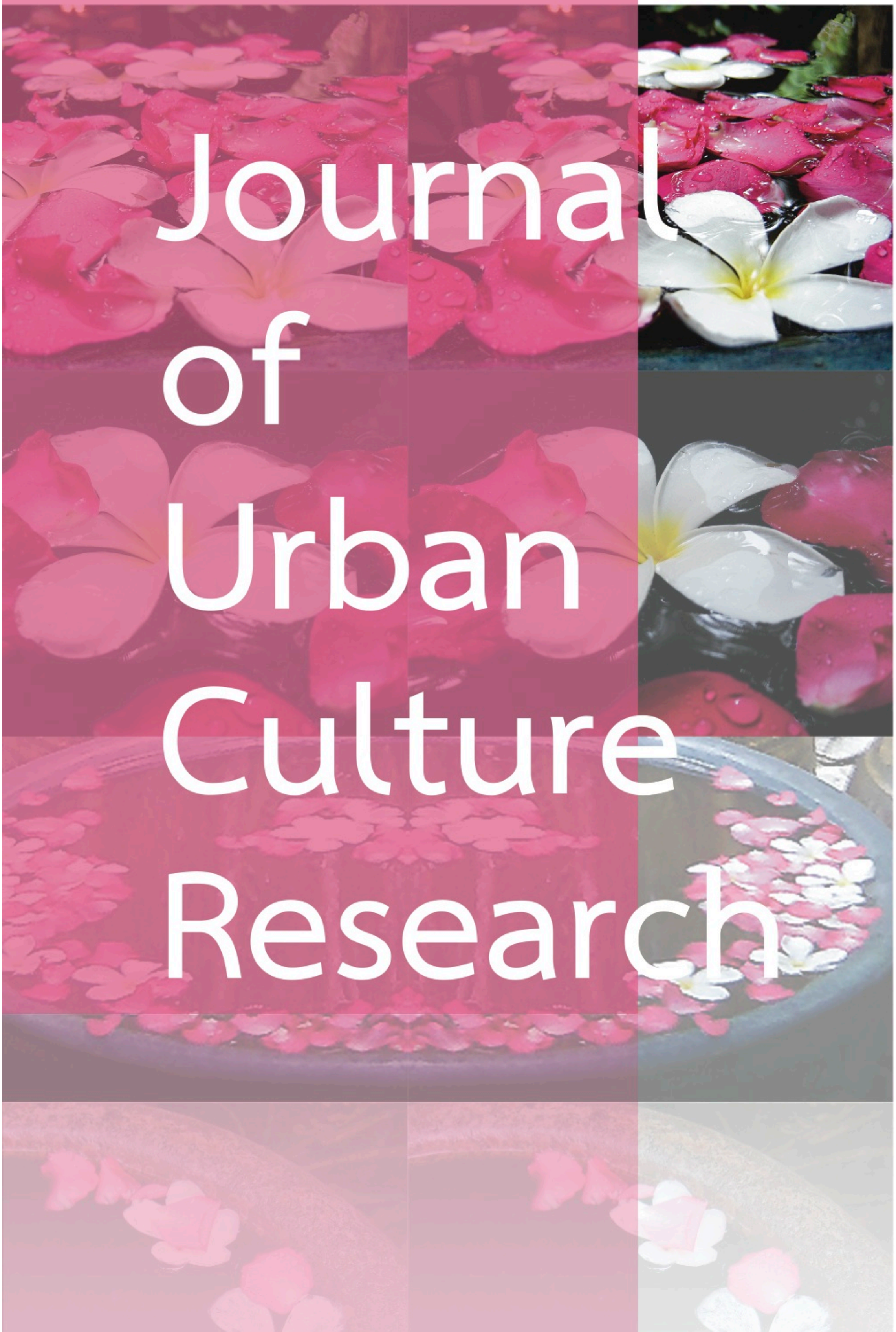
Journal of Urban Culture Research



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This volume is dedicated to Covid-19 caregivers.
Our cover images are floating blossoms in large Thai decorative jars provided by Alan Kinear.

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Editorial
Metaverse and Crypto Art During the COVID-19 Pandemic

Bussakorn Binson[+] Executive Director

The situation under the COVID-19 pandemic has caused changes in ones worklife and interpersonal communications due to health and safety concerns resulting in a distance and remoteness from one another. Many people managed to work at home or so called "work from home" facilitated by computing devices, the internet and software tele-communication platforms.

Computing literacy has become a basic skill needed for everyone not only for communications purposes, but to create more forms of online businesses during the locked down. Creation of a virtual world, following the *Second Life* concept (founded by Philip Rosedale, 2007) which provides an online space known as "Metaverse" for anyone to explore parallel to the real world, has become popular.

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The Metaverse aims are to create a realistic space where individuals are represented by personal avatars and provides an opportunity for people to socialize, conduct business to compensate for the needed social-distancing during the current pandemic.

The new digital medium for secure transaction known as *Cryptocurrency* is becoming evermore popular. This new digital currency has changed a sector of the arts business to be termed *crypto arts* which is based on and relies on blockchain technology. *Crypto art* has become more popular as humans are currently spending most of their daily lives at home and popularizing these technological fads and their related trends. Similarly, as more and more people are spending long hours a day online the news of this emerging new currency has easily drawn attention of consumers and profiteering speculators.

The advancements in artwork creation such as online art classes, virtual exhibitions and galleries have also become popular as it is the only way artists can continue to survive during the pandemic's ongoing and seemingly endless locked downs. Additionally, specifically instructions on creating 3D forms and virtual spaces have also seen increasing demand from students. The buying and selling of crypto art are considered to be good opportunities for many artists who want to become known as crypto artists as they can create their artworks, certify them online and put it up for sale on ad hoc platforms via their computer and no "traditional materials," need to be procured or transportation to a gallery. The only complication for new crypto artist is that one needs to purchase some cryptocurrency and create a digital wallet before they can connect to a *non fungible token* (NFT) platform. Afterwards, their artwork's file is uploaded and the setting up of an auction with a written description of its type of NFT and how the payment can be made. However, there would be what is known as a "*fee of gas*" (since crypto currency relies on energy-intensive block chains as the form of payment) and there is a platform commission per the agreement between the platform's owner and the posting artist.

The outbreak of COVID-19 is considered an evolutionary era in the field of art that has changed the expressive ecosystem not only regarding the ways of art creation, and the learning of arts, but the exhibition of artistic works as well as its business side. The Metaverse will certainly be an additional channel for arts related activities from this time on.

Each Metaverse location termed as "*town*" will have its own unique urban life just as in the real world. Each will become new centers for business and marketing venues. Going forward, it is important for artists to be well prepared for these changes and ready themselves to explore these new ways to live, to learn and to earn, in order to secure the future value of their art and income enabling survival in the post pandemic marketplace.

Articles

The Role of Cultural Creative Industries on the Revitalization of Resource-exhausted Cities

– *The Case of Tongling*

Yun Lei+ (China & South Korea)

Abstract

Cities in western countries have explored the developing model of culture-led city regeneration for decades and proved the positive role of cultural creative industries. This article demonstrate how cultural creative industries can be utilized to vitalize resource-exhausted industrial cities. It uses Tongling city as a case to investigates the relationship between cultural creative industries and city revitalization through the realms of economic development, city space reconstruction and citizens' well-being. Analysis is conducted from literature analysis, document analysis, in field investigation and interview. With Tongling as a case, this article hopes to provide an example of cultural-led revitalization in resources exhausted cities to realize city revitalization and industrial upgrading.

Keywords: *Cultural Creative Industries, City Revitalization, Resource-exhausted Cities, Culture-led Strategy*

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Introduction

In the post-industrial world, cities need to find out new ways to redevelop and achieve economic development. The cultural industries have gradually been an important economic growth area. In the UK, Policy makers see the cultural industries as a key sector for stimulating flagging urban economies (Lee, 2014).

For now, creative industries have already been the pillar industry and showed its positive role in city revitalization in some world-famous cities in some developed countries, helping cities to improve city image, and promote economic performance, as a result to realize a more sustainable development, for example in LA (McCarthy, 1997) and London (Lee and Drever, 2013). In developing countries, for example in China, cities like Beijing and Shanghai also take initial trials to develop cultural industries in order to gain international competitiveness(Jan van der Borg, & Erwin van Tuijl, 2010; Sing & Yoh, 2016). The culture-led strategy has become a popular model for city regeneration all over the world because of the rising popularity of cultural and creative industries for their positive role in promoting economic growth and social development. However, it also receives criticism from the academia because the simple replication of the culture-led development model may be not suitable for all cities (Evans, 2005). For examples, in small cities, they don't have rich cultural resources as the international big cities have, whether cultural industries can still play a positive role in city revitalization in small and less well-known cities needed to be proven.

In China, there is a group of industrial cities which relied on natural resources to realize city development in the first place, with the depletion of natural resources, these cities are eager to find new ways to realize transformation and revitalization. In this research, Tongling, an industrial city with exhausting resource in China will be analyzed as an example to solve the research questions: whether cultural creative industries positively influence urban revitalization of resource-exhausted industrial cities; how cultural industries influence urban revitalization.

To solve the questions, first, a comprehensive literature on urban revitalization, culture-led strategy, cultural creative industries, and their relationship will be reviewed, then the research gaps will be identified including the necessity to conduct research on the relationship between cultural industries and urban revitalization in small industrial cities with exhausted resources, and three dimensions of urban revitalization. At last, the case of Tongling will be illustrated to see whether cultural creative industries will influence city redevelopment in terms of economic growth, city reconstruction and citizen's well-being.

Literature Review

Urban Revitalization

After 1990s, the major development countries were facing the challenges of industrial upgrading to rejuvenate economy. Then urban revitalization has been brought into discussion as an approach to improve economic, social and environmental conditions. McCarthy (1997) introduced the case of Detroit and its revitalization process in the US, hopefully to forestall the pressures for decentralization and social polarization. Similarly, El Menchawy (2008) introduced the revitalization example of Mediterranean cities including Genoa, Italy, Barcelona, Spain, and Alexandria, Egypt. The successful cases provided valuable reference to other cities. Urban revitalization is considered as a multifaceted concept, it involves multiple aspects of city development. Besides the improvement of living environment including renovation of city structure, buildings, neighborhood, it also focuses on economic development, humanities, and even social and natural balance in an attempt to achieve the comprehensive regeneration of old cities, enhance urban functionality, and ultimately realize green and sustainable development (Chiu, Lee & Wang, 2019).

To realize urban revitalization, multiple strategies have been investigated. Economic activity is a widely accepted way to foster city regeneration like economic development programs (Forbes, 2006), financial institutions (Black, 1979), besides, setting up public service facilities like hospital (Day, 2016), convention centers (Sanders, 2002), and office complexes (Fainstein, 1994) also helps boost local development. Among all the urban revitalization strategies, culture-led strategy attracts increasing attention as a breakthrough in urban development.

Culture-led Strategy and Cultural Creative Industries

Culture led strategy is a popular city development approach because it is an eco-friendly developing mode that can deepen cultural identity of cities (Chiu, Lee & Wang, 2019). It utilizes cultural facilities and cultural activities to realize urban change, for example, constructing cultural facilities like art galleries, preserving city cultural festivals, (Grodach & Loukaitou-Sideris, 2007). The policy makers and academia have a better understanding about it from early attempt to use culture and art to rejuvenate cities, to later popularity of developing cultural creative industries (Chiu, Lee & Wang, 2019). Cultural creative industries also receive increasing attention as the embodiment of culture-led strategy.

In 1998, CIMD (Creative Industries Mapping Documents) was issued (DCMS, 1998), Scholars have different understandings about cultural creative industries. Throsby (2008) believes that cultural industries have three distinctive features: creativity, embodiment of intellectual property, and carrier of cultural symbolic meaning during production process. Yi and Fang (2011) stress that the dynamic nature of cultural creative industries. According to China's National Bureau of Statistics (2012), cultural industries are defined as the activities that provide cultural products and cultural related services to the public, examples include radio, TV and film services, cultural leisure and entertainment services, creativity and design services.

Cultural creative industry is the application of culture-led strategies. For example, culture-led strategy urges investment in cultural production like cultural creative industries (Chiu, Lee & Wang, 2019). Developing cultural industries follows the trend of culture-led urban revitalization strategies, besides, because of the industrial nature of cultural industries, it helps to promote cultural production and consumption, as a result, gaining importance as an effective way to achieve city development.

Relevance of Cultural Creative Industries and Urban Revitalization
Cities in different parts of the world have been used to illustrate the influence of cultural industries on city revitalization in terms of process (McGuirk & MacLaran, 2001), strategies (Sasaki, 2010) and achievements (Evans 2005). Case studies are presented in cities like Cleveland (Koos, 2013), Glasgow (Turok, 2003) in the US and the UK, as well as small cities in developing countries with rich tourism resources, like in Indonesia (Idajati, 2014), Cyprus (Doratli, Hoskara &Fasli, 2004). In China, the related research of cultural-led city development are focused on international big cities like Beijing (Jan van der Borg, & Erwin van Tuijl, 2010), Shanghai (Sing & Yoh, 2016). There's less evidence from small or middle-sized cities.

To achieve city revitalization, cities are in pursuit of comprehensive development of economy, society and culture. Economic growth is a very important symbol of development. Cultural industries have grown in regional economic importance (Peltoniemi, 2015), examples include cities in Iran (Hanjari et al., 2020), Canada (Ochoa & Ramírez, 2018) and Sweden (Power, 2002). Wynne (1992) found out that cultural industries development not only promoted the economic development in some big cities in Great Britain, but obviously helped economic transformation and development in some traditional industrial cities in northwest England. The rapid development of regional cultural industries enhances regional image, attracting high-level investors and high-quality workers, and ultimately promotes regional economic growth. Even during global financial crisis, the cultural industries still contribute to economic growth or at least slowing the economic recession (Grodach & Seman, 2013). Besides, cultural industries have higher added value, lower material consumption and less environmental pollution. It contributes to regional sustainable and green development. (Bararatin & Agustin, 2015).

Occurrence and spatial patterns of creative industries have important function in reshaping urban structure. For instance, cultural flagship projects helps to re-image St Petersburg(Trumbull, 2014), similarly, cultural activities like film industries are used as urban planning strategy in France (Aubry, Blein & Vivant, 2015). Fahmi, Koster, and Van Dijk (2016) analyze the effect of cultural industries on location improvement in Indonesia. Post-industrial areas in Poland are reconstructed as the result of developing cultural industries (Konior & Pokojska, 2020). Cultural industries help cities to save idle land, thus improves the urban functionality (Pazhoohan & Poormoghadam, 2018). These two aspects, economy and city planning are stressed. Stern and Seifert (2010) cultivated neighborhood cultural clusters in Detroit, enriching the life of the citizens and bringing them happiness, which is in accordance with Evans' (2005) claim that culture-led urban regeneration strategy contributes to the well-being of the dwellers.

The previous literature shows that cultural industries help cities to revitalize themselves in different aspects, like economic growth, environmental improvement, city spatial pattern reshaping, better neighborhood environment and people's cultural life. However, there are also some critics about this culture-oriented development mode. Stevenson (2004), Markusen and Gadwa (2010) claim that cultural investment contributes to economic growth rather than comprehensive social development, and in addition, helps to satisfy the needs of tourists more than those of local residents, which is not inclined to be a long term development. Besides, researchers find out that the popularity of culture led strategies lead to increasing homogeneity in different parts of the world (Van Aalst & Boogaarts, 2002). Researchers assert that a simple replication of this model is unlikely working for all cities (Evans, 2005). However, this culture-led development model still worth trying (Colbert, 2011).

Research Approach of the Related Studies
The relationship between cultural industries and urban revitalization has attracted researchers' attention around the world. In terms of research approaches, case studies are used most frequently to demonstrate the creative industries with distinctive features and its positive role in different dimensions of region revitalization, because the history and foundation of cities, and the application of cultural industries are so different. Some scholars use empirical approach to evaluate economic growth brought by creative industries (Huang, Chen & Chang, 2009; Lee 2014; Liu & Chiu, 2017).

Summary of the Literature Review
Because of the practicality of the culture-led revitalization, most cases and successful examples are introduced. Researchers focus on analyzing the effective cultural industries models. The theory foundation is not solid, a stronger theoretical framework is needed to guide the cases of culture-lead urban revitalization. Besides, in China, the research regarding culture-led city transformation of small and industrial cities is limited. Small-sized and industrial cities need new chances to develop more eagerly. So, cases of small-sized and industrial cities to see whether cultural industries can also contribute to urban revitalization is essential. Last, though urban revitalization is a multifaceted concept, many studies consider the effect of cultural industries on certain aspects of city revitalization, like economy and urban planning just as mentioned in the previous part. Culture embodies meaning of life, it is closely related to human psychology and activities. For social development, people play an important role and at the same time, their feelings of well-being are also perceived as a symbol of social development level (Jovanovic et al., 2019). However, the humanity results of culture-led urban revitalization is less valued (Chiu, Lee & Wang, 2019), therefore, when discussing urban revitalization, a more comprehensive measurement that takes citizens' life into consideration should be used to investigate the role of cultural industries in small sized, industrial exhausted cities, not only from economic growth and city planning aspects, but from the life of the citizens.

Conceptual Framework
Based on the research gaps revealed from the literature, this research will follow the research framework to study the effect of cultural industries on urban revitalization of small industrial cities.

Two major theories are adopted to guide the research. One is the theory of sustainable development. (Brundtland et al., 1987). It refers to the development that not only meets the needs of contemporary people, but also does not harm the ability of future generations to meet their needs. This theory is in accordance with the concept of culture led urban development model. When we take into consideration the revitalization of cities, social and environmental aspects are also important symbols (Chiu, Lee & Wang, 2019). For the case of industrial cities, they are more eager to find new economic growth pole which can also help to amend the environmental trauma caused by industrial production and improve the living environment of residents. Therefore, it is useful to guide this research when considering whether cultural industries could revitalize the small-sized industrial cities sustainably.

