition: Chak Phra festival, Tord Pha Pa, and long-boat racing.	3.31	0.94	Moderate
2.5.10 Promotion of vegetarian festival, Chinese new year, and moon worship.	2.02	0.68	Low
2.5.11 Promotion of the tenth lunar month festival.	3.28	0.94	Moderate
3. Economic policy.			
3.1 Laws or regulations related to the conservation and development of the old town area.			
3.1.1 Designation of restricted areas for construction, alteration, use, or change of building use.	2.11	0.71	Low
3.1.2 Land use planning.	1.43	0.50	Minimal
3.1.3 Waste and pollution management.	2.71	0.68	Moderate
3.1.4 Control of health hazardous operations.	1.66	0.65	Low
3.2 Research, development, and innovation towards policies on conservation and development of old town areas.			
3.2.1 Promoting research and development as innovation and policy.	2.09	0.74	Low
3.2.2 Transferring knowledge and skills to youth, the public, and personnel.	2.06	0.75	Low
3.2.3 Collecting, compiling, and researching community data in the old town area of surat thani municipality.	2.13	0.80	Low
3.3 Participatory spatial mechanism in smart city management/driving urban development.			
3.3.1 The potential of stakeholders from all sectors in the conservation and development of the old town area.	1.77	0.69	Low
3.3.2 Promoting organizations and networks for the conservation and development of the old town area.	1.67	0.71	Low
3.3.3 Promotion and advocacy for driving the conservation and development of the old town area.	1.96	0.72	Low
3.4 Tourism potential and the conservation and development image of the old town area.			
3.4.1 Promoting academic spaces in the conservation and development of the old town area.	2.08	0.78	Low
3.4.2 Promoting cultural tourism in the old town area.	2.78	0.71	Moderate
3.4.3 Providing services and promoting tourism through information technology.	2.73	0.73	Moderate
3.4.4 Promoting and publicizing the image of preserving and developing the old city area.	1.91	0.71	Low
3.5 Community enterprise group in the old city area of Surat Thani municipality			
3.5.1 Promotion of training and vocational skills for all age groups.	1.51	0.63	Low

List	X	S.d.	Level
3.5.2 Development and promotion of community-tailored vocational training programs.	1.53	0.65	Low
3.6 Promotion of business development in the old town area of Surat Thani municipality and surrounding areas.			
3.6.1 Promotion of public relations and marketing systems for goods and services distribution.	2.53	0.60	Low
3.6.2 Enhancing the capabilities of stakeholders in public relations and sales of goods and services.	1.98	0.72	Low

Physical Environment: The important topic within this area is "Infrastructure and Facilities." In the aspect of "Electricity and Communication System Neatness in the Old Town Area and Adjacent Areas," the level of satisfaction is "Least Satisfied" with an average score of 1.49. Regarding "Landscapes, Walkways, and Recreational Areas," particularly focusing on "Connectivity and Open Green Spaces along the Tapi River and Communities," the level of satisfaction is also "Least Satisfied" with an average score of 1.48. Concerning "Conservation and Management of Natural Resources," specifically addressing "Conservation of Riverside Trees in the Tapi River Area," the level of satisfaction is "Least Satisfied" with an average score of 1.49. In terms of "Environmental Pollution Management," focusing on "Wastewater Management in the Old Town Area and Adjacent Areas (Drainage Pipes)," the level of satisfaction is "Least Satisfied" with an average score of 1.49. Lastly, regarding "Disaster Prevention and Mitigation," particularly addressing "Disaster Alert and Evacuation Routes in the Old Town Area and Adjacent Areas," the level of satisfaction is "Least Satisfied" with an average score of 1.49.