Second is the theory of urban organic renewal proposed by Wu (1994) in Shichahai (Beijing) planning. He generalized the theory as the transformation of cities should take into consideration the original urban texture to carry out gradually renewal of the city. He also believes that the organic renewal of the city should not only pay attention to the protection of the ecological environment, but also comprehensively consider the historical, cultural, aesthetic, and cultural factors. This theory is suitable to study culture-led city revitalization in industrial cities. For small-sized industrial cities, it is impossible to totally abandon the industrial traits. To revitalize these cities with their original city characteristics is an ideal way. For example, Konior and Pokojska (2020) introduced how to use industrial heritage in urban revitalization process in Poland. Culture-led urban regeneration strategy initiates preserving cultural traits (Grodach & Loukaitou-Sideris, 2007) to revitalize cities, and culture is of distinctive local features. So, for culture-led city renewal in industrial cities, it is necessary to explore whether cultural industries contribute to sustainable development and city revitalization that is in accordance with local conditions. With the guidance of the two theories, this research will focus on the relationship between cultural creative industries and urban revitalization in small-sized industrial cities.

This research follows the definition and classification of culture creative industries by China's National Bureau of Statistics (2012) because of the following reasons: this article aims to analyze the influence of cultural industries in Chinese context. Chinese governments are now initiating the development of cultural industries with policies like tax reduction, only the branches of cultural industries acknowledged by the Chinese authorities can get these preferential policies so that governments and practitioners follow a Chinese model to develop creative industries in Chinese cities. Besides the reports on the development of Chinese cultural industries also follow Chinese classification and definition of cultural industries.

In order to see whether cultural industries contribute to a sustainable and organic urban revitalization in a comprehensive way as the research gap indicates, we use the following dimensions measure urban revitalization based on the literature review.

First is economic growth. It is a widely accepted standard of urban revitalization, especially the fact that culture industries promote a green and sustainable urban economic development mode (Grodach & Seman, 2013; Bararatin and Agustin 2015). Besides, city reconstruction is another symbol of culture-led urban revitalization because of the positive role of culture industries in changing the spatial arrangement of neighborhood and utilizing idle land (Fahmi, Koster & Van Dijk, 2016). Most importantly, no matter it is economic growth, a better city space, the ultimate goal is to bring a better life to citizens, increasing their sense of happiness. Happy and healthy citizens represent a high-level city revitalization, and they can also work together to further vitalize their cities. Just as Evans (2005) mentioned, culture led urban revitalization enhances the well-being and social participation of residents. Researchers have claimed that residents' subjective well-being is perceived as an increasingly important indicator of societal progress (Jovanovic et al., 2019). So, citizen's well-being will be used as the third dimension to measure urban revitalization. Based on the discussion and literature review, this research will adopt economic growth, city reconstruction and well-being of the dwellers as three dimensions to measure whether cultural industry also works positively in small industrial cities.

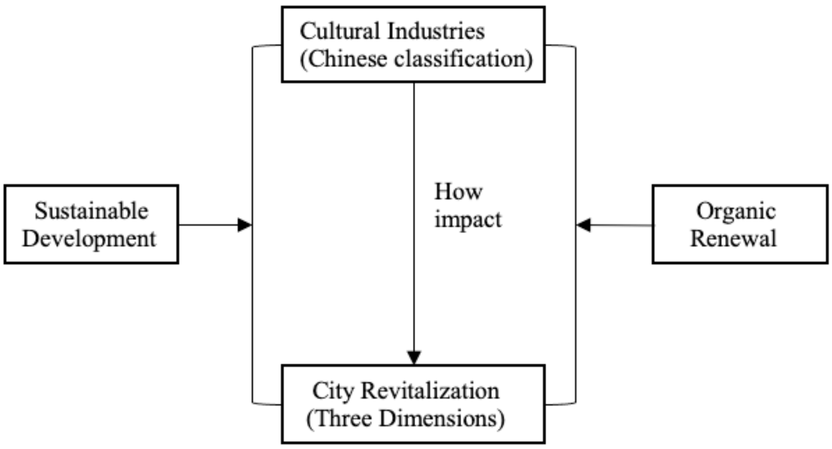

Figure 1. Flowchart of the conceptual framework.

Research Methodology

The research was conducted by a case study analysis method. Tongling is adopted as case of resource exhausted cities in China to see the link between cultural creative industries and city revitalization for the following reasons: (1) It is a representative industrial city with exhausted resources which was identified as one of the sixty-nine resource-exhausted cities by China's state council (National Development and Reform Council, 2007) (2) Though it is a major industrial city, it has good foundation for cultural industries, which will be explicit in the following parts. And this essay will conduct a case study to see how creative industries influence urban revitalization in Tongling. This research is based on case study of the emerging cultural industries in Tongling and is conducted through analysis of documents, field survey, observation and in-depth interviews with industry practitioners and citizens to find out how cultural industries affect the city development and their lives.

The Case of Tongling

An Introduction to Tongling

Tongling is an industrial city sitting alongside the lower ranches of Yangtze river, covering an area of 3008 square kilometers. In 2019, the population is 1.64 million (Tongling Statistics Bureau, 2019) The pillar industry of Tongling is copper mining and processing which brought impressive economic achievements for many years. However, relying too much on natural resources made the industrial structure of Tongling simple and vulnerable. Tongling is an epitome of cities which used to rely heavily on mineral resources. After decades of extraction and processing of natural resources, the traditional industrial city is now facing challenges because of the depletion of mineral resources. It was given the title of "resource-exhausted cities" along with 69 other Chinese cities by Chinese government (NDRC, 2007). And heavy industries did harm to the environment, for example acid rain, and poor air quality. Economy and people's livelihood were seriously affected. The city is eager to find a new way to and revitalize the city.

Basis for Cultural Industries Development

In recent years, the government is trying to find new ways for city development. The trend of developing cultural creative industries influence Tongling's development. Tongling is an industrial city, however, it has good foundation for cultural industries. The basis for developing creative industries is listed in the following section.

Cultural Resources: The unique and rich copper culture is the foundation. Tongling is called "ancient copper capital" in China. The history of mining and processing copper dated back to more than two thousand years ago and it has been continuing till now. There are many ancient mineral remainders (see in Figure 2) which are rare from scale to time span in China. And the mining history generated the literature on the subject of industry in China.

Figure 2. Jinniu ancient mining relic. Source: from www.csteelnews.com/special/602/606/201206/t20120621_67887.html.

Besides, the Yangtze River flow across the city. Beside the river, traditional riverside Hui style house are well preserved in old towns, so are the traditional lifestyle and folk culture see in Figures 3 and 4. The combination of copper culture and river culture give unique cultural capitals to Tongling.

Figure 3. Street view of Datong Ancient Town (Entrance). Source: the author.

Figure 4. Street view of Datong Ancient Town (Main street). Source: the author.

Physical Environment: The emergence and development of creative industries need "new space" in cities, and the creative industries prefer inner cities, especially the old warehouses, old factories, and other uninhabitable areas (Turok 2003). In Tongling, with the acceleration of urbanization and economic transformation, the factories, mines, and factories that once represented the industrial civilization of the city gradually withdrew from the historical stage, which provide the perfect “new space” and materials for creative industries.

Policy Support: being a resource exhausted city, Tongling was granted 2.05 billion rmb of national-level funding in total by 2016. This funding is used to restore the geological and ecological environment of mines. (NDRC, 2012). It financed mine redevelopment, providing space for cultural industries. The local government also thrives to support cultural industries to realize industrial upgrading and city revitalization though issuing active policies, including Tongling Copper culture and related industry development plan 2012 to 2020 (Tongling culture and tourism committee, 2012) and decision to establish national public cultural service system demonstration area (Tongling Municipal People's Government, 2015) and established Tongling cultural and creative industry center in 2013, creating good environment for cultural industries investment, incubating creative companies and providing impetus for the rapid development of cultural and creative industries.

Cultural Industries Development

In general, the cultural industries sector grows fast in Tongling in the past few years. Figure 5 shows a stable increase of the numbers of enterprises in the cultural industry sector since 2015. The cultural enterprises show a good momentum of development (The number of enterprises in cultural industry section is not listed separately before 2015). The number of cultural industries enterprises is from Tongling statistical yearbook. The numbers include enterprises which belong to the classification of cultural industries by China's National Bureau of Statistics (2012). As shown in Figure 6, though the total investment in mining sector is still more than that of the cultural sector, however, the increase rate of investment in cultural industry section is faster from 2017 to 2019. (The investment of cultural section is not listed separately before 2017).

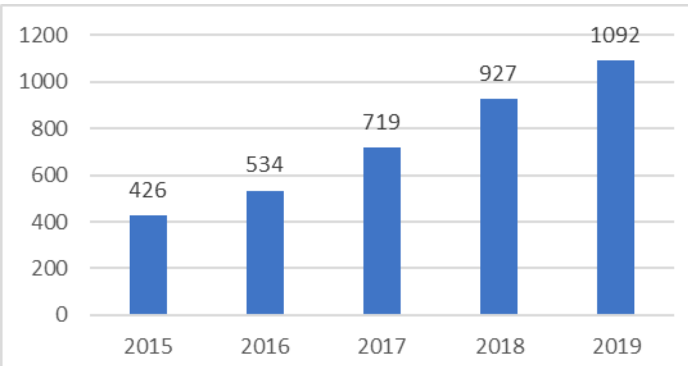

Figure 5. Numbers of the cultural industries enterprises. Source: Tongling statistical yearbook, 2015-19.

Figure 6. Investment to cultural industries and mining section. (billion). Source: Tongling statistical yearbook, 2017-2019.

Economic Impact

The primary impact of Cultural industries on city revitalization is shown in economic development. Development of cultural creative industries contributes to a new economic growth area. The revenue generated from the cultural sector increase as shown from 0.933 billion in 2015 to 2.23 billion in 2018 in Figure 7.

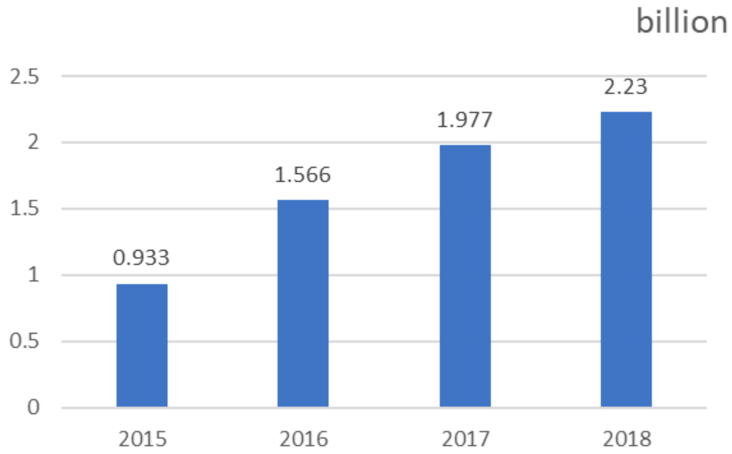

Figure 7. The revenue generated from the cultural sector. Source: Tongling statistical yearbook, 2015-18.

The second dimension in terms of economic growth is that creative industries provide more job opportunities. From 2015 to 2019, the number of people engaging in cultural industries increased 58%, show in Figure 8. The increasing number of practitioners is a good sign of the successful operation of the industries and on the contrary, the increasing number of creative practitioners also benefits the development of the industry and help to achieve further economic growth. The increase results from the good momentum of development for enterprises in cultural section. It is in accordance with the development of cultural enterprises. With the consistent investment to cultural section and policy support, the increase trend is expected to continue.

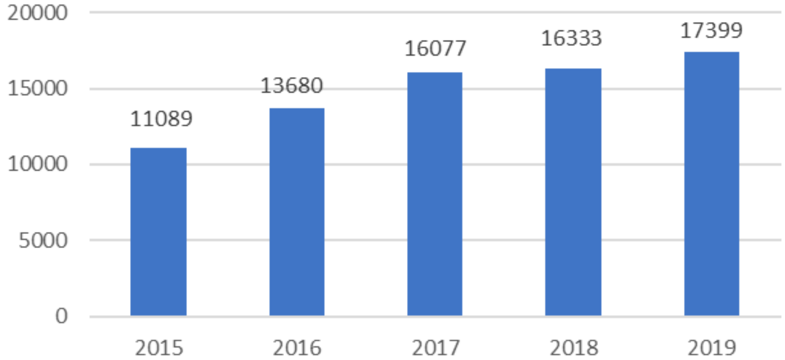

Figure 8[1] . Numbers of practitioners in cultural sector. Source: Tongling statistical yearbook, 2015-19.

Except formal cultural creative practitioners, cultural industries also provide more job opportunities and stimulate economy in a broader sense.

> "I was born and raised here in Datong, I used to be a housewife at home. Six years ago, Datong town was named "Famous Historic and Cultural Towns of China," more and more people from downtown and nearby cities, visit here on weekends, even more in holidays. Most choose to eat here, so I run a small family style restaurant, I have fresh fish from the river and organic vegetables grew by ourselves, and it runs well…it is also a TV and film base, last year, TV serious were shot here, they pack food every day from my restaurant and others…"
>
> Interviewer A: a small restaurant owner, female, Datong Ancient Town

It reveals that cultural creative industries play a vital role in dealing with surplus labor force and promotes the economic vitality. Cultural industries for example TV and film services, as well as leisure and entertainment services take advantage of the unique cultural and historical resources in Tongling to achieve the development of themselves. It is consistent with Wu's (1995) idea of development with urban texture. And the successful development of these industries like film and entertainment services also realize its unique strength in developing local economy and produce more job opportunities for local labor force. And the economic benefit is not a one-time thing. They have a lasting advertising effect, for example, after the TV and film shot here being released, it will further promote local fame and bring more economic benefits, realizing a sustainable economic development mode.

City Reconstruction Impact

Tongling has a long industrial history, the ancient and modern industrial remains are well preserved. By reusing the industrial plants and industrial land to construct tourism attractions, it not only reasonably protects and utilizes the cultural and historical resources, but also make the historical resources obtain new functions and market values. Currently in China, building cultural creative park is the major measure to reuse the rich resources of industrial remains, like 798 art district in Beijing (Jan van der Borg & Erwin van Tuijl, 2010). Building cultural park is a comprehensive form of developing cultural industries which integrates film, entertainment, cultural creativity and design services. In 2017, Protection Plan for Historic Buildings and Industrial Heritage in Tongling has been released, identifying 157 industrial heritages, and making plans to protect and reuse these industrial remains. The government encourages to utilize these low-cost abandoned industrial remains like abandoned mine plant or factory buildings to support the development of cultural industries. Based on document analysis and field study, several cultural industry projects have been established and under construction, including Tongling 1978 cultural creative park, Tongguanshan Mine Park (already established), Yun Gu Li painters' village (under construction).

Tongling 1978 cultural creative park and Tongguan mountain mine park are good examples of reusing industrial remains. The Tongguan mountain mine park was designed and built on the relics of an ancient mine with the theme of displaying historical landscape of mining (see in Figure 9), it shows the restoration of the damaged mine land, which is recovered now (Figure 10). It provides the city with new space of specific scientific and cultural connotation and ornamental value. Tongling 1978 cultural creative park which integrates life, culture and art restores the scenes of copper production and life of miners by using the remains of the mine and miners' residential areas in 1960s and 1970s (see in Figure 11, 12, 13 and 14). It covers an area of 48.88 mu, with a total construction area of 15,500 square meters. It used to be abandoned mine plant and miners' residential area (Figure 15). Below are views of the mine park.

Figure 9. Entrance of the mine park. Source: the author.

Figure 10. Restoration of mine land. Source: the author.

Figure 11. Image of the 1987 cultural creative park office building & logo. Source: the author.

Figure 12. Restoration of mining factory and residential area. Source: the author.

Figure 13. Copper statue simulating the wedding ceremony of the miners. Source: the author.

Figure 14. Copper statue simulating the scene of miners having lunch. Source: the author.

Figure 15. Old mine plants and residential area of miners in the 1970s. Source: materials from 1978 creative park.

> "It used to be a mine plant; it was derelict since it stopped mining in 1990, I lived nearby, compared with downtown, high buildings, it was really dilapidated…several years ago, they started to build the park. I heard it is a national level creative park… It's much lively now. Many people take their children and parents here…17th bus line, very convenient. Tongling Citizens are more or less involved in the mining industries, revisit here, very nostalgia. You can see, there are many small workshops like copper art craft studio, photographic studios, live streaming studios in the building. It is said that it will also be served as a film shooting base…"
> Interviewer B: a security personnel of 1978 creative park, male

Cultural and creative industries help city reconstruction through reasonably reusing of space. In Tongling's case, the major functioning form is cultural creative park. Both cultural park projects reuse abandoned industrial remains, together with the original cultural environment such as industrial land, industrial buildings, and commercial activities. They integrate Tongling's industrial heritage with creative industries and are good examples of organic renewal of city space for it reshape the space while keeping unique the cultural character of the space.

As the example indicates, the original abandoned industrial land and buildings were transformed thoroughly. These lands were useless, and it harmed the urban appearance, they rebirth to revitalize the neighborhood. Besides, the development of cultural and creative industries in the form of cultural park drives the improvement of the surrounding infrastructure such as traffic and ecological environment and it also reshapes the public space to create a space that can unify different cultural creative industries. As more and more cultural parks are going to be built in Tongling, they will continue to reconstruct the city, transforming the idle industrial vestige into new city space.

Citizen's Well-being Impact

In Tongling's case, besides economic development and city space reconstruction, city revitalization can also be manifested from other aspects. For instance, residents' well-being is a notion that is correlated with social, economic, and cultural characteristics of a district (Diener, 2012). Researchers have claimed that residents' subjective well-being is perceived as an increasingly important indicator of societal progress (Jovanovic et al., 2019).

Positive role of cultural infrastructure in urban renewal has been discuss by Koos (2013). During the past ten years, after the policies of initiating national public cultural service system demonstration area (TMPG, 2015), a series of new public cultural infrastructures that aim to enrich citizens spiritual and cultural life have been designed and built.

> "The cultural atmosphere seems very thick in Tongling in recent years. The museum and library are newly built. Every week, I come here with my son, he read books here, I can drink a cup of coffee and enjoy the beautiful river view, too. Reading books and visiting library is popular, if you have nothing to do, reading is always a good choice. And the library is really special fancy, I like it."
> Interviewer C: A female in library

The new library of Tongling is the only comprehensive cultural center integrating city library, university library, and bookstore in China. It also has its creative brands. And currently 54 public reading rooms subordinated to the library (TSB, 2019) are distributed in Tongling with different landscape features for example botanical garden reading room (see in Figure 16) and riverside wharf reading room (see in Figure 17). Large number of libraries are planned as attractive magnets in the revitalization of cities (Skot Hansen, Hvenegaard Rasmussen, and Jochumsen 2013).

Figure 16. Public reading room in the botanical garden. Source: the author.

Figure 17. Riverside wharf reading room. Source: the author.

Another example In Tongling is the new public museum which displays the long history of bronze civilization, antique treasures of Tongling. It integrates domestic and foreign bronze culture for academic research and tourism and leisure. It now has become a new cultural tourism landmark of Tongling City.

Citizens are mentally benefited from the public cultural infrastructures a lot. It increases their sense of well-being. Museum and Library are free for citizens. The free access of cultural infrastructures provided cultural destination for citizens during weekends. Museums helps citizens know the history of the city better, enhancing their pride in their city. And public libraries and reading rooms obviously enrich the spiritual world, help to forester an atmosphere for reading, and provide a solid cultural support for the transformation and development of Tongling. The positive effect of culture will be in a long run, affecting generations.

The creative industries also obviously change the city environment, thus enable citizens to have more choices in terms of leisure time. The creative parks and zones also become new popular destination for citizens (Interviewer B). As citizens of an industrial city, people used to have less options for cultural activities. Their life after work is less colorful than dwellers' of big cities. Developing cultural industries is an effective and economical way to enrich their life, and the results is promising in Tongling, therefore, the cultural industries greatly contribute to well-being of citizens in Tongling.

Conclusion

In the post-industrial era, countries and regions are eager to find out new economic growth pole. In western countries, the positive role of cultural creative industries in city renewal has been proved, and cultural creative industries has become an increasingly important measure to realize inclusive growth all over the world. In china, many industrial cities are enduring difficult time with depletion of industrial resource, cities lost their pillar industries for economic growth which is leading to a stagnant economy. This article investigates whether small cities, especially those with comparatively less cultural resource, is also capable of developing cultural industries and to see how creative industries impact city revitalization.

The Tongling case shows that cultural creative industries also play a positive role city revitalization. The impact is reflected in three major dimensions. Cultural industries, for example, developing film and TV services as well as entertaining and leisure services helps city to achieve economic growth, providing more job opportunities to vitalize the employment market. Besides, due to the characteristic of the agglomeration of cultural creative industries, reusing historical relics contributes to organic renewal of the city space, in Tongling's case, constructing cultural creative parks. And at last, also the innovation of this research, they article discusses how cultural creative industries affect citizens' sense of well-being through free access to public cultural infrastructures and the promotion of cultural activities and cultural short-distance tourism.

The implication of this research is that with the case of Tongling to demonstrate how cultural creative industries impact city revitalization, hopefully this article will provide an economical, sustainable, environmentally friendly, and creative development model for policy makers, city planners of other industrial cities who are also eager to realize city revitalization.

Endnotes

1 For the numerical number of Figure 5 to 8, the years are not consistent because in statistical yearbook, the data of the four dimensions regarding the cultural industries are not collected in every year, however, the four figures show a statistical trend regarding the cultural industries development.

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Knowledge Distribution on Smart City Research:

An Overview of Systematic Literature Reviews

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Abstract

The proliferation of smart cities around the globe has attracted research communities in academic debates. As a fast-growing research subject, huge amounts of studies are available in documenting smart cities. While literatures provide many review papers synthesizing knowledge from empirical and case studies, systematic review dedicated for review papers is still rare. This paper aims to fill this gap by identifying knowledge distribution in smart city scholarships drawing from review papers including systematic literature reviews, bibliometric and scientometric. To achieve the objective, a Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) protocol was conducted filtering 86 review papers to 16 final selected papers. The underlying concepts and knowledge distributions of smart city research such as research focus and scientific domains were summarized. This present study identifies research lacunae in smart city research thus future research agenda is proposed accordingly.

Keywords: *Smart Cities, Systematic Literature Review, PRISMA, Bibliometric, Urban Growth*

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Introduction

Smart city has gained tractions since its emergence in the urban development literature. The first study of smart cities can be dated in 1994 (Cocchia, 2014) which previously known as 'smart growth' (Susanti et al., 2016). Different timeline was claimed by Ingwersen & Serrano-López (2018) who argued that it was in 1999 when Mahizhnan (1999) put 'smart cities' in the title of his academic publication to report Singapore as a nation city state implementing smart urban initiative. A decade later, since 2010, the topic has been a fast-growing subject and more publications flourishing within academic fore from various research communities (Mora, Bolici and Deakin, 2017). The average annual growth reached 175 papers between 2014-2018, indicating a booming in publications during that period known as rapid development stage (Zhao, Tang and Zou, 2019).

To test 'the water,' a simple algorithmic query through Web of Science (WoS) and Google Scholar using the key word "smart city*" or "Intelligent city*" or "digital city*" or "ubiquitous city*" or "information city*" or "knowledge city*" from 2000-2020 was conducted on January 7, 2019. From WoS database, 5985 records were acquired of which more than half belong to computer and engineering subjects. The amount of available information was even much higher in Google Scholar reaching 1,530,000 results. This indicates there is a huge interest in studying smart city as a research subject in the last 20 years. Given these numbers, it is relatively difficult to thoroughly map and identify the states of smart city research due to its plethora. Other issues deal with subjectivity, transparency and time-consuming within the process of literature review.

The present study addresses these challenges by narrowing down the analysis to the selection of works which capture general picture of smart city research. This can be done by focusing the analysis on review paper consists of systematic literature review, bibliometric and scientometric articles. It allows us to grasp and identify the knowledge domain, theories and concepts development and academic debates in smart city research without conducting any new study or exhaustive literature review from available in the database. In other words, review papers scrutinize and summarize the state of knowledge of given topics sourced from available literatures.

Exploiting these three types of paper, I wish to maximize their merits to achieve my objectives: (1) obtain a holistic perspective smart city research by identifying and mapping the themes and spatial locus of smart city research (2) hinder information overload from huge amount of literature available in the database (3) maintain objectivity and minimalized bias and (4) set a new research agenda for future study in order to address research lacunae in smart city studies. One may ask a basic question on what state of knowledge can be acquired from smart city research provided by literature. Referring to the objective of review, I frame the main inquiry related to the underlying concepts and knowledge distribution informed by review papers. Thus, I can identify smart city research lacunae and propose future research agenda. The main inquiry can be elaborated into three review questions which will shed the light on research gap and lead to the new avenue of further studies.

1. What are the underlying concepts, drivers and outcomes of smart cities informed by literature?
2. Where are the studies of smart cities loci? In which countries or regions did smart city research were conducted?
3. What scientific domains do smart city researches based on?

The remaining section of this paper will present the method and procedure of the review. It describes the overview of reviews rationale, source of reviewed papers and how the final pool of papers selected. The next section reports the descriptive analysis of selected reviewed papers, distribution of study locus from geographical perspective, research domains and other important findings structuring smart city body of knowledge. The final section exposes the smart city research lacunae, conclusion and suggested future research agenda.

Review Methods and Procedures

An overview of reviews was conducted to summary general knowledge and identifies the progress, major theory development and academic debates of smart city scholarships. The terminology of 'reviewing' review paper has various labels such as systematic review of systematic reviews, umbrella review, review of reviews, summary of systematic reviews and synthesis of reviews, review of systematic reviews, a review of reviews, review of meta-analyses, meta-review and systematic meta-review (Temple University Library, 2020). As Blackwood (2016) argues, the review of reviews is best designed to get new knowledge and possibility to combine relevant data from existing systematic review. This may offer potential of opening new direction of research by identifying the research blind spots and unexplored research areas.

The main sources of review were systematic literature review papers, bibliometric and scientometric papers. Originated from medical science (Cochran, 1972; Greenhalgh and Peacock, 2005; Chalmers, Hedges and Cooper, 2002) and later applied in the social science (Petticrew and Roberts, 2006), a systematic literature review is the effort to get evidence in science. By doing a systematically procedure on relevant publications, researchers could make sense of huge numbers of information to understand the state of the art for particular body of knowledge. Similar with systematic review, bibliometric and scientometric are methodological approaches in which the researchers use the research products as their focus of the study.

PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-analyses) as a Working Protocol

The overview of reviews provides the outline of knowledge and constellation which is presented in the summary of reviews. In so doing, I conducted systematic literature review protocol by adopting PRISMA procedure developed by Moher, Liberati, Tetzlaff, Altman & PRISMA Group, (2009). Previously used for randomized controlled trial in the medical science and healthcare, PRISMA have been applied in many other disciplines such as public management (De Vries, Bekkers and Tummers 2016), policy studies (Minkman, van Buuren and Bekkers 2018), urban governance (Tomor et al., 2019), agriculture and food policy (Poulsen et al., 2015), environmental studies (Tobi et al., 2019) and even humanities and translation studies (Wang, Hoon Ang and Halim 2020).

The basic steps of PRISMA consist of four flow of information analysis. These are identification, screening, eligibility and inclusion of study in the systematic review. I limit the literature search only peer-reviewed articles published by academic journal or peer-review books and excluded grey literatures. Also, I want to grasp the academic sense of smart city scholarship through academic endeavors. As such, I primarily built my literature search from Web of Science (WoS) as a scientific database and Google Scholar as a supplementary source (Gusenbauer and Haddaway, 2020). The decision on Web of Science is driven by its reputable and high quality of literature (Jacso, 2005; Zhao, Tang and Zou, 2019).

Firstly, I started the identification phase through database searching from WoS using the Boolean search: "smart cit*" AND ("systematic review*" OR bibliometric* OR scientometric*) in topic search from the time span 1990 to 2020 from February to March 2020. Instead of using similar word such as intelligent, digital, ubiquitous, information and knowledge, I only used the word ‘smart.’ This follows Ingwersen & Serrano-López (2018) finding that ‘smart city (ies)’ has dominated in the literature for the last decade. An alternative outlet from Google Scholar was used as a complementary source. This free scientific search engine allows to find and access known publications or to do a quick search on a topic or skim any topics published in academic journals. However, the systematic literature search using Google Scholar brings some drawbacks (Wageningen University and Research, 2020). Firstly, the Boolean operators (like AND, OR, NOT) is limited in the Google Scholar search which may lead to irrelevant articles for further analysis. Secondly, it searches for full text of publications and could not call the high quality non-open access articles behind the pay wall publishers. Thirdly, its algorithm may change frequently depending on location, search rank, language used and any other technical parameters. Thus, it may reduce transparency in the beginning of literature search. To address this issue, I conducted advance-manual search in Google Scholar to complement the articles found in WoS database.

I conducted three searching processes for each type of study includes systematic literature review, bibliometric and scientometric study. For systematic literature review paper, I used advance search with the exact phrase: systematic literature review, with at least one of the words: “smart city” or “smart cities” ranging from 1990 to now. I limit the words occurrence in the title of the article to narrow down the survey for more accurate finding and minimize the information overload in the Google Scholar search. Using this algorithm, I found 21 articles including patent but exclude citations since they only cite the words and phrases used in the searching process. In bibliometric study I found 15 articles in Google Scholar database. To do so, I searched exact phrase: bibliometric, with at least one of the words: “smart city” or “smart cities” ranging from 1990 to now in the title of the article. While for scientometric type of publication, I conducted advance search using exact phrase: scientometric, with at least one of the words: “smart city” or “smart cities” ranging from 1990 to now in the title of the article resulting 3 articles. In total, I found 39 articles in Google Scholars Database representing systematic literature review, bibliometric and scientometric studies.

I analyze the result by sorting and coding articles in tabular views and then identify which are listed in both database and which are not included accordingly. To elude double record, I deleted one of the identical papers resulting 34 papers in total to be further analyzed. From the simple tabular analysis, I found 7 duplications, thus, 79 total articles were eligible for screening process.

The next step was screening stage. As prescribed by Jesson et al. (2011) and Khan et al. (2003) that quality assessment of the literature matters to achieve authoritative knowledge. Thus, the screening process deliberates the quality of articles valuing rigorous reviewed papers published in academic journal or peer-reviewed book rather than non-peer reviewed papers published in the conference proceedings will benefit the review process. As such, the non-peer reviewed papers and conference proceedings were excluded for further analysis. There were 2 conference proceeding papers in the Web of science index, leaving 50 papers included in further step. While Google scholar indexed-papers excluded 12 conference proceeding papers resulting 15 papers to be included in the eligibility step. Consolidating both sources, there were 65 papers that can be further analyzed in eligibly process. To do so, some criteria were set as a basis of judgment include: Consolidating both sources, there were 65 papers that can be further analyzed in eligibly process.

- Study Approach – The articles should consist of smart city and systematic review or bibliometric or scientometric whether in the title, abstract, or keywords. Albeit the search algorithm has been set to identify that parameter at the beginning, a human cognitive checking by reading manually is beneficial as triangulation procedure to strengthen the scientific method of systematic review.
- Focus/Topic- The articles should address the general knowledge and holistic view of smart city. Neither partial dimensions of smart city initiative nor technical application such as Internet of Thing (IOT), block chain, big data, smart parking and other hard aspects of smart cities will not be included in the review.
- Time and Scope- The article should address the research in global scale to expose the world-wide proliferation of smart city in the global level. The national level of systematic review has an implication on narrow perspective which hinders the continental gap of research. Also, it is required that the papers specify the time span of literature included in their study.

On the following two pages is figure 1, a table of the eligibility checklist.

No	Title	Approach	Focus	Scope	Inclusion
1.	The dual effects of the Internet of Things (IoT): A systematic review of the benefits and risks of IoT adoption by organizations	√	X	X	No
2	Security and the smart city: A systematic review	X	X	√	No
3	Investigating the entrepreneurial perspective in smart city studies	√	X	√	No
4	Dynamic pricing techniques for Intelligent Transportation System in smart cities: A systematic review	X	X	√	No
5	Blockchain and Internet of Things: A bibliometric study	√	X	√	No
6	A Review of Blockchain-Based Systems in Transportation	√	X	√	No
7	Blockchain for 5G-enabled IoT for industrial automation: A systematic review, solutions, and challenges	√	X	√	No
8	Mapping the knowledge domain of smart-city research: A bibliometric and scientometric analysis	√	√	√	Yes
9	Applied sciences Smart Parking: A Literature Review from the Technological Perspective	√	X	X	No
10	Smart Governance for Sustainable Cities: Findings from a Systematic Literature Review	√	√	√	Yes
11	Business, innovation and digital ecosystems landscape survey and knowledge cross sharing	X	X	X	No
12	Systematic review of smart cities and climate change adaptation	√	X	X	No
13	Smart Cities and Healthcare: A Systematic Review	√	X	X	No
14	Systematic Review of the Literature on Big Data in the Transportation Domain: Concepts and Applications	√	X	√	No
15	Smart city big data analytics: An advanced review	√	X	X	No
16	QoS mechanisms for MAC protocols in wireless sensor networks: a survey	√	X	X	No
17	Visualizing the studies on smart cities in the past two decades: A two-dimensional perspective	√	√	√	Yes
18	Bibliometric analysis on smart cities research	√	√	√	Yes
19	Review on V2X, I2X, and P2X Communications and Their Applications: A Comprehensive Analysis over Time	√	X	√	No
20	Block chain in the built environment and construction industry: A systematic review, conceptual models and practical use	√	X	X	No
21	Combining co-citation clustering and text-based analysis to reveal the main development paths of smart cities	√	√	√	Yes
22	Participatory energy: Research, imaginaries and practices on people' contribute to energy systems in the smart city	√	X	√	No
23	Success factors of smart cities: a systematic review of literature from 2000-2018	√	√	√	Yes
24	Can volunteer crowdsourcing reduce disaster risk? A systematic review of the literature	√	X	√	No
25	A systematic review of living lab literature	√	X	X	No
26	Data mining and machine learning to promote smart cities: A systematic review from 2000 to 2018	√	X	√	No
27	Can cities become smart without being sustainable? A systematic review of the literature	√	√	√	Yes
28	Internet of Things applications: A systematic review	√	X	√	No
29	The advent of practice theories in research on sustainable consumption: Past, current and future directions of the field	√	X	√	No
30	Smart cities and 5G networks: An emerging technological area?	√	X	X	No
31	Urban governance in Latin America: Bibliometrics applied to the context of smart cities	√	√	X	No
32	Understanding autonomous vehicles: A systematic literature review on capability, impact, planning and policy	√	X	X	No
33	A systematic review for smart city data analytics	√	X	√	No
34	Visualizing the Hotspots and Emerging Trends of Multimedia Big Data through Scientometrics	√	X	X	No
35	Towards smart florianópolis: What does it take to transform a tourist island into an innovation capital?	√	X	X	No
36	A bibliometric perspective of learning analytics research landscape.	√	X	√	No
37	Understanding 'smart cities': Intertwining development drivers with desired outcomes in a multidimensional framework	√	√	√	Yes
38	Smart city research 1990–2016	√	√	√	Yes
39	Evaluation on construction level of smart city: An empirical study from Twenty Chinese cities	X	X	√	No
40	Modern conceptions of cities as smart and sustainable and their commonalities	√	X	√	No
41	Smart and sustainable? 5 tensions in the visions and practices of the smart-sustainable city in Europe and North America.	√	X	X	No
42	Managing supply chain resources with Big Data Analytics: a systematic review.	√	X	X	No
43	A semantic similarity analysis of Internet of Things	√	X	X	No
44	New bibliometric indicators for prospectivity estimation of research fields.	√	X	X	No

Figure 1. Eligibility checklist. Continued on the next page. Source: Author 2020.