Social-Cultural aspect: "Providing public administration related to digital systems" with a topic that is significant in this area is "Providing public administration related to digital systems" with a satisfaction level of "Low" The most" has an average of 1.17 for the subject "Providing services to the public in general." The topic that is significant in the area is "Receiving the matter Complaints and resolving problems" with a satisfaction level of "least" with an average of 2.38, "Providing public health services" with important topics in the area being "Providing health services" with a satisfaction level of "low" has an average of 2.33 for "Providing services and promoting public education" with the topic that is significant in the area being "Potential of teachers/instructors under Surat Thani Municipality in the field of information technology" at the satisfaction level of "moderate" with an average of 2.63, "Cultural heritage, traditions and local wisdom" with important topics in the area being "Creating public awareness among personnel and citizens regarding conservation/development of the old city area" at the satisfaction level of "minimal" with an average of 1.43

Policy-Economy aspect: "Laws or municipal regulations related to the conservation and development of the old town area" The significant topic in this area is "Land use planning" with a satisfaction level of "least satisfied," having an average score of 1.43. For "Research, development, and innovation towards conservation and development policies for the old town area," the significant topic is "Knowledge and skills transfer to youth, citizens, and personnel" with a satisfaction level of "low" and an average score of 2.06. For "Participatory spatial mechanisms in managing/driving smart city development," the significant topic is "Promoting organizations and networks for conservation and development of the old town area" with a satisfaction level of "low" and an average score of 1.67. For "Tourism potential and the image of conservation and development of the old town area," the significant topic is "Promoting the image of conservation and development of the old town area" with a satisfaction level of "low" and an average score of 1.91. For "Community enterprises in the old town area of Surat Thani Municipality," the significant topic is "Promoting training and career development for people of all ages" with a satisfaction level of "low" and an average score of 1.51. For "Business promotion systems in the old town area of Surat Thani Municipality and adjacent areas," the significant topic is "Enhancing the capacity of stakeholders in promoting and selling products and services" with a satisfaction level of "low" and an average score of 1.98.

Based on the above information, the research team and network partners jointly analyzed and synthesized through SWOT Analysis and found that the strengths of the old town area of Surat Thani Municipality include social capital, cultural capital, and local wisdom. There are knowledgeable individuals or local experts in various fields who can develop valuable products, services, buildings with historical or architectural significance, old town tourism, and other applications for greater benefit both at the community level and the old town area level [26].

The location of the old town area is a transportation hub, connecting routes both by land and water. These include small passenger centers in the urban community known as Talad Kaset 1 and Talad Kaset 2, located along the roadside, serving both Thai and foreign passengers in Surat Thani Municipality with small public transport vehicles (buses, vans, tuk-tuks, motorcycles). There are public piers for residents in the nearby sub-districts and a sleepover pier for tourists traveling to Koh Phangan and nearby islands. A non-motorized transport network (walking and cycling paths) can be established within the dense old town area with historically significant buildings to enhance convenience, meet local travel needs, and connect with other public transport systems.

There are high walkability areas near the Sala Chao Market, the 100-Year Bridge Market, and the riverside walkways and plazas along the Tapi River, currently promoting trade, recreation, and tourism activities. The area boasts rich natural resources and a water environment, such as seafood (river prawns, mud crabs, blue crabs, etc.) and eco-tourism at the mouth of the Tapi River. The old town area has public utilities, including electricity, water, and communication systems, as well as public services like educational institutions, religious sites, healthcare facilities, and public safety distributed throughout the area to meet the needs of the old town residents.

Opportunities, there are clear policies and development plans from the government at the national, ministerial, provincial, and local levels. Additionally, there is cooperation between local agencies and the academic sector in the development of smart cities, which emphasize community-centered development with participation from all community sectors. National, provincial, and local government agencies cooperate to drive development in the same direction (as per orders from Surat Thani Province, Surat Thani Rajabhat University, and Surat Thani Municipality regarding the establishment of committees for tangible study and development).

Weaknesses, there is a lack of studies and planning for the conservation and development of social capital, cultural capital, and local wisdom, or knowledgeable local experts in various fields in the old town area. This hinders the ability to utilize these resources for community, social, economic, and smart city policy benefits in a systematic way. There is no creation of participatory spatial mechanisms involving community leaders, residents, local leaders, government officials, the private sector, and the academic sector to drive the conservation and development of the old town area towards becoming a smart city. Frequent changes in the administrative committees of government agencies require regular review and clarification of goals to align the efforts for conservation and development of the old town area towards becoming a smart city.