41	Smart and sustainable? 5 tensions in the visions and practices of the smart-sustainable city in Europe and North America.	√	X	X	No
42	Managing supply chain resources with Big Data Analytics: a systematic review.	√	X	X	No
43	A semantic similarity analysis of Internet of Things	√	X	X	No
44	New bibliometric indicators for prospectivity estimation of research fields.	√	X	X	No
45	Analysing the scientific evolution of e-Government using a science mapping approach	√	X	X	No
46	Trajectory of urban sustainability concepts: A 35-year bibliometric analysis	√	X	√	No
47	The First Two Decades of Smart-City Research: A Bibliometric Analysis	√	√	√	Yes
48	Smart Governance: Using a Literature Review and Empirical Analysis to Build a Research Model	X	√	X	No
49	Sustainable-smart-resilient-low carbon-eco-knowledge cities; Making sense of a multitude of concepts promoting sustainable urbanization	√	X	√	No
50	Scientometric cognitive and evaluation on smart city related construction and building journals data.	√	X	√	No
51	Smart and Digital City: A Systematic Literature Review	√	√	√	Yes
52	The governance of smart cities: A systematic literature review	√	X	√	No
53	Addressing big data challenges in smart cities: a systematic literature review	√	X	√	No
54	Smart city indicators: A systematic literature review	√	√	√	Yes
55	Sustainable development of smart cities: a systematic review of the literature	√	X	√	No
56	Role of Smart Cities in Creating Sustainable Cities and Communities: A Systematic Literature Review	√	X	X	No
57	Smart cities Application of Decision-Making Methods in Smart City Projects: A Systematic Literature Review	√	X	√	No
58	Smart city governance in developing countries: A systematic literature review	√	√	√	Yes
59	Identifying the results of smart city development: Findings from systematic literature review	√	√	√	Yes
60	Determining the Internet of Things (IOT) Challenges on Smart Cities : A Systematic Literature Review	√	X	√	No
61	Scientific Landscape of Smart and Sustainable Cities Literature: A Bibliometric Analysis	√	√	√	Yes
62	Some aspects and the bibliometric analysis of the sustainable smart city concept	√	X	√	No
63	Assessing the Impact of Smart Cities on Local E-government Research: A Bibliometric Study	√	X	√	No
64	Smart and sustainable cities: bibliometric study and patent information	√	X	X	No
65	From digital to sustainable: A scientometric review of smart city literature between 1990 and 2019	√	√	√	Yes

Figure 1 Continued. Eligibility checklist. Source: Author 2020.

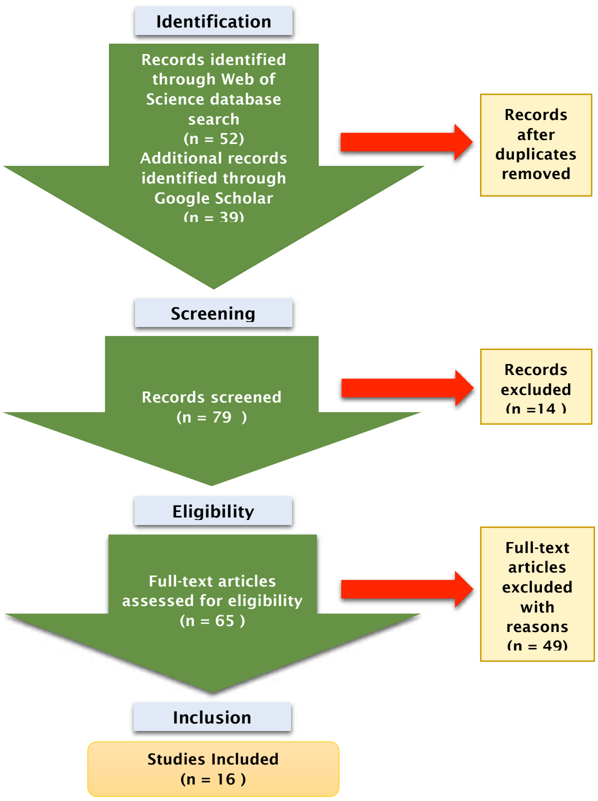

Figure 2. Flowchart adapted from PRISMA (Moher et al., 2009). See table on next page.

No	Title	Author(s)	Year	Publication Type	Publication Outlet	Discipline	Number of Papers Reviewed	Time Frame	Methods of Analysis
1	Mapping the knowledge domain of smart-city research: A bibliometric and scientometric analysis	Zhao, Tang & Zou	2019	Journal Article	Sustainability	Cross-disciplinary	2920	All years (until 4 October 2019)/74	Scientometric
2	Smart Governance For Sustainable Cities: Findings from a Systematic Literature Review	Tomor et al.	2019	Journal Article	Journal of Urban Technology	Multi-disciplinary	114	2006-2016/10	Systematic literature review
3	Visualizing the studies on smart cities in the past two decades: A two-dimensional perspective	Li	2019	Journal Article	Scientometrics	Interdisciplinary	4667	1992 -2012/10	Bibliometric analysis
4	Bibliometric analysis on smart cities research	Guo et al.	2019	Journal Article	Sustainability	Cross-disciplinary	4409	1998-2019/21	Bibliometric analysis
5	Combining co-citation clustering and text-based analysis to reveal the main development paths of smart cities	Mora, Deakin & Reid	2019	Journal Article	Technological Forecasting and Social Change	Interdisciplinary	2,273	1992-2018/26	Bibliometric analysis
6	Success factors of smart cities: a systematic review of literature from 2000-2018	Aldegheishem	2019	Journal Article	Journal of Land Use, Mobility and Environment Review	Interdisciplinary	84	2000-2018/18	Systematic literature review
7	Can cities become smart without being sustainable? A systematic review of the literature	Yigitcanlar et al.	2019	Journal Article	Sustainable Cities and Society	Cross-cutting multidisciplinary	35	Not set-2018/73	Systematic literature review
8	Understanding 'smart cities': Intertwining development drivers with desired outcomes in a multidimensional framework	Yigitcanlar et al.	2018	Journal Article	Cities	Interdisciplinary	78	January 2000-January 2018/18	Systematic literature review
9	Smart city research 1990–2016	Ingwersen & Serrano-López	2018	Journal Article	Scientometrics	Interdisciplinary	4725	1990–2016/26	Scientrometric
10	The First Two Decades of Smart-City Research: A Bibliometric Analysis	Mora, Bolici & Deakin	2017	Journal Article	Journal of Urban Technology	Multidisciplinary	1067	1992-2012/22	Bibliometric Analysis
11	Smart and Digital City: A Systematic Literature Review	Cocchia	2014	Book Chapter	Smart City How to Create Public and Economic Value with High Technology in Urban Space	Interdisciplinary	705	1993-2012/19	Systematic Literature Review
12	Smart city indicators: A systematic literature review	Purnomo, Meyliana & Prabowo	2016	Journal Article	Journal of Telecommunication, Electronic and Computer Engineering	Electronic and Computer Engineering	30	2004-2015/11	Systematic literature review
13	Smart city governance in developing countries: A systematic literature review	Tan & Taeihagh	2020	Journal Article	Sustainability	Cross-disciplinary	56	2009-2019/10	Systematic literature review
14	Identifying the results of smart city development: Findings from systematic literature review	Lim, Edelenbos & Gianoli	2019	Journal Article	Cities	Interdisciplinary	55	2005-2017/12	Systematic literature review
15	Scientific Landscape of Smart and Sustainable Cities Literature : A Bibliometric Analysis	Janik, Ryszko & Maerek	2020	Journal Article	Sustainability	Cross-disciplinary	539	1983–2020/37	Bibliometric study
16	From digital to sustainable: A scientometric review of smart city literature between 1990 and 2019	Zheng, Yuan, Zhu, Zhang & Shao	2020	Journal Article	Journal of Cleaner Production	Interdisciplinary	7840	1990-2019	CiteSpace, co-occurrence analysis, co-word analysis d document co-citation analysis

Figure 3. Table of articles, publication type, outlet, discipline and analysis type.

According to the assessment, I included 16 papers which are eligible for further review. These comprise 8 systematic review papers, 5 bibliometric studies and 3 scientometric papers which address the general knowledge of smart city and do not specifically discuss the partial urban services and technical element of smart such as smart mobility, smart building, smart energy, Internet of Thing (IOT), block chain, big data, smart parking and other technical aspects of smart cities. In short, these selected publications satisfy the criteria to be included in further analysis. Now there are 16 selected publications filtered by criteria-based judgment which leads to analytical section.

Results

Descriptive Analysis

The basic descriptions of publications included in the review provide contextual information through which the information of smart city research derived. The descriptive attributes such as authorship, year of publications, type of publications, publication outlets, disciplinary scope, time-frame of publications reviewed and type of analysis is evaluated quantitatively. The review articles on general discussion of smart city research from peer-reviewed process were started in 2014 by Cocchia (2014) who wrote a book chapter on smart and digital city and its intersection of conceptualization and the development of both concepts. The systematic literature review, bibliometric and scientometric studies on smart city research then continue steadily each year from 2016 to 2017, albeit there was an absent in 2015. It then significantly increases in 2019 by 8 articles in 2018. The highest number of reviewed papers were 47725 publications from 1990-2016 conducted by Ingwersen & Serrano-López (2018) and the smallest one is the paper that reviewed smart city indicators covering 30 papers from 2004-2015 (Purnomo, Meyliana & Prabowo, 2016).

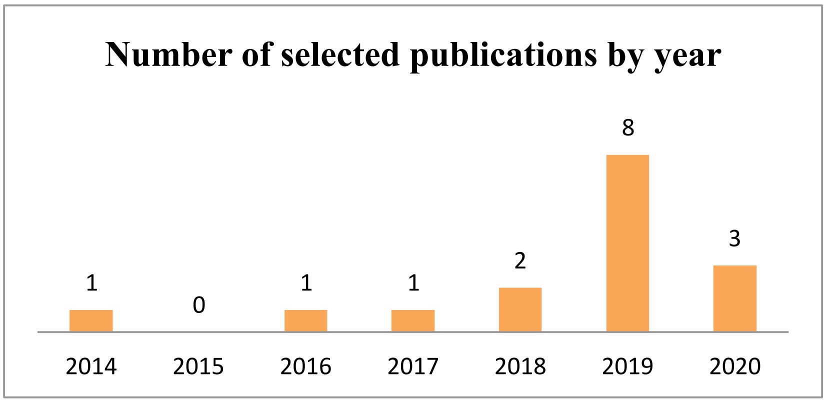

Figure 4. Number of selected publications by year.

The publication outlet indicates the scholarly domain or disciplinary field of study on smart cities. To investigate this, I browsed the journals' official website and observe their aims and scopes to infer the disciplinary scope. Most of the academic journals as the publication channels fall into interdisciplinary science, therefore, smart city research is not mono-disciplinary instead it combines various perspective of science to address the smart city issues. Only 1 systematic reviews journal article published in Journal of Telecommunication, Electronic and Computer Engineering and 1 book chapter as part of Progress in Information Science likely fall into mono-disciplinary avenue which comes from information science.

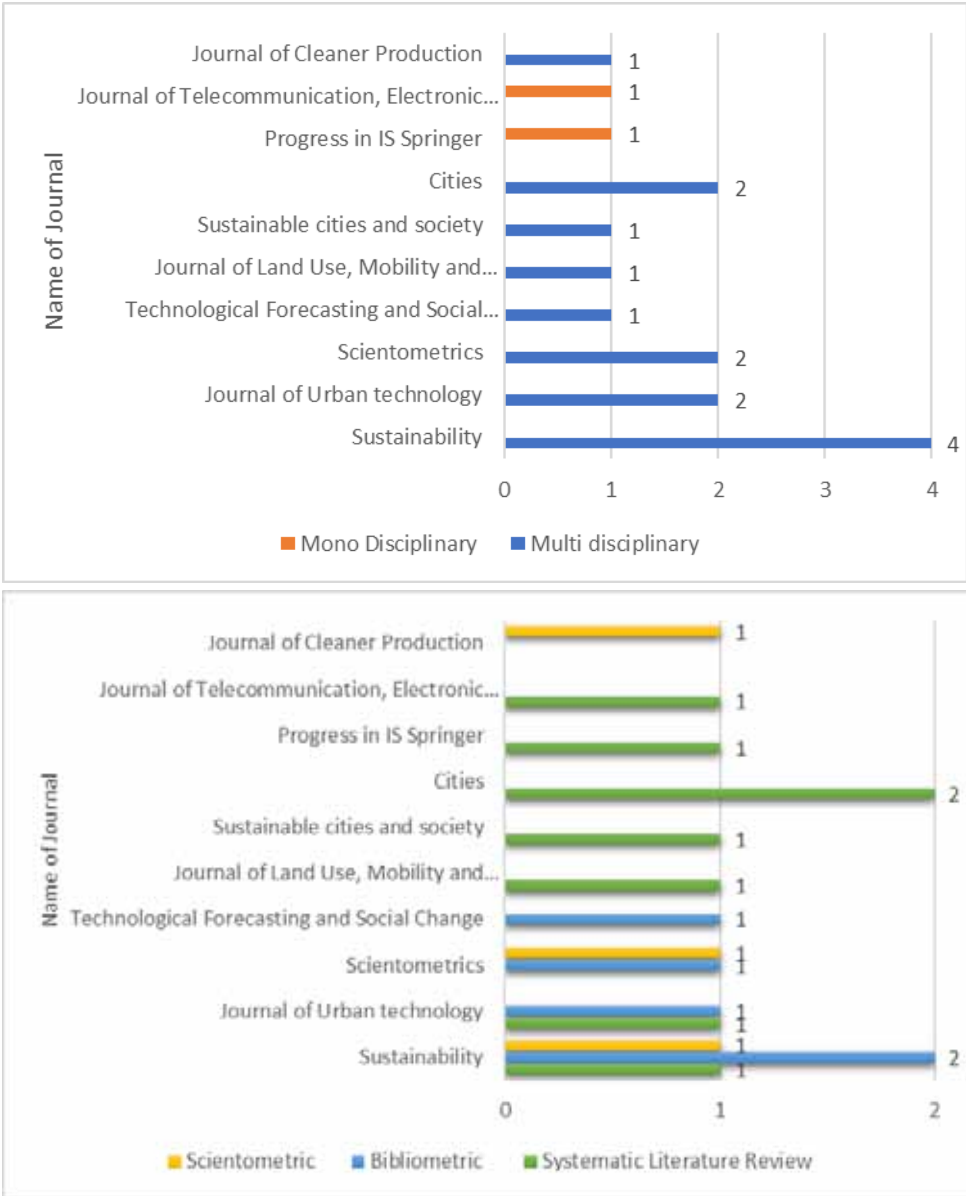

Figure 5. Two graphs covering publication outlets, disciplinary domains and review types.

Underlying Concepts: Definitions, Conceptualizations and Indicators

The bulk of researches in smart city literature focusing on conceptualization mostly come from public administration, information science and urban development (Tomor et al., 2019). This provides some of the rudimentary elements in understanding smart cities including definitions, origin and indicators. Firstly, most of the reviewed papers agree that there is no single definition to designate smart cities. There were numerous of definitions found depending on various point of scientific departure. For instance, Yigitcanlar et al (2018) present 20 different definitions and 22 different definitions (Yigitcanlar et al., 2019) in their publication, Cocchia (2014) record 11 definitions and 9 most cited definitions and Mora et al (2017) compile 11 different definitions in which overlapping concept emerged. Most of these definitions lean on technology, livability, governability and sustainability. Guo et al (2019) argue that its fuzzy concept in labeling smart cities has resulted inconsistency both in academic and practical realm. In the real-world application, many urban development programs which utilized (mostly) sophisticated technology can be associated in smart cities with no clear boundary whether these are truly developing smart cities or not. This may relate to the different conceptualization and point of departure to frame the smart city label.

Secondly, smart city concept as a platform can be traced back in mid-1800 when self-governed American West successfully navigated the urbanization excess (Tan and Taeihagh, 2020; Yigitcanlar et al., 2018). It then flows into modern conceptualization of 'smart growth' in the 1990 (Albino, Berardi and Dangelico, 2015). Since then, the smart city has emerged in the beginning of 2000 within its similar terminologies such as intelligent city (Mulay et al., 2013; Komninos, 2006), ubiquitous city (Anthopoulos & Fitsilis, 2010), digital city (Rezende et al., 2014; Cocchia, 2014), city information (Piro et al., 2014) and knowledge city (Yigitcanlar, 2008). The triads of technology, policy and community as the essential pillars of smart cities have dominated the smart city research. It means not only the determinism on technological side but also smartness in policy making, governance mode and engaging communities (Lim, Edelenbos and Gianoli, 2019). The pattern of publication has shown to the tendency of highlighting digitalization of service until 2009 and sustainability issues from 2010 onwards (Cocchia, 2014; Ingwersen and Serrano-López, 2018).

As such, sustainability issue is an important concept in contemporary academic debates. The discussion whether 'smart' as evolutionary concept is linked with sustainable practice of urban development is still disputed. Some argue that both are identical (Cugurullo, 2018) but others see the concept of smart and sustainability differently. Cocchia (2014) explored smart and digital city state of research and found that sustainability constructs the smart city concept. This can be traced back in the 90's when Kyoto Protocol and 2010's Europe 2020 Strategy. Thus, the smart and sustainable city emerges to amplify the latter argument. However, most of the reviewed papers suggest that smart city should be directed as integrative effort in marrying smartness and sustainability in urban planning. The principle designates to compromising future generation through environmental and technological means in urban development (Bibri and Krogstie, 2017; Tomor et al., 2019).

Thirdly, the literatures documented several indicators of smart cities. The indicators determined in the smart cities varied according to either academic or pragmatic interest. There were two review papers attempting to synthesize this subject. Purnomo et al (2016) expose the smart city main indicators based on systematic literature review of 30 Papers published from 2004 to 2015. There were public transportation systems, environmental sustainability, social and cultural plurality, education system and facilities information technology infrastructure, healthcare services, entrepreneur and innovation, social security and safety, economy vitality and planning, information, communication, technology and e-government, housing quality and transparent government and open data. These indicators represent concrete applications through which cities can develop. Similarly, but in more abstract concept, Aldegheishem (2019) synthesizes 12 indicators categorized as smart living, smart economy, smart environment, smart education, smart governance, smart energy, smart safety, smart mobility, smart technology and smart buildings. His finding based on systematic literature review of 84 papers published between 2000 and 2018. He then advocates the comprehensive viewpoint to successful smart cities by not leaving non-technological indicators.

Drivers and Outcomes

A systematic literature review by Yigitcanlar et al (2018) has informed the synthesis of drivers of smart city development. Drawing from interdisciplinary investigation, they develop a conceptual model linking the key drivers to desired outcomes of smart city into multidimensional framework. The basic premise is transforming cities into better societal and environmental condition. According to them, there are three key drivers of smart cities: community, technology and policy. Their three key drivers are analogue with three dimensions of smart city namely technology, people and institution (Nam and Pardo, 2011) which highly cited in academic debates and adopted in smart city practices. In the context of developing countries, Tan & Taeihagh (2020) offer more elaborated eight driving forces including technology, improving human capital inside and outside government, financial power to improve governance capacity, consolidating regulatory framework and public participation and engagement. These associate with the contextual factors such as political, institutional, socio-economic, cultural and spatial conditions in which city governments have to deal with.

In regards to smart city outcomes, a conceptual-based proposition is emerged. Yigitcanlar et al (2018) consider five desired outcomes: productivity, sustainability, accessibility, wellbeing, livability, governance. These outcomes address the main objectives of implementing smart city characterized by people-centered approach and realizing sustainable development integrating economic, social and environmental aspects (Zhao, Tang and Zou, 2019). These outcomes do not address unintended consequences of smart cities. Differentiating from the conceptual outcomes, Lim et al (2019), conducted a systematic review of 55 papers extracted from 2005 to 2017 publication years find an interesting synthesis regarding the result of smart city development. They categorized both positive-negative results characterized by empirical finding versus hypothetical.

The six positive results with evidences found in empirical studies are: (a) facilitating economic development, (b) increasing public service efficiency, (c) increasing quality of life, (d) improving good governance, (e) empowering citizen, (f) fostering innovation and six positive hypothetical results : (a) enhancing citizen involvement, (b) protecting environment, (c) facilitating social development, (d) facilitating sustainable development, (e) fostering innovation and (f) increasing social capital. Not only bring progressive results, smart city may lead to undesirable effects which found in the empirical studies includes (a) hiding existing urban problems and (b) polarization and inequality. Two negative hypothetical impacts may be proposed: (a) privacy and security issues and (b) diminishing freedom of speech and democracy. One strong message from their studies is that the smart city has promise several positive outcomes, but do not forget its unintended consequences.

Research Loci and Setting

Research sites matter to understand and identify the map of global knowledge distribution and contextual features espousing smart cities development. Political, economic, social and cultural circumstances contribute to the ways smart projects executed. Given the various political economics system, almost every jurisdiction has its own strategy and approach in realizing smart cities (Caragliu, Bo and Nijkamp, 2015; Mora, Deakin and Reid, 2019). To mitigate the locus of smart city study, I consider the scientists' research outputs which indicate research productivity and its impacts. The residency of researchers and study areas where researchers conducted their studies indicate the geographical distribution of smart city research.

Available literatures inform that Asia and Europe are among the most productive continent in smart cities publications (Cocchia, 2014). This is analogous with Mora et al (2017) who report that cities in the Europe have advanced in smart city which make this region as the largest contributor to the growth of smart-city research. In term of knowledge hub, Asia is overtaken by North America (Mora, Bolici and Deakin, 2017). The pivot of knowledge exchange of Europe and North America is likely parallel with the academic focus of European Universities and technology enterprises publications from the United States of America (USA). In country level, most of reviewed papers present similar results where China, Italy, USA, Spain and England placed as the top five smart city research loci (Guo et al. 2019; Ingwersen and Serrano-López 2018; Janik, Ryszko and Maerek 2020; Mora, Bolici and Deakin 2017; Zhao, Tang and Zou 2019).

Beside the continents and countries level, special emphasis was given to the ways smart cities were initiated from the developmental stage perspective. This follows proposition that there are differences between developed and developing countries. From the systematic literature review, Tan & Taeihagh (2020) argue that western hemispheres have different ways in governing smart city comparing to their counterparts in other continents. Consequently, it also associated with the process of implementation and the impact of urban development between the two categories. Evidence showed that smart cities situated in high income countries tend to achieve more positive outcomes than their colleagues in the developing economies (Lim, Edelenbos and Gianoli, 2019). The configuration of smart city research from this perspective demonstrates that mega-cities in the developed countries dominate the research landscapes. For instance, Li (2019) highlights the urbanization trend in North America and Europe has triggered smart city development in those regions, especially to tackle the insufficient energy and environmental damages. This is in line with the investigation of developmental path proposed by Mora et al (2017, 2019). A bibliometric analysis of 2,273 publications divided into 18 thematic clusters published between 1992 and 2018 exposes five main developmental paths including experimental path; ubiquitous path; corporate path; European path; holistic path (Mora, Deakin and Reid 2019). This reveals that European and North American perspectives are prevalence as the central paradigms of smart city development.

Either the quantity or the quality, less developed nations were surpassed by developed countries in developing smart cities. Various smart city global rankings which assess the successful smart cities initiatives confirm this argument. This table shows top 10 smart cities in the world from three different institutions (Institute for Management Development from Switzerland and Singapore, IESE Business School from Spain and Roland Berger GMBH from Munich, Germany). Most cities come from Global North and cities from Africa, Middle East, Latin America and developing Asia, including BRIC countries (excluding Russia): Brazil and India (except China) were absent in this ranking.

Institute for Management Development (2019)	IESE Business School (2019)	Roland Berger GMBH, (2019)
Singapore	London	Vienna
Zurich	New York	London
Oslo	Amsterdam	St. Albert (Canada)
Geneva	Paris	Singapore
Copenhagen	Reykjavík	Chicago
Auckland	Tokyo	Shanghai
Taipei City	Singapore	Birmingham
Helsinki	Copenhagen	Chongqing
Bilbao	Berlin	Shenzhen
Dusseldorf	Vienna	Paris

Figure 6. Comparative Global Smart City Index compiled by Author 2020.

Scientific Domains: Natural and Social Sciences Dichotomy

Smart city research has scattered in various domain of studies (Zheng et al., 2020; Li, 2019; Yigitcanlar et al., 2018, 2019). There were some attempts to systematize the domain of smart city research. Zheng et al (2020) reveal ten domains of smart city research consist of (1) performance measurement and improvement for smart city (2) smart city governance, (3) big data and IoT, (4) smart computing architecture and system (6) pilot projects, (7) smart sustainable cities, (8) security and privacy, (9) conceptual model/framework and (10) corporate smart city model. These lists were based on co-cited references from scientometric analysis. Although the domain listing captures the wide range of research area in smart cities, it seems fail to address a synthesis from the disciplinary point of views.

More systematically, Li (2019) applied two-dimensional perspective consisting Science, Technology and Engineering (STE) and Social Science and Humanities (SSH) to map smart city research in the last two decades. The STE and SSH notions are not attributed as level, rather the perspective posits a dimensional frame through which academic territories and trajectories can be traced. In his bibliometric study, smart city research as a theme emerged early in the SSH research domain. However, STE seems to be more productive and fast growing in the recent years. The literature also shows that STE-based publication in smart cities has greater number than SHS. The citation has also indicated the dominance of STE in which top 30 citations sourced from IoT, cloud computing and big data (Li, 2019:686). The themes like as cloud computing, the Internet of Things and big data from computer science, science and technology and engineering dominate literature.

This finding is relevant with other scholars studying the state of research in smart cities. Ingwersen & Serrano-López (2018) for instance, documented the domination of ICT, environmental and energy related field in smart city research 2008-2016. His finding is based on clustering analysis using SNA technique to identify the thematic cluster of research within the mentioned time frame. Likewise, Janik et al (2020) concluded that Computer, Engineering and Telecommunications were the top 3 research area in smart cities based on Web of Science and Scopus database which also identical of the use WoS metrics by Zheng et al (2020) who found that engineering electrical electronics, computer science information systems, telecommunications and computer science are the most abundant field. Similarly, Zhao et al (2019) emphasized on publication outlets in which Computer Science, Information Systems, Engineering, Electrical & Electronic and Sustainability among the top 10 journals for smart-city papers. In sum, smart city research has been highly dominated by natural science especially technological discipline compared to those from social sciences.

Conclusion

This section presents concluded reports addressing research questions and proposing future studies. To sum up, the states of global smart city scholarship can be elucidated in four points of synopses. First of all, review papers were mostly published by interdisciplinary academic journals. However, this is not the case with empirical studies which mostly published in the specific disciplinary academic journal. This indicates the fragmentation of smart city research and lack of intellectual discussion among disciplines. The second important point deals with underlying concept that smart cities are a fuzzy and evolving concept. No universal definition can be made due to its different academic departures. In addition, smart city as a concept is evolutionary in nature dated back from urban planning platform addressing urbanization in the 90's. The conceptualization swings from digital solution to sustainability issue with technology, policy and communities lay in the central tenet of smart cities. Literatures have also underlined smart cities not only deliver positive outcomes but also negative impacts. The next point highlights the smart cities geographical setting that verifying the domination of cities in the developed nations. Not only in academic sphere, global ranking and assessment of smart cities also put developed cities as the top performers. The last point relates to the scientific discipline. Natural sciences have dominated the research output and impact compared to social sciences. The technological determinism is evident both in academic debates and empirical world. This can cause dryness in smart city research with less sociocultural artifact and humanity attributes. Evading technology determinism and techno-singularity (Sovhyra, 2021), insight from humanity and social science may enrich the smart city research landscape.

From the summary, some of research avenues can be proposed in studying smart cities. Firstly, available literature shows that smart city empirical studies were dominated by mono-disciplinary perspective. Thus, conventional academic tradition is in the forefront in researching smart cities in real worlds. Alternative approaches from interdisciplinary or trans-disciplinary may offer fruitful insights which may enrich smart city scholarships. Secondly, while attentions are likely given to mega-cities (most of them are capital cities) situated in the developed countries, researching smart city in the small-medium cities from developing world is necessary to balance the discourse and academic debates. Another issue dealing with the learning capacity from cities and inhabitants' is also rarely analyzed by scholars who studying smart cities. As such, learning capacity can be addressed by empirical research focusing on the experience of smart city stakeholders and citizens dealing with smart projects and see how these projects lead to behavioral and social order (and change).

Last but not least, I acknowledge some limitations of this present study. The analysis only considers peer reviewed journal and review paper that address general picture of smart cities. Thus, it ignores grey literatures by excluding them in the review selection process. This may restrict the discussion to academic sphere but it neglects the views from non-academic domain. In addition, the criteria used in this study only selects review papers include: systematic review, bibliometric and scientometric papers that report general issue and address the surface knowledge in smart city scholarship. As such, it cannot capture any particular and detailed topics of smart cities. Future review may enlarge the samples by including grey literatures to expand the scope of review by analyzing empirical papers.

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Capacity Building in Cultural *and Traditional Craft Enterprises for Ecotourism Development in the Sekyere Kumawu District of Ghana*

Dickson Adom,[+] Ralph Nyadu-Addo[++] & Steve Kquofi[3] (Ghana)

Abstract

The study was aimed at developing the capacities of the local people in selected agricultural societies in the Sekyere-Kumawu district in the Ashanti Region of Ghana in cultural and traditional craft enterprises. The study utilized the embedded mixed methods design with phenomenology as the research design. The study involved 116 participants consisting of park officers, traditional leaders, elders in the traditional cabinet, elderly men and women as well as the youth in Kumawu, Bodomase, Yiribotiri, and Dagomba. The capacities of the study participants were developed in textiles, leatherwork, traditional culinary practices, and cultural services. Moreover the development of cultural museums as tourism centers at four locations: A wildlife sanctuary, historical battle grounds, a royal mausoleum, and an ancient sacred tree were recommended. The findings revealed that the capacity building in cultural and traditional craft enterprises was beneficial in helping the local people in gaining employment, promoting the cultural heritage of the communities, and encouraging them to support ecotourism development at the Bomfobiri wildlife sanctuary. The study tasks the Ministry of Tourism, Arts and Culture, and the Forestry Commission to pay attention to sponsor initiatives in cultural and traditional crafts to offer employable skills to residents and enhance the experiences of tourists who visit the protected areas in Ghana.

Keywords: *Capacity Building, Ecotourism, Traditional Craft Enterprises, Cultural Heritage, Local Community Participation, Sustainable Tourism, Ghana*

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Introduction

Ecotourism is a form of sustainable tourism (Anup, 2016) that is fast growing with high economic turnover for host communities in both developed and developing countries (UNEP, 2013; UNWTO, 2019; Adom, 2019a). This form of tourism combines ecologically sustainable practices, cultural and artistic heritage education, local community participation, and economic development (Rivera and Gutierrez, 2019; Adom, 2017; Mbatiany, 2016; Anup, Rijai, and Sapkota, 2015; Bhuiyan et al., 2012; Hawkins, 2004), making it a well-supported tourism operation in local communities (Wondirad, 2020; Abukhalifeh and Wondirad, 2019; Masud et al., 2017). It allows the creative adaptation of the culture and traditions of local communities as catalysts for economically sustainable development, especially in protected areas and their adjacent communities (Adom, 2019a; Adom, 2019b). Local people get the opportunity to develop their traditional crafts, cuisine, dances, and other cultural products into entrepreneurship enterprises (Cusack and Dixon, 2006). This is as a result of ecotourism's principal aim of integrating ecologically sustainable tourism model into the development of the existing local economies (Rivera and Gutierrez, 2019). A good and sustainable ecotourism development project in any protected area in local communities must aim at boosting local economies, cultural preservation, and eco-friendly practices (Das and Syiemlieh, 2009). Creditably, some local communities have explored the development opportunities in cultural and traditional crafts as extension services in ecotourism development in protected areas (Pardo-de-Santayana and Macia, 2015). Pradhan (2019) contends that some local communities in North-East India have emerged markets for their traditional crafts, often referred to as folk art or green art (Tynsong, Dkhar, and Tiwari, 2020), as part of the ecotourism development strategies. Likewise, traditional and/or ethnic foods and culinary practices are been explored as economically viable enterprises in ecotourism projects (Singh et al., 2007; Tynsong et al., 2020). Visitors in protected areas get the opportunity to buy and practice the production of these traditional crafts at a fee to enrich local artisans and local economies (Kelkit, Ozel, and Demirel, 2005). Lssozi (2012), Ayaa and Waswa (2016), as well as Adom (2018) note of some local communities in African countries such as Ethiopia, Tanzania, Kenya, and Ghana that they hold rich cultural heritage such as myths, taboos, stories, proverbs, and cosmological belief systems that can be developed into ecotourism potentials with huge economic benefits. These 'cultural products' and traditional crafts of host communities can engage tourists to spend more time in protected areas, resulting in high-income revenue (Dornhoff et al., 2019).

Despite the quintessential roles that enterprises in cultural heritage and traditional crafts play in ecotourism development, there are still many protected areas stepped in local regions in developing communities that fail to recognize the cultural heritage and traditional crafts of host communities as ecotourism development opportunities (Kulshreshtha, 2020). Preliminary research conducted by the researcher in the various protected areas in Ghana reveals that potentials for ecotourism development latent in the cultural heritage and traditional crafts of the host communities have not been explored as potential enterprises to enrich the lives of local people through the employment opportunities they offer. At the Bomfobiri Wildlife Sanctuary in Kumawu in the Ashanti Region of Ghana, plans are underway to develop the sanctuary into an ecotourism site. However, discussions with the park management revealed that enterprises in culture and traditional crafts of the host communities have not been factored into the ecotourism planning of the sanctuary. This study aims at engaging in capacity building in cultural and traditional craft enterprises in ecotourism development in the host communities at the Bomfobiri Wildlife Sanctuary. The research objectives for the study were:

1. Describe the benefits of capacity building in cultural and traditional craft enterprises in the host communities and at the Bomfobiri Wildlife Sanctuary.
2. Conduct enterprise viability needs assessment in cultural and traditional craft enterprises in the host communities for ecotourism development at the Bomfobiri Wildlife Sanctuary.
3. Engage in capacity building in the viable cultural and traditional craft enterprises in the host communities for ecotourism development at the Bomfobiri Wildlife Sanctuary.
4. Evaluate the strengths and weaknesses of the capacity building in cultural and traditional craft enterprises in the host communities for ecotourism development at the Bomfobiri Wildlife Sanctuary.