Constraints, Preparedness for Disasters or Major Global Crises: There is limited readiness to cope with increasingly severe global crises and disasters. Conflicts of Ideas, Beliefs, and Ideologies: Longstanding conflicts arise from the diverse ideas, beliefs, and ideologies among the people in the old town area, limited Budget: The budget is constrained and must be allocated to urgent matters, such as preventing and caring for the residents of Surat Thani Municipality affected by the COVID-19 pandemic.

Design Outcome and Draft Blueprint and Framework Plan

The researchers convened a meeting by inviting an expert in urban design and master planning, Assoc. Prof. Prinyapat Chueakaeo, who is a faculty member of the Department of Architecture and Planning, Faculty of Architecture, King Mongkut's Institute of Technology Ladkrabang. During the session, Prof. Prinyapat delivered a lecture and facilitated knowledge exchange based on case studies of old towns in Phuket and other cities both nationally and internationally. Additionally, a general assessment of the old town area under the jurisdiction of the Surat Thani Municipality was conducted. Following this, practical

exercises were carried out to develop a draft blueprint and framework plan for conserving and developing the old town area within the Surat Thani Municipality. The meeting took place on Saturday, October 24, 2020, from 08:30 to 16:30 at Wat Sai Community, Surat Thani Municipality, Mueang Surat Thani District, Surat Thani Province. Subsequently, the research team held further meetings to refine the draft blueprint and framework plan for the conservation and development of the old town area within the Surat Thani Municipality, under a participatory approach involving all stakeholders. It was found that most participants in the meeting shared views aligned with the vision (draft) of "Surat Thani, a Livable Smart City" and the policy (draft) of "Model Smart City Municipality 9," aiming to enhance the quality of life by promoting cleanliness, convenience, tourism, health, safety, opportunities, and traditional beauty Figure 5.

Figure 5. Draft Conceptual Framework Blueprint.

Strategic Priority 1: (Draft) Physical Environment

Objective: (Draft) Residents in the old city area of Surat Thani Municipality receive promotion in terms of infrastructure and amenities, natural resource and environmental management, and disaster prevention and mitigation through digital technology systems and other relevant systems, aiming towards a convenient, clean, and safe city.

Strategy: (Draft)

Improve and develop infrastructure and amenities. Study, design, and improve Complete Street systems throughout the old city area of Surat Thani Municipality and contiguous areas. Study and improve pedestrian pathways and recreational areas (under the principles of Universal Design and local historical and cultural heritage).

Conserve and manage natural resources by the community. Establish and expand environmental pollution management systems.

Establish and expand disaster prevention and mitigation systems.

Strategic Priority 2: (Draft) Social-Cultural Aspect

Objective: (Draft) Residents in the old city area of Surat Thani Municipality receive promotion and enhancement of service efficiency in health, education, and knowledge preservation and development of cultural heritage through digital technology systems and other relevant systems, aiming towards a city with happiness, healthiness, rich cultural traditions, and exquisite taste.

Strategy: (Draft)

Develop Smart Digital Governance for Public Administration to facilitate convenience for residents in the old city area of Surat Thani Municipality and contiguous areas.

Develop and expand Smart General Public Service systems with "Smart One Stop Service" application Surat Smart Touch.

Develop Smart Health service systems with "Smart Health" application Surat Smart Touch.

Develop and promote Smart Education service systems with Artificial Intelligence: AI to conserve, preserve, and enhance cultural heritage, traditions, and local wisdom in the old city area of Surat Thani Municipality through intelligent management systems.