Theoretical Framework for the Study

The study agrees with the theoretical viewpoint enshrined in Wondirad tourism model (Wondirad, 2020) that postulates that for an ecotourism project at protected areas to result in the sustainable development of host communities, it must advocate for environmental conservation, promote broad-based community engagement, and create economic opportunities through a tactful creation of enterprises. Also, the research was underpinned by McCool's (2014) ecotourism development competency model that posits that a successful ecotourism project must aim at developing ecotourism opportunities into tourism products that enrich local economies while arresting all potential developmental constraints (Figure 1).

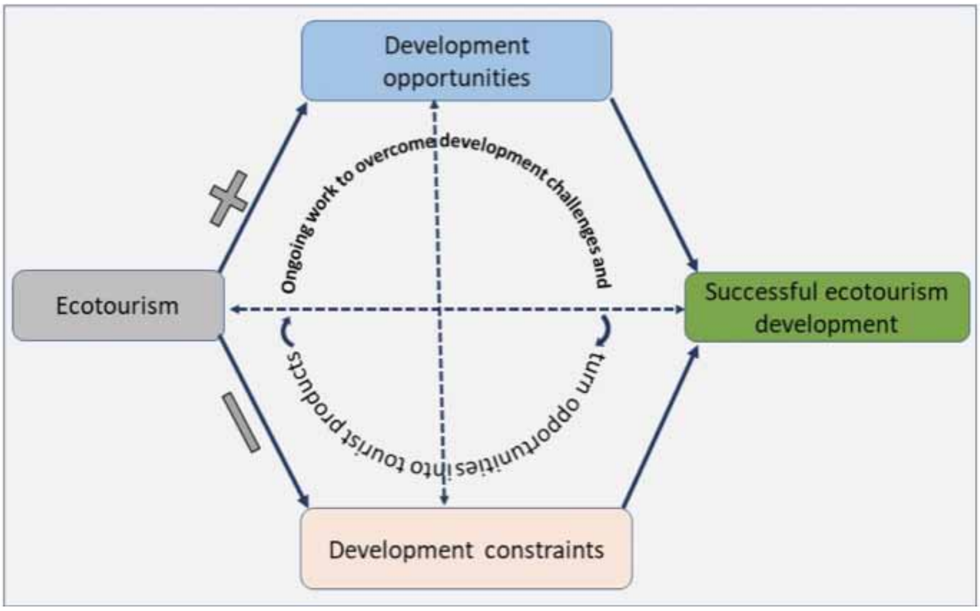

Figure 1. Ecotourism Development Competency Model. Source: McCool (2014).

Methodology

The study utilized the embedded mixed methods design (Creswell and Clark, 2011), which combines qualitative and quantitative approaches in answering different research objectives for a single study (Figure 2). This study design was used because of the nature of the research objectives for the study that required the garnering of both qualitative and quantitative datasets in answering them. The answers to the first and third research objectives for the study required qualitative (textual) data while the second and fourth research objectives required quantitative (numerical) data. This informed the selection of the embedded mixed methods design for the study.

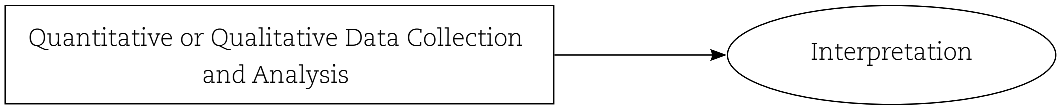

Figure 2. Embedded Mixed Methods design. Source: Creswell and Clark (2011).

The study targets the exploration of the views of park officers, traditional leaders, elders in the traditional cabinet, men, women, and the youth in the host communities via long engagements (Leedy and Ormrod, 2010). Thus, the phenomenology research design was adopted. Phenomenology often requires that researchers spend considerable time with the respondents through lengthy interviews (Creswell, 2009). A total of 116 study participants were recruited for the study (Figure 3), an appropriate sample size sufficient to reach data saturation (Boyd, 2001). The sample categorizes were selected using both purposive and random sampling techniques. These techniques in sample selection assisted in reducing bias in the sample, ensuring that a true and accurate representative sample of all the variables within the population were recruited for the study.

To ensure ethical research, all study participants were asked to sign an informed consent form that details the purpose of the research, its procedures, risks, and benefits, it's voluntary participation nature, the participants' rights to stop the research at any time, and procedures to protect the confidentiality of participants' identity and views (Bailey, 1996). The researchers read out the contents of the form to the study participants who were unable to read and write so they could provide oral consent. All the study participants were assured of anonymity of their identities and views which were used solely for purposes of research.

Study Areas	Park Officers	Traditional Leaders	Elders in the Traditional Cabinet	Men	Women	Youth
Kumawu	8	1	4	8	8	6
Bodomase	-	1	4	8	6	8
Yiribotiri	-	1	4	8	8	8
Dagomba	-	-	3	6	8	8
Total Sample Size= **116**						

Figure 3. Breakdown of Study Areas, Sample Description, and Sample Size (n=116).

Three data collection instruments in the field of social and cultural anthropology, namely, personal interviews, focus group discussions and direct observations were used for collecting the qualitative data for the study (Fraenkel et al., 2012). A semi-structured interview guide based on the study's research questions as well as principles in McCool's (2004) table on desirable competencies for successful ecotourism development was developed. This semi-structured interview guide was used in conducting in-depth personal interviews and focus group discussions in the four study areas. The interview guide and questionnaires were pre-tested on a pilot section of the sample and was also reviewed by two skilled phenomenology researchers whose suggestions and corrections were incorporated in their final versions. A preliminary survey was conducted in the four communities of the study to collect all possible enterprises in cultural and traditional crafts in Ghana that have the potential of boosting ecotourism. The list consisted of a total of ten (10) cultural and traditional craft enterprises. A three-point rating scale questionnaire was designed based on ten (10) possible cultural and traditional craft enterprises. The three-point rating scale was: 'Viable,' 'Not Viable,' and 'Neutral.' This questionnaire was used for conducting enterprise viability needs assessment among the 116 sampled study participants to find out the most viable amongst the ten enterprises in the four communities around the Bomfobiri wildlife sanctuary. Ideas from the theories of enterprise viability analyses by Andoh (2008), Nieuwenhuizen et al. (2004), Murray (2020), and Gartenstein (2019) were adopted in developing this study-specific questionnaire because the researchers could not identify any. Business viability is often judged by the profitability, income generation or marketability potential of the business idea to be converted into a business enterprise (Andoh, 2008), the value orientation that defines the needs to be fulfilled via the establishment of the enterprise, the reliability in procuring the start-up capital for the enterprise, as well as the learnability of the employable skills to be converted into an enterprise (Gartenstein, 2019; Murray, 2020). Based on these theories, the viability of the various cultural and traditional craft enterprises was defined by four factors. These were the value orientation, marketability, degree of learnability of the workable skills, and the reliability in procuring start-up capital for the enterprise.

A capacity-building evaluation questionnaire that combined both open-ended and closed-ended questions with a three-point rating scale was designed to evaluate the strengths and weaknesses of the capacity building in cultural and traditional craft enterprises organized in the four fringe host communities around the Bomfobiri wildlife sanctuary. The questionnaire was based on the key ideas in the World Bank's guide to evaluating capacity development results (World Bank Institute, 2012), particularly, evaluating the relevance and usefulness of the capacity building training as well as areas of the capacity building that require improvement. The ex-ante evaluation judges the success of the capacity building and assesses how the capacity building has been able to improve the identified problems in the society that required intervention (de Koning et al., 2006).

The nature of the capacity building in the cultural and traditional craft enterprises was through a series of hands-on activities (Figure 4). Our capacity building training was informed by the constructivism theory of teaching and learning via doing (Adom, Yeboah, and Kusi, 2016; Amineh and Asl, 2015; Olusegun, 2015).

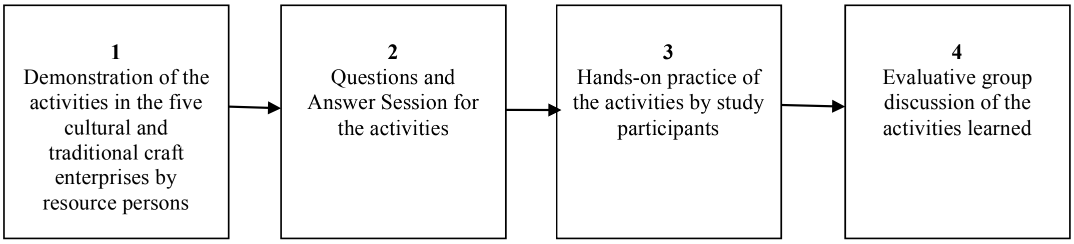

Figure 4. The chain of events for the capacity building in cultural and traditional craft enterprises.

Series of Open Space discussions between community members sitting in a circle proposed by Owen (2008) was organized in soliciting for their views before, during, and after the capacity building activities. We adopted this strategy because it has anthropological evidence of being the most productive approach in ensuring high democracy and honest discussions among a group in an informal and flexible setting (Owen, 2008).

Data Analysis Plan

The Interpretative Phenomenological Analysis (Smith & Osborn, 2008) was used in analyzing the qualitative data sets. The steps in this analytical procedure were used in the analysis of the audio-recorded personal interviews and video recorded focus group discussions conducted. The analytical procedure involves the transcription of the views of all the study participants, referred to as the *emic* perspective by Smith and Osborn (2008). The researchers carefully listened to the interviews to grasp the exact words and phrases of interviewees to develop a holistic understanding of the views expressed (Hycner, 1999) to be able to represent their voices by thickly quoting them. Member checking with key participants was carried out after the data were transcribed to ensure validity and accuracy (Leedy and Ormrod, 2010). Statements that responded to the research questions for the study that required qualitative data were carefully weighed and extracted to offer interpretations (Hycner, 1999). The number of counts of a particular view expressed was deemed as of great significance in relation to the research questions and was judged as very relevant in furnishing tentative answers to the research questions. This stage is referred to as the *etic* perspective (Smith and Osborn, 2008). The NVivo software assisted in qualitative data analysis (Zamawe, 2015). The units of meanings generated from the views were discussed in relation to accepted theories and views in scientific manuscripts published in trusted academic sources.

On the other hand, simple descriptive statistics via SPSS that utilizes means, standard deviations and variance, frequencies, and percentages were used for analyzing the quantitative data generated (Arkkelin, 2014). The final interpretations from the analyses of both the qualitative and quantitative data sets were used for writing the final report for the study.

Study Areas

The study was conducted in four agricultural communities around the Bomfobiri wildlife sanctuary (Figure 5). These communities were Kumawu, Bodomase, Yiribotiri, and Dagomba. Kumawu is a small town in the region of Ashanti, Ghana, the capital of Sekyere Kumawu. According to the 2010 Population and House Census, the population of Sekyere Kumawu District is 65,402. Females make up 52,6% and males make up 47,4%. It is a cosmopolitan town but the majority of the inhabitants are Asante. In Sekyere Kumawu District, 81.8% of households are involved in agriculture. Most of the district's households are engaged in agricultural development. The Bomfobiri wildlife sanctuary established in 1975, which consists of semi-deciduous forest and savannah, is one of the main attractions. The second study area is Bodomase. It is a farming community in the Sekyere Kumawu District in the Ashanti region of Ghana. Traditionally, Bodomase is under the Kumawu Traditional Area. Bodomase is reckoned historically with a hunter called Nana Dwenti who battled with the "spirit of death" and defeated it. The most remarkable landmarks in this community are the Dwenti College, Bodomase Senior High School, Churches, and the Chief Palace. Yiribotiri, the third study area, is a farming community in the Sekyere East District of Ashanti, Ghana. Cassava, plantain, yam, and cocoyam are the dominant cultivation in this area. The area is also famous for the rearing of livestock such as goats, cattle, and sheep animals. The indigenous peoples are primarily Akan and Northerners. The fourth study area is Dagomba. It is also an agricultural community located at Sekyere East District in the Ashanti Region, Ghana. The dominant crops grown in this area are cassava, plantain, yams, cocoyam, etc. The area is noted for the rearing of animals such as goats, sheep, fowls, and cattle. The indigenous are mostly from the Dagomba ethnic group. The population of this area is about 1500 inhabitants.

Results and Discussion

Benefits of capacity building in cultural and traditional craft enterprises in the selected agricultural communities around the Bomfobiri Wildlife Sanctuary

All the study participants (N=116) positively welcomed the concept of building the capacities of the local people in the agricultural communities around the Bomfobiri Wildlife Sanctuary. They all expressed favorable comments, highlighting the great benefits it would bring to enhancing the wellbeing of the people, their communities, and the Bomfobiri Wildlife Sanctuary. The three main themes garnered during the personal interviews and focus group discussions were:

1. Income generation from employable skills learned by the local people
2. Promoting the rich cultural heritage of the agricultural communities
3. Cultural and Traditional crafts as a catalyst in promoting ecotourism at the Bomfobiri Wildlife Sanctuary among the local people and tourists

Income Generation From Employable Skills Learned by the Local People

The chiefs of Bodomase, Yiribotiri and Dagomba who were privately interviewed individually expressed great support for the building of the capacities of their people in cultural and traditional craft enterprises. They were very excited that the capacity-building training would enable their people in acquiring workable skills that would help alleviate poverty and the high rate of unemployment among the people, especially the youth. The chiefs were worried that the high unemployment rate among the youth could lead to their engagement in social vices such as thievery, armed robbery, illegal cutting down of trees, illegal hunting, and even internet fraud (Known as Sakawa in the local parlance). The Bodomase chief in a personal interview told the researchers:

> *Wonni hwee ye a na obonsam bo wo paa* (It is when you have nothing doing that the devil contracts you to do evil). If my people have jobs doing, especially the youth, they would not engage in any social vices in their bid to survive. These activities derail development, promotes social unrest and instability in our communities. I am very happy that you have come out with this very important concept. I and my people will support you in any way we can to make this capacity building training in cultural and traditional crafts a success (Bodomase chief. Interview by authors. Personal Communication. Bodomase, November 12, 2020).

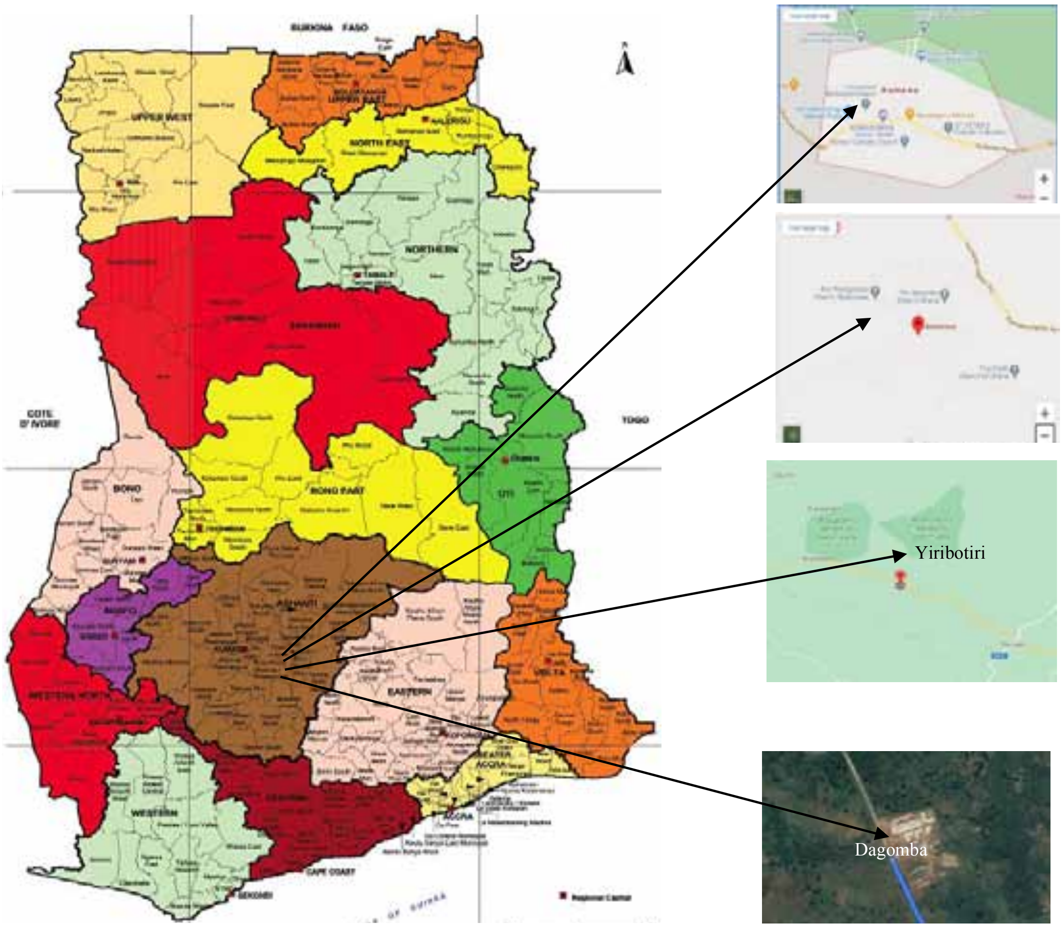

Figure 5. Study areas (Kumawu, Bodomase, Yiribotiri and Dagomba).