Strategic Priority 3: (Draft) Policy-Economic Aspect

Objective: (Draft) Residents in the old city area of Surat Thani Municipality receive promotion and enhancement of participation in legal reform or ordinances, knowledge, and skills development, as well as the development of tourism and community enterprise groups related to the conservation and development of the old city area within the municipal area of Surat Thani, aiming towards a city of opportunities and attractive tourism.

Strategy: (Draft)

Reform laws or ordinances related to the conservation and development of the old city area within the municipal area of Surat Thani towards becoming a model smart city (to be enforced locally).

Promote and advocate research and development into innovations and policies regarding the conservation and development of the old city area within the municipal area of Surat Thani towards becoming a smart city.

Establish and develop participatory spatial mechanisms from all relevant sectors in managing and driving smart city development towards tourism development potential and promoting the image of conserving and developing the old city area within the municipal area of Surat Thani towards a smart city.

Establish and develop community enterprise groups in the old city area of Surat Thani Municipality.

Develop business promotion systems in the old city area of Surat Thani Municipality and contiguous areas.

The data retrieval results have been reviewed, feedback has been considered, and adjustments have been made

Following the completion of the design and drafting of the master plan or framework for the conservation and development of the old city area within Surat Thani Municipality, involving contributions from all relevant sectors, a data retrieval meeting and feedback session were convened from October to November 2019. It was found that most participants agreed with the draft master plan or framework, particularly appreciating suggestions from municipal executives and staff to add more details regarding project specifics, activities, indicators, timelines within the fiscal year, budget overview, and responsible departments.

The completed master plan and framework have been utilized for public relations and the development of a web application

After data retrieval and feedback from all relevant stakeholders, the research team proceeded to hold a meeting to develop the complete master plan and framework for the conservation and development of the old city area within Surat Thani Municipality, under a participatory spatial mechanism. It was found that most meeting participants approved the continuation of the current direction. The vision, "Surat Thani, an Intelligent and Livable City," and the policy, "Surat Thani Municipality, an Exemplary Smart City" were endorsed for creating a better quality of life, encompassing aspects such as exquisite taste, cleanliness, convenience, tourism appeal, healthiness, happiness, safety, opportunities, and cultural traditions. The strategic priorities, namely Physical-Environmental Aspect, Social-Cultural Aspect, and Policy-Economic Aspect, were defined. Community leaders, municipal staff, and stakeholders provided input to outline the master plan for conserving and developing the old city area in accordance with the "Short-Medium-Long Term Action Plan" format. This includes short-term plans with a duration of one-year, medium-term plans ranging from one to five years, and long-term plans extending beyond five years, to allow for adaptation to changing circumstances or budget allocations of Surat Thani Municipality and related agencies. The total budget for the entire master plan is 4,797,500,000 Baht, allocated as follows: 3,716,000,000 Baht for the Physical-Environmental Aspect, 977,100,000 Baht for the Social-Cultural Aspect, and 104,400,000 Baht for the Policy-Economic Aspect. Suggestions were made to present the plan in summary tables and various diagrams Figure 6.
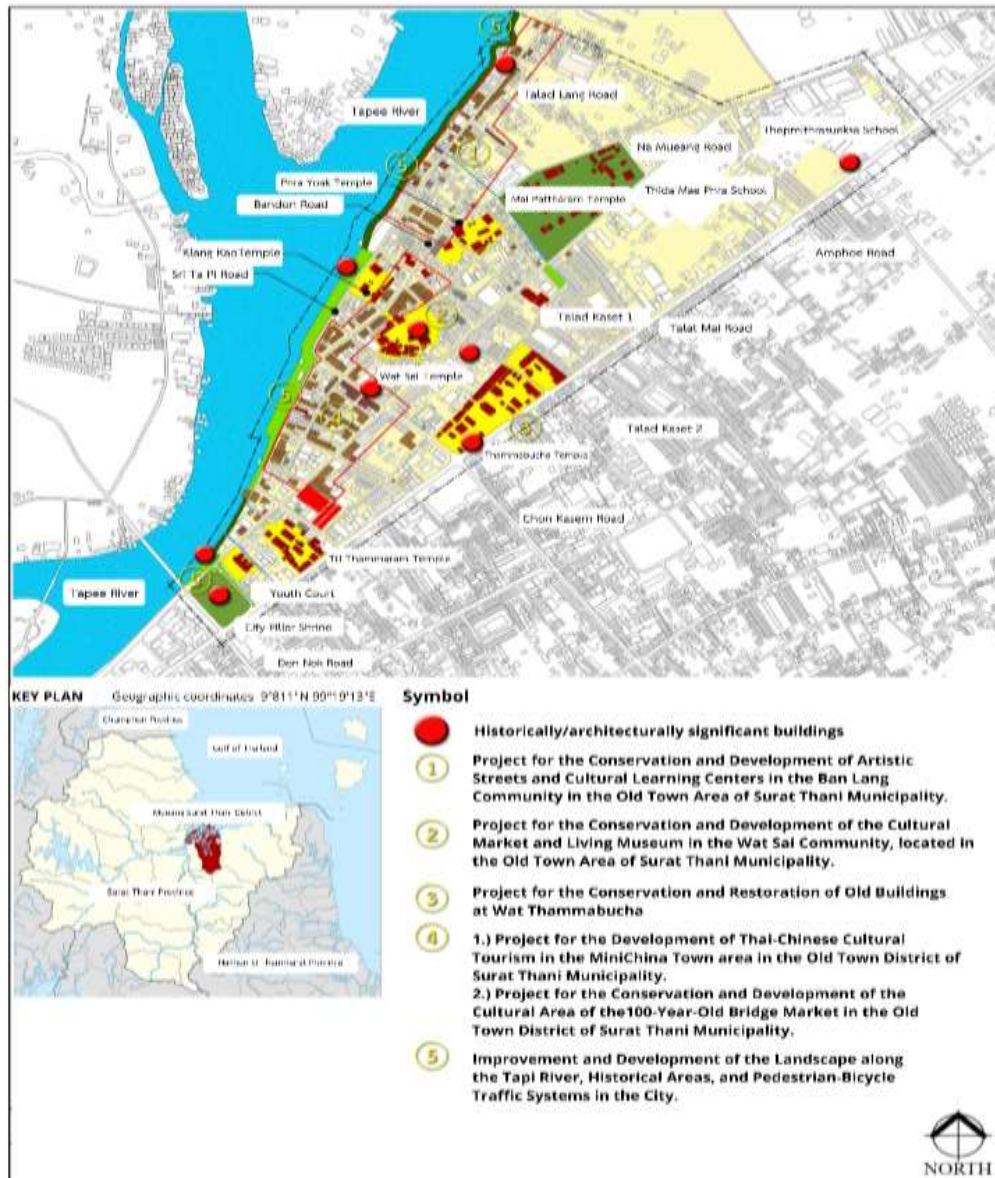
Figure 6. The Completed Master Plan

Furthermore, the research team and all relevant stakeholders have prepared to apply for smart city status following the "Announcement of the Smart City Development Steering Committee No. 1/2020 regarding the Criteria for Evaluation and Characteristics, Methods, and Procedures for Considering Smart City Status." A meeting was convened to establish a draft "Committee for the Development of the Old City Area into a Smart City within Surat Thani Municipality" to drive the process of seeking smart city recognition in the coming years, in accordance with the announcement.

After completing the comprehensive master plan, the research team organized a practical training meeting to develop public relations materials and web applications for disseminating the development guidelines and innovative approaches for conserving and developing the old city area within Surat Thani Municipality into a smart city. Utilizing information technology through various channels, including television media featuring significant cultural sites, wall art, graphic novels, and web-based applications or websites, as well as promotional events and activities. Furthermore, in collaboration with tourism entrepreneurs, led by Mr. Nattanawat Sakda, founder of the "Phanwaree Zone - The Greenery," the research team produced a television program titled "Explore Surat Thani's Old Town." The objective was to communicate the cultural

identity, artistic heritage, lifestyle, and significant tourist destinations in the old city area within Surat Thani Municipality through The Intelligent Facebook Fanpage. Additionally, the research team collaborated with Mr. Nattanawat Sakda and local government agencies, including municipal executives, Surat Thani Provincial Office of Tourism and Sports, Tourism Authority of Thailand (TAT) Southern Region Office 5, and the Surat Thani Chamber of Commerce.