True to their words, the chiefs and elders in the four communities wholeheartedly supported the researchers in all the activities of the research. They organized emergency communal meetings to tell the people of the capacity building initiative that was to be organized. Two communities even announced the capacity building training in their local information centres. Commenting on the employable skills' benefit of the capacity building in cultural and traditional crafts, the elders in the traditional cabinets of the four communities, the elderly men and women as well as the youth interviewed expressed similar thoughts like their chiefs (Figure 5). Some of the youth disclosed that when they acquired the employable skills in cultural and traditional crafts, they would not be a burden to their families but rather, they would assist their parents in earning appreciable livelihood support through the sales of the products they would produce. Likewise, the park officers interviewed welcomed the idea of building capacities of the local people in cultural and traditional craft enterprises. They mentioned that many of the anti-conservation operations that the local people often engage in, such as illegal hunting and felling down of trees, flouting closed seasons for hunting, and so forth, are a result of the absence of alternative sources of livelihood for the hunters and farmers and no employment on the part of the youth. The park manager added that when the capacities of the local people are developed in cultural and traditional craft enterprises, it would positively motivate them to support ecotourism development in the area.

The fundamental of any good ecotourism development is to assist the local people living in the forest-fringe communities around a Protected Area to find jobs to do so that they could support ecotourism and conservation of biodiversity. Since the marketability of these cultural and traditional crafts are dependent largely on the tourists who would visit the wildlife sanctuary, I don't think the local people would want to engage in any activities that would jeopardize the resources we are conserving here [referring to the Bomfobiri Wildlife Sanctuary] (Park Manager. Interview by authors. Personal Communication. Kumawu, October 24, 2020).

The employable skills that would lead to income generation and the boosting of rural agricultural communities through capacity building in traditional and cultural crafts as cited by the study participants are supported by literature (Ikupolati et al., 2017; Hieu and Rasovska, 2017; Eniola and Entebang, 2015; Marinho, 2013; Ungarelli, 2009; Scheyvens, 2007). Capacity building in cultural and traditional crafts for ecotourism leads to local people, especially the youth to be resourceful, rather than to be a burden to their families and/or engage in social vices as a result of unemployment (Benson, 2014; Onphandala and Suruga, 2010) or engage in rural-urban migration (Wherry, 2006) and motivates them to support biodiversity conservation and not to engage in unfriendly environmental activities (Adom, 2019a; Provia et al., 2017; Laverack and Thangphet, 2007; Tchetchik et al., 2006). The building of the capacities of the local people in the agricultural communities around the Bomfobiri Wildlife sanctuary in cultural and traditional craft enterprises to create employment avenues support Wondirad's tourism model (Wondirad, 2020) that pivots this study. Wondirad's tourism model posits that for an ecotourism model to be sustainable, it must ensure job creation for the members of the local communities where the ecotourism facility has been set up as a catalyst in winning their support for the conservation of biodiversity in the Protected Area.

Cultural and Traditional Crafts as a Catalyst in Promoting Ecotourism at the Bomfobiri Wildlife Sanctuary Among the Local People and Tourists

The park management registered their displeasure at the low turnout of visitors to the sanctuary as well as the less time they spend when they visit. They said that there are no extended activities that would compel visitors to spend more time in the sanctuary for them to generate more revenue. Therefore, they were excited that if a cultural museum is established at the sanctuary, or cultural activities are carried out at the sanctuary to educate the tourists about the culture of the host communities and entertain them, it would make the place more enjoyable, encouraging them to spend more time at the sanctuary. They argued:

> If there are extended activities such as a cultural museum or traditional craft gift or production shop at the sanctuary, visitors would more likely spend considerable time at the sanctuary. For instance, if traditional culinary services and classes are organized for visitors, it would encourage them to spend several hours, if not days, at the sanctuary. Imagine some cultural performances organized here for visitors in addition to the sightseeing of fauna and flora diversities and the waterfalls in this sanctuary, the place will be more enjoyable and this would lead to more income generation for the sanctuary and the rural people living in our fringe communities (Park Officers. Interview by authors. Personal Communication. Kumawu, November 19, 2020).

The Park officers opined that cultural and traditional craft enterprises would help in enhancing the ecotourism development at the sanctuary. These included textiles, leatherwork, basketry, rattan and bamboo, sculpture, painting, pottery and ceramics, body arts, culinary practices, and cultural heritage hub. They mentioned that when visitors visit protected areas in regions, they always patronize the buying of souvenir items that depict the cultural heritage and ways of life of the people. The chiefs again reiterated that building the capacities of the local people in the cultural and traditional craft enterprises would endear them toward supporting the ecotourism development at the sanctuary. After all, they have a means of generating income to fend for themselves and their families. As such, there would be no need to engage in any illegal activities to duress conservation initiatives at the sanctuary.

The findings of the study support the view expressed in literature that cultural products and services, as well as souvenir products from traditional crafts, have the potential of encouraging more visitors to an ecotourism site because they enhance the cultural experiences of visitors (Kim & Littrell, 2001). Tourists often buy souvenirs to remind themselves of the experiences they enjoyed at the ecotourism community and as gifts to their relatives and friends (Tosun et al., 2007). Indeed, the success of ecotourism sites depends largely on the products in cultural and traditional craft enterprises which are mostly patronized by tourists (Mitchell, 2012; Peach, 2007). Visiting an ecotourism site, like the Bomfobiri Wildlife Sanctuary without having the provision of cultural and traditional artifacts is a minus to a proper ecotourism site. Thus, Hieu and Rasovska (2017) noted that ecotourism sites in Vietnam rely heavily on souvenir supplies from cultural craft enterprises to enhance the ecotourism and local cultural experience of visitors. Similarly, Mahboob et al. (2021) noted of the urban tourism landscape in Pakistan that tourists' desire to spend, amongst other things, on handicraft products would encourage the setting up of local enterprises to generate revenue for local people. Therefore, the development of gift and souvenir items from cultural and traditional craft enterprises as a booster of ecotourism development at the Bomfobiri Wildlife Sanctuary cannot be overemphasized.

Promotion and Preservation of the Rich Cultural Heritage and Place Identity History of the Agricultural Communities Around the Bomfobiri Wildlife Sanctuary

The agricultural communities adjacent to the Bomfobiri Wildlife Sanctuary have a rich cultural heritage and place identity history. The capacity building in traditional and cultural crafts that portray the culture and history of the people would lead to their preservation and promotion among the visitors at the Bomfobiri Wildlife Sanctuary. The chiefs and elders in the agricultural communities disclosed to the researchers some of the interesting cultural heritage and place identity histories that would be promoted and preserved as a result of the capacity building in cultural and traditional craft enterprises. The park officers and park manager were optimistic that aside from the natural heritage of the agricultural communities, they also have very rich cultural heritage, interesting cultural objects, and indigenous spots of place identity history which when developed into cultural enterprises such as a cultural museum, cultural hub in charge of offering cultural performances to tourists and tour visits to places of history and cultural interest. The elders of Kumawu Traditional Council in a focus group discussion told the researchers:

> The Kumawu and Bodomase towns have a centre-stage in the history of the Asante people [a dominant ethnic society in Ghana]. One of our ancestors, Nana Tweneboa Kodua I offered himself as a sacrifice to assist the Asante kingdom to become victorious over their arch-enemy of the time, the Denkyiras. This is globally known and visitors around the globe would like to know of him. Thus, your idea [referring to the researchers] of establishing a cultural museum with his regalia and that of the other paramount chiefs of Kumawu as well as the production of souvenir items of the cultural objects we have preserved in our palace as part of the capacity building will promote our rich culture (Elders. Interview by authors. Personal Communication. Kumawu, November 14, 2020).

The elders of the Bodomase Traditional Council added in a focus group discussion mentioned the battleground at Dweasaso in Bodomase where their first chief, Nana Dwenti Asimpa is purported to have fought with the spirit of death and became victorious which could be a potential extended tourism destination. Moreover, the researchers were shown a spot in the Bomfobiri Wildlife Sanctuary, closer to the waterfalls, where it is believed the Kumawu first ancestors were killed by an angry deity called Dente who metamorphosed himself into a hive of bees and attacked the people because they failed to show him an act of hospitality when he visited the people. While driving away their ancestors from a place called Akyem-Agogo, their paramount chief, elders and some community members died at that spot in the Bomfobiri Wildlife Sanctuary. The drums and the other regalia of their then chief while journeying to our current place of the settlement are at the sacred place now. The people of Kumawu view that spot as sacrosanct because they believe it is the spiritual abode of their ancestors.

Also, at Bodomase, the researchers saw the Bodom sacred tree which happens to be the first settlement spot of their first ancestors led by their chief, Nana Dwenti Asimpa. The tree is very huge, housing various birds and bats. It is asserted by the people that their first ancestor met a human-spirit creature called Okofoboti who resided close to the tree. Their first chief, Nana Dwenti Asimpa, and his people came to reside there with him under the Bodom tree after establishing friendly relations, thus, the name of the town 'Bodomase (Those who reside under the Bodom tree). The Bodom sacred tree is a potential tourism destination in the Bodomase town, which when developed, could offer cultural education on the place identity history of the people. There is also the royal burial place or mausoleum of Nana Dwenti Asimpa, the first chief of Bodomase. The place is where the first Bodomase chief was buried. It is purported among the people that he was buried alive since he was immortal and could not die. Relics and items used by Nana Dwenti are deposited at this place, serving as a potential tourist attraction that can elicit cultural education.

The youth interviewed said that the cultural and traditional crafts that would be produced would be designed with cultural symbols that embody the cultural values, norms, and moral ethics of the people and Ghanaians in general. They reiterated that the Adinkra symbols and other proverbial symbols used as designs in the products would assist both domestic and international buyers to learn about the Ghanaian culture, leading to its awareness, promotion, and preservation. The women interviewed were very excited that the traditional cuisines in their local communities could be a potential enterprise in boosting ecotourism revenue. They were optimistic that the traditional culinary enterprises that they would set up would help visitors to know of their local foods, their ingredients, and preparatory procedures, leading to the cultural education and preservation of their traditional food culture.

The local people living in the agricultural communities celebrate a cultural festival called the Papa Nantwi festival. The festival is commemorated to portray the great physical strength and courage of the people of Kumawu in fighting against their enemies. This cultural event which has not been commemorated for some years now as a result of chieftaincy issues, according to the Kumawu elders, is a great tourism potential and an avenue for visitors in knowing about the place history and culture of the people of Kumawu, Bodomase, Yiribotiri, and Dagomba. Therefore, finding innovative ways of making visitors at the Bomfobiri Sanctuary to know about this festival by building capacities of local people will lead to Kumawu's cultural heritage promotion and preservation.

The park management at the Wildlife Sanctuary opined that the establishment of a cultural museum as a cultural enterprise run by the local people in boosting ecotourism development at the Bomfobiri Wildlife Sanctuary would encourage cultural education and the preservation of the cultural heritage of the agricultural communities. The developed capacities of the local people will enable them to professionally offer historical narrations of the place identity history of the communities, as well as engage in cultural performances while serving as tour guides to the interesting place identity historical spots in the communities. The park officers mentioned that these enterprises would throw a spotlight on the rich cultural heritage of the Kumawu people and Ghana as visitors enrol in cultural performances at the sanctuary and interact with the traditional cultural artifacts. This they mentioned would culminate into cultural education, awareness, appreciation, and preservation.

The findings of the study correlate with the views expressed in empirical studies on ecotourism development using traditional and cultural crafts. Products from cultural and traditional craft enterprises assist in the education, preservation, and promotion of the cultural heritage of communities and promote extended activities that support ecotourism development of a Protected Area as evidenced by this study. Hien (2012) reports that handicraft enterprises in Vietnam produced by local communities have been able to promote the cultural pride of the rural communities and Vietnam's cultural heritage. Similarly, Iran's rich traditional cultural heritage is promoted by enterprises in cultural and traditional crafts to fuel ecotourism development in their nature reserves (Heidarabadi, 2008). Williams et al. (2014) noted traditional culinary practices as avenues for communities to showcase their traditional food culture through food demonstrations, tourists registering for culinary classes, and partaking in cooking competitions as forms of bolstering the learning of the food culture of tourists as an important feat in ecotourism development of a place. Studies such as Benson (2014), Kay (2003), Hall et al. (2003), Kivera and Crotts (2006), Zargham (2007), Glow (2018) as well as Hieu and Rasovska (2017) have emphasized the pivotal role of cultural and traditional craft enterprises in sustaining ecotourism development in Tanzania, Italy, France, Iran, Thailand, Malaysia, Spain, India, Pakistan, and Vietnam respectively. The cultural education and experiences gained through products and services from cultural and traditional craft enterprises (Karabati et al., 2009) are important in preserving the rural lifestyles, culture, and place identity history (Privetera, 2010) from being eroded (Hainsworth, 2009).

Enterprise Viability Needs Assessment in Cultural and Traditional Craft Enterprises for Ecotourism Development at the Bomfobiri Wildlife Sanctuary in the Host Communities
There are various cultural and traditional craft enterprises in Ghana. However, it is not all of them that may be viable in a particular region of the country or may meet the differing business needs of an area (Aladejebi, 2018). As such, enterprise

viability needs assessment was conducted to find out the specific cultural and traditional craft enterprises that may be viable for ecotourism development at the Bomfobiri Wildlife Sanctuary while promoting income generation among the local people who will be benefactors of the capacity building training (Figure 11).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	80	69.0	69.0	69.0
	Male	36	31.0	31.0	100.0
	Total	116	100.0	100.0	

Figure 6. Cronbach's Alpha.

Figure 6 shows the reliability or internal accuracy of the developed questionnaire checked by Cronbach's Alpha. A good 0.984 Cronbach's Alpha was shown in the results indicating the high validity of the questionnaire used in conducting the enterprise viability needs assessment on the cultural and traditional craft enterprises for ecotourism development in the agricultural communities around the Bomfobiri Wildlife Sanctuary.

Age Ranges		Frequency	Percent
Valid	15-25	26	22.4
	26-35	35	30.2
	36-45	29	25.0
	46-55	4	3.4
	56 and above	22	19.0
	Total	116	100.0

Figure 7. Gender Distribution. Source: Field Study (2020).

Figure 7 shows the gender distribution of the study participants who answered the enterprise viability needs assessment questionnaire. A total of eighty (80) females representing 69% and 36 males representing 31% of the study participants were engaged in the study. These results show that the majority of the study participants who partook in the enterprise needs assessment were females. The high number of females involved in our study on capacity building in cultural and traditional craft enterprises may be a result of the global trend of West African women's great interest in the informal economy (McCormick, 2020) as a means of reducing the high rate of female unemployment (Paldan, 2018). Generally, Ghanaian women are always seeking opportunities to learn a skill in entrepreneurship to set up their businesses as the country boost of the having the highest percentage of women entrepreneurs globally (Mastercard Index of Women Entrepreneurs, 2019). The results of the study are encouraging because craft enterprises have often attracted and empowered rural women living in agricultural communities to have reliable means of income in the ecotourism industry (Marinho, 2013).

Age Ranges		Frequency	Percent
Valid	15-25	26	22.4
	26-35	35	30.2
	36-45	29	25.0
	46-55	4	3.4
	56 and above	22	19.0
	Total	116	100.0

Figure 8. Age Distribution. Source: Field Study (2020).

The age distribution of the study participants (Figure 8) indicates that 61 out of the total 116 were aged between 15-35 years (According to the Ghana's National Youth Policy, 2010) representing 52.6%. This implies a good sign of youth engagement in the capacity building in cultural and traditional craft enterprises. Among the 61 youth, the majority were female (46 representing 75%), and (12 representing 25%) of the youth population were male (Figure 9).

Gender		Frequency	Percent
Valid	Female	46	75.0
	Male	15	25.0
Total		61	100.0

Figure 9. Gender Division of Youth. Source: Field Study (2020).

The results indicate that the highest number of study participants were youth below the age of 35 with the highest aggregate below the age of 25. This is encouraging because youth unemployment in Ghana is high, estimated at 9.16% in 2020 (World Bank, 2020). The high number of youth partaking in the capacity building training confirms Enu-Kwesi and Asitik's (2012) view that the Ghanaian youth are taking advantage of entrepreneurial training programs to reduce youth unemployment or under-employment. This is encouraging because the youth tend to be more idealistic and possess action-oriented minds toward business creation and tend to be successful in enterprise development (Benjamin-Schonberger, 2010).

Below in figure 10 is a table of enterprise visibility assessments indicators from the area around the Bomfobiri Wildlife Sanctuary.

	N	Mean	Std. Deviation
TEXTILES			
Value orientation	116	1.09	.395
Marketability	116	1.09	.395
Learnability of the employable skills	116	1.11	.433
Start-Up Financial Capital	116	1.10	.404
OVERALL MEAN		**1.10**	
LEATHERWORK			
Value orientation	116	1.76	.798
Marketability	116	1.76	.787
Learnability of the employable skills	116	1.77	.795
Start-Up Financial Capital	116	1.78	.803
OVERALL MEAN		**1.77**	
BASKETRY			
Value orientation	116	1.84	.627
Marketability	116	1.84	.627
Learnability of the employable skills	116	1.84	.627
Start-Up Financial Capital	116	1.86	.631
OVERALL MEAN		**1.85**	
RATTAN & BAMBOO			
Value orientation	116	1.89	.507
Marketability	116	1.90	.500
Learnability of the employable skills	116	1.89	.507
Start-Up Financial Capital	115	1.90	.502
OVERALL MEAN		**1.90**	
SCULPTURE			
Value orientation	116	1.76	.65436
Marketability	116	1.76	.654
Learnability of the employable skills	116	1.76	.654
Start-Up Financial Capital	116	1.81	.671
OVERALL MEAN		**1.77**	
PAINTING			
Value orientation	116	1.92	.727
Marketability	116	1.92	.727
Learnability of the employable skills	116	1.88	.727
Start-Up Financial Capital	116	1.97	.752
OVERALL MEAN		**1.92**	
POTTERY AND CERAMICS			
Value orientation	116	1.87	.717
Marketability	116	1.88	.712
Learnability of the employable skills	116	1.89	.720
Start-Up Financial Capital	116	1.88	.712
OVERALL MEAN		**1.88**	
BODY ARTS			
Value orientation	116	1.96	.677
Marketability	116	1.94	.676
Learnability of the employable skills	116	1.95	.670
Start-Up Financial Capital	116	1.96	.677
OVERALL MEAN		**1.95**	
CULINARY PRACTICES			
Value orientation	116	1.45	.637
Marketability	116	1.43	.636
Learnability of the employable skills	116	1.46	.651
Start-Up Financial Capital	116	1.45	.637
OVERALL MEAN		**1.44**	
CULTURAL HERITAGE HUB			
Value orientation	116	1.60	.733
Marketability	116	1.59	.723
Learnability of the employable skills	116	1.59	.734
Start-Up Financial Capital	116	1.61	.732
OVERALL MEAN		**1.60**	

Figure 10. Enterprise viability needs assessment of the cultural and traditional craft enterprises for ecotourism development in the agricultural communities around the Bomfobiri Wildlife Sanctuary.