Urban planning can take many forms, including strategic plans, comprehensive plans, community master plans, regulations and incentives, or conservation plans for old or historic cities. Modern urban planning began as a movement to counteract industrial cities in the mid-19th century and has evolved continuously. By the late 19th century, urban planning concepts had diversified, reflecting increasingly complex urban social systems. Ideas such as urban renewal and urban design were incorporated into urban development planning. In the late 20th century, urban planning started to emphasize sustainable development and planning, which focuses on physical, environmental, and social development. This approach encourages public participation in the planning process, a crucial concept that influences contemporary urban planning (Konisranukul, 2007; Taylor, 2007).

In addition, land use planning is a factor related to the physical, economic, and social systems of cities and communities. It is often used as a key strategy to control urban development in line with development goals and objectives. Nowadays, it often includes considerations for climate change. Studies in related fields have shown that land use planning is a crucial tool in the process of community climate change adaptation (Gleeson, 2008; Wheeler, 2004, Wilson, 2006).

Conclusions

The research project titled "Establishment of Participatory Spatial Mechanism for Conservation and Development of the Old City Area within Surat Thani Municipality into a Smart City" was conducted collaboratively by researchers and stakeholders from various sectors, including the public, government, private, social, and academic sectors. This project aimed to develop a participatory spatial mechanism for the conservation and development of the old city area within Surat Thani Municipality into a smart city, in alignment with this research.

The project focused on specific areas, including the Talad Lang Community, Na Dan Community, Wat Sai Community (Sarn Chao Market), Tha Ruea Community, Tapi Community, and Rat Uthit Community and contiguous areas. Data were gathered from community databases provided by the Department of Environmental and Cultural Heritage.

The project aimed to achieve three main objectives: (1) to develop a creative spatial mechanism and drive participation for the conservation and development of the old city area within Surat Thani Municipality into a smart city through collaboration with all relevant stakeholders; (2) to analyze problems and potentials in the old city area within Surat Thani Municipality through collaboration with all relevant stakeholders and (3) to propose guidelines and innovative approaches for conserving and developing the old city area within Surat Thani Municipality into a smart city through collaboration with all relevant stakeholders. This was achieved through a mixed-methods research approach, integrating quantitative and qualitative research methods, following the Participatory Action Research (PAR) and Community Action Planning (CAP) frameworks.

The project comprised seven main activities: (1) project briefing activity, (2) study, analysis, and data synthesis activity, (3) design and development of draft master plans and blueprints, (4) data retrieval and feedback activity, (5) completion of master plans and blueprints, as well as project promotion and communication through media and applications, (6) presentation and advocacy activities to promote master plans and blueprints into policies and (7) result summarization and lesson extraction activities.

In addition, a vision was born: "Surat Thani a livable smart city" and the policy is "9 model smart city municipalities" to create a better quality of life, including an excellent city, a clean city, a convenient city, a good city to visit, a healthy city, a happy city, a safe city, a city of opportunity and city with good traditions.

Strategic issues, 3 areas, objectives, 3 goals, strategies, 16 strategies, projects/activities, 60 projects/activities. Activities and indicators of the strategy According to the number of projects/activities by determining the master plan for conservation and development of the old city of Surat Thani Municipality according to the fiscal year according to the format "Short-Medium-Long Term Action Plan" means "short term" has an operational plan within 1 year, "medium term" has an operational plan from 1 year to 5 years, and "long term" has an operational plan of more than 5 years, in order to be convenient and adaptable to the situation or the budget of the Surat Thani Municipality Office and related agencies or sectors further.

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