The enterprise viability needs of ten (10) different cultural and traditional craft enterprises (Figure 10) were assessed using the developed questionnaire. The results of the assessment are shown in Figure 10. The results indicate that all the ten (10) cultural and traditional craft enterprises are viable, though some are more viable than others. Textiles is the most viable (M=1.10), followed by culinary practices (M=1.44), cultural heritage hub (M=1.61), leatherwork (M=1.77), sculpture (M=1.77), basketry (M=1.85), pottery and ceramics (M=1.88), rattan and bamboo (M=1.90), painting (M=1.90) and the least viable being Body Arts (M=1.95). The highest viable choices of cultural and traditional craft enterprises are female-dominated and this may have influenced the interest in textiles, culinary practices, cultural heritage hub, and leatherwork. Ruskin and Morris (2005) assert that these cultural and traditional craft enterprises that had the highest viability percentage in our study are mostly endeared by females because they involve innovative production and basic designing skills. Moreover, they don't require a very huge start-up capital to kick-start the enterprise (Croes and Vanegas, 2008) making them preferred cultural and traditional craft enterprises for rural women in agricultural communities. Also, they are mostly enterprises that can be operated from the home (Paldan, 2018), avoiding the financial burden of renting shop spaces in the initial stages of setting up the enterprise. As such, most females engage in enterprises in textiles, traditional cuisines, leatherwork, and cultural artifacts (Tambunan, 2009). Zahid and Kamarudin (2019) report that in Pakistan, the textile industry has been a preferred traditional craft enterprise that has assisted many rural women in agricultural communities to have an additional source of income aside from the seasonal farming activities in the region. Similarly, Ufig (2015) notes of rural women in Lombok, West Nusa-Tenggara, Indonesia that they have equally taken advantage of enterprises in textiles to support their tourism industry. In the KwaZulu-Natal province in South Africa, Oluwayemisi and Muchie (2020) as well as Abisuga-Oyekunle and Fillis (2017) remark that handicraft enterprises, particularly, textiles and fashion accessories offer traditional textile products that generate appreciable tourism revenue for many rural women in the region. Similarly, there are considerable numbers of women entrepreneurs in leatherwork enterprises who produce for the tourism market in Pakistan and Bangladesh (Blundel et al., 2015).

Capacity building in the viable cultural and traditional craft enterprises in the host communities for ecotourism development at the Bomfobiri Wildlife Sanctuary

Capacity building training workshops in the first four most viable cultural and traditional craft enterprises based on the enterprise needs assessment conducted were organized in the four study areas. These were textiles, leatherwork, culinary practices, and cultural enterprises. This decision was as a result of the limited funding received for the research that could not allow us to build the capacities of the local people in the agricultural communities in all the ten viable cultural and traditional craft enterprises. Granted, all the study participants who decided to enroll in the capacity building training workshops were very excited to learn the skills in the chosen cultural and traditional craft enterprises. A total of 78 out of the 116 recruited study participants came for capacity building training in the four agricultural communities selected for the study (Figure 12). However, these 78 study participants were dominated by females and the youth in terms of the gender and age statistics that were carried out (Figure 13 and 14). The majority of them were female rural farmers in their youthful ages (Figure 14). This confirms our earlier conclusion that the capacity building training in the study areas for this study was female-dominated and youth-centered. Literature indicates that females and the youth are the most targeted audience for entrepreneurial training globally including Ghana (World Bank, 2020; Mastercard Index for Women Entrepreneurs, 2019; Paldan, 2018; Abor and Quartey, 2010; Youth Business International, 2009). That notwithstanding, the few males who voluntarily enrolled in the study were equally assisted during the capacity building training sessions.

Figure 11. Community engagement on enterprise needs assessment, Kumawu, Ghana. Source: Photographed by the authors.

Study Areas	Female	Male	Total
Dagomba	17	7	24
Kumawu	14	3	17
Yibotiri	11	4	15
Bodomase	16	6	22
Total	58	20	78

Figure 12. Capacity building in cultural and traditional craft enterprises.

The capacity building training sessions were conducted by a total of eight skilled persons in the four traditional and cultural craft enterprises. Before each of the capacity building training, the general expectations of the study participants were sought. The key views they expressed were that they were eager in learning the skills through practice so that they could replicate and even come out with innovative ideas on their own. More so, they were determined to kick-start their business operations after acquiring the skills through capacity building training.

Gender		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	58	74.4	74.4	74.4
	Male	20	25.6	25.6	100.0
	Total	78	100.0	100.0	

Figure 13. Gender statistics of study participants who enrolled in the capacity building training workshops.

Age		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	15-25	27	34.6	34.6	34.6
	26-35	24	30.8	30.8	65.4
	36-45	23	29.5	29.5	94.9
	46-55	4	5.1	5.1	100.0
	Total	78	100.0	100.0	

Figure 14. Age statistics of study participants who enrolled in the capacity building training workshops.

The capacity building training sessions were conducted by a total of eight skilled persons in the four traditional and cultural craft enterprises. Before each of the capacity building training, the general expectations of the study participants were sought. The key views they expressed were that they were eager in learning the skills through practice so that they could replicate and even come out with innovative ideas on their own. More so, they were determined to kick-start their business operations after acquiring the skills through capacity building training.

Capacity Building in Textile Enterprises

The textile enterprise was the most preferred among the larger section of the study participants (Figures 15-17). Culturally, Ghana is famed internationally for the production of traditional textile products with traditional symbols with philosophical interpretations tied to the accepted cultural norms, values, and ethics in the Ghanaian society. These textile fabrics after they have been designed are used in producing fancy products or souvenir items that the study participants asserted would be well patronized by the tourists who would visit the Bomfobiri Wildlife Sanctuary. Capacity building in textiles, namely Tie and Dye textile production, Batik textile production, Macrame production, and T-shirt printing designed with traditional symbols and cultural objects were undertaken in the four communities.

Figure 15. Engaging in Macrame Art at Bodomase, Sekyere-Kumawu District, Ghana. Source: Photographed by the authors.

Figure 16. Engaging in Batik Printing at Dagomba, Sekyere-Kumawu District Ghana. Right, Leatherwork. Source: Photographed by the authors.

Figure 17. Engaging in Tie-Dyeing production at Dagomba, Sekyere-Kumawu District, Ghana. Source: Photographed by the authors.

Macrame textile products such as wristlets, handbags, and footwear/slippers were taught to the study participants. We commenced the capacity building with a clear-cut demonstration of each of the steps in the activities by teaching simple tasks first before the more advanced tasks. Therefore, snake and square knots were first taught to the study participants which they were guided in producing hand bracelets and wristlets before teaching more advanced knots such as Josephine and Chinese knots. These were combined with the basic knots they learned earlier and were incorporated into the production of footwear and handbags.

The study participants were taught various ways of folding and tying fabrics before dyeing in the tie-dyed cloth production process. The folding methods included accordion, gate, umbrella folds, amongst others. Also, the tying methods included tying dye-resistant areas with strings, raffia materials, stitching as well as fabric crumpling methods (marbling) that were taught to the study participants. They were instructed in batiking methods such as wax sprinkling with brooms, using already prepared hand stamps with relief designs of traditional and cultural symbols and objects in resisting non-dye areas of the fabric before dyeing. Additionally, the study participants were taught T-shirt screen printing methods. They were instructed in proper procedures for handling screens and squeegees, pouring adequate quantities of printing pastes, and printing the T-shirt. We gave room for questions after each activity has been performed. This allowed the study participants to follow along with the activities by engaging in hands-on activities and they were excited that they acquired the skill at a faster rate. Those who acquired the skill faster were assigned to assist the slow learners.

Capacity Building in Enterprises in Leatherwork

We followed the same tutorial method used for the textiles for the capacity building in enterprises in leatherwork. Based on the preference of the study participants, three leatherwork products were taught to the study participants. These were wallets, flower vases, and traditional slippers (Ahenema). Procedures in general leatherwork production were taught to the study participants. Also, they were instructed in leatherwork preparatory processes such as de-hairing, soaking, stretching and dyeing of the leather with locally manufactured dye (nails mixed with lemon).

After the leather materials have been prepared, the study participants were instructed in the designing and production of templates, laying out, cutting, designing, assembling, stitching and thonging with simple stitches such as crisscross, oversew, and slanting stitches. The study participants were taught skillful ways of incorporating Ghanaian cultural symbols, particularly, Adinkra symbols into the designing of the leatherwork products. The capacity building training in all the enterprises, including leatherwork was very interactive because there were periodic breaks to engage in forum discussions where questions posed were answered.

Capacity Building in Enterprises in Traditional Culinary Practices

The agricultural communities where the study was undertaken can boast of some popular traditional cuisines which are potential sources of generating tourism revenue. Some elderly women in the four study areas already had the capacities in preparing these traditional cuisines. They were excited to be used as resource persons in carrying out the capacity building in traditional cuisines to assist the young females to be able to initiate the establishment of enterprises in traditional culinary practices. They were convinced that when the young females are able to acquire the skills in the preparation of the traditional foods, they would be able to have a source of livelihood since these meals are well patronized by tourists as well as domestic food consumers in their respective communities. However, to help these elderly women who have volunteered to carry out the capacity building for the young females, we engaged them in a focus group discussion for a day to abreast them on the constructivist approach and strategy we have adopted for the carrying out of the capacity building.

Based on the enterprise needs assessment we conducted, it was deduced from the quantitative data that five traditional cuisines were seen by the study participants as more viable in terms of patronage by both tourists and domestic food consumers. Thus, we decided to build the capacities of the young females in those traditional cuisines, namely, Akapintin, Mpotompoto, Ofam, Akple, and Aprapransa. We also built the capacities of the young females as well as the elderly women who volunteered as resource persons for the capacity building on how to effectively organize culinary classes for visitors who may be interested in learning the skills in the preparation of the traditional foods (Barbieri, 2013). Also, we enlightened them on the histories and cultures surrounding the ingredients and the art of the preparation of the meals which we gathered from the queen mothers and elderly women in the communities as well as scholarships on the traditional cuisines. Also, we taught them organization of food preparation competitions for visitors who sign up for the culinary classes organized (Srisomyong, 2010). The experience was exciting for the spectators' present, even though some of them assisted in the preparatory procedures for the traditional cuisines.

Capacity Building in Enterprises in Cultural Services

We organized a communal forum meeting in each of the study areas with the traditional chiefs, elders, and the community members as well as the park management of the Bomfobiri wildlife sanctuary on the kinds of cultural services that could be transformed into enterprises to assist the local people to have employment opportunities while aiding in the promotion of ecotourism development at the sanctuary. The local leadership and community members were assisted in realizing the high tourism and job potentials in their rich cultural heritage. Together with a delegation from the traditional authorities, we identified potential areas of cultural and historical interest that could be developed as extended attractions for tourists who visit the Bomfobiri wildlife sanctuary. Three areas of interest were the royal burial mausoleum of Nana Dwenti Asimpa (the researchers were not allowed to take pictures of it because the elders insisted it was an abominable act and breaching it could lead to spiritual consequences for the entire community), the ancient Bodom sacred tree where the first ancestors of the people of Bodomase settled (Figure 18) and the battlefield at where it is purported among the people that Nana Dwenti Asimpa, the first king of Bodomase and brother to the Kumawu chief, Barima Nana Tweneboa Kodua I fought with the spirit of death and triumphed over him (Figure 19).

Figure 18. Bodom sacred tree, Bodomase, Ghana. Source: Photographed by the authors.

Figure 19. Battlefield between Nana Dwenti Asimpa and the spirit of death. Source: Photographed by the authors.

We also discussed with the traditional authorities and the park management at the Bomfobiri wildlife sanctuary, the need to establish a cultural museum on the compound of the sanctuary. This holds the potential of building the interests of visitors in traditional craft souvenir products and as well as promoting the rich cultural heritage of the people. The study participants showed much interest in this innovative idea. As a result, the park management suggested an area at the entrance of the sanctuary where the cultural museum could be established. Also, it was agreed at our capacity-building forum discussions that the cultural museum to be set up must have three compartments for a production unit, an exhibition/gallery, and a gift or souvenir shop. Moreover, we discussed the kind of management for the cultural museum to be set up. Since the objective was to build the interest of the local people as a step in winning their support for the conservation of biodiversity and ecotourism development, we reached a consensus to allow the local people to man the place while the park management support with surveillance and monitoring. Yet, the sanctuary was to benefit from the proceeds from the cultural museum when it is set up. The cultural objects that could be used for the museum included all potential items of cultural and historic interest linked to the place identities of the people such as the regalia of the royal families in the chiefdom, the drum purported to have been owned by the spirit of death seized by their victor, Nana Dwenti Asimpa, effigies of past chiefs and renowned ancestors in the communities, and other cultural artifacts used for the celebration of the Papa Nantwi festival (the annual festival celebrated among the people of Kumawu and their neighboring towns to remember the bravery and warlike nature of their great ancestor, Barima Nana Tweneboa Kodua I who offered himself up as a sacrifice to aid the Asantes to win their war against the Denkyiras.

We encouraged the setting up of a cultural troupe in each of the four communities whose capacities we built in performing arts such as traditional songs, the narration of proverbs and folklores, traditional dance forms, and drama acts mimicking key events in the sociocultural rites of the people in an attempt to entertain, educate, preserve, and promote the rich cultural heritage of the people. Aside from promoting ecotourism development at the Bomfobiri wildlife sanctuary by offering an extended cultural service to tourists, these cultural enterprises are viable sources of employment for the local people.

Evaluation of the Strengths and Weaknesses of the Capacity Building in Cultural and Traditional Craft Enterprises in the Host Communities for Ecotourism Development at the Bomfobiri Wildlife Sanctuary

Evaluation of capacity building training is important as it aids in assessing the extent of the exercise in attaining its objectives (de Koning et al., 2006) or judging whether the exercise has been successful or not while pointing out areas that require improvement in the future (van der Werf, 2007). This ex-ante evaluation was crucial in judging the success of the capacity building in improving the identified problems in the society that required intervention (de Koning et al., 2006). This section presents the analysis of the capacity building evaluation questionnaire that was used for the study among the 78 study participants who were engaged in capacity building in traditional and cultural craft enterprises in the four study areas. The first part was a set of twelve close-ended statements with a three-pint rating scale and the second part was open-ended responses on the strengths and weaknesses of the capacity building conducted. A Cronbach's Alpha was used to test the reliability or internal consistency of the data collected. The results indicated a good Cronbach's Alpha of 0.620 as indicated in figure 20.

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	No. of Items
.620	.924	12

Figure 20. Reliability statistics of the capacity building evaluation questionnaire.

STATEMENT	No.	Mean	Std. Deviation
The capacity building met my expectations	78	1.03	.226
The capacity building training will be beneficial to personal development	78	1.03	.226
The capacity building training will be beneficial to the development of my community	78	1.03	.226
The capacity building training will improve ecotourism development at the Bomfobiri wildlife sanctuary	78	1.03	.226
The capacity building training helped me in acquiring important employable knowledge and skills	78	1.08	.387
The capacity building training has equipped in me the desire to set up an enterprise in cultural and traditional crafts	78	1.03	.226
The capacity building training has taught me essential skills that I can teach other members of my family and community	78	1.03	.226
The nature of the capacity building was enough and sufficient	78	1.03	.226
The knowledge and skills learned at the capacity building training was adequate	78	1.08	.387
The mode of instruction which included hands-on activities by participants was good	78	1.08	.387
The number of days for the capacity building training was sufficient	78	1.17	.520
The number of cultural and traditional craft enterprises learned was adequate	78	1.17	.545
OVERALL MEAN		1.06	

Figure 21. Evaluation of the strengths and weaknesses of the capacity building in cultural and traditional craft enterprises in the study areas.

The responses to the first statement show that the training met the participants' expectations (M = 1.03, SD = .239). The participants also agreed that the capacity building was relevant and beneficial to the development of their community (M = 1.03, SD = .239). With regards to whether the capacity building training helped the study participants in acquiring important employable knowledge and skills, they agreed that it was relevant. (M = 1.08, SD = .337). The overall mean (M= 1.06) suggests that the strengths of the capacity building in cultural and traditional craft enterprises surpass the weaknesses as indicated in Figure 21.

The open-ended views expressed by the study participants gave quite detailed explanations of the statements in the close-ended statements (Figure 22). For instance, the participants were excited that they have acquired employable skills to initiate the production of products in various traditional and cultural craft enterprises of which their capacities were developed. For instance, in a focus group discussion with some of the female youth at Yiribotiri, they stated that the tuition strategy we adopted that involved them in all the activities was helpful, making it easy for them to master the skills.

> The steps for each of the activities were not clumsy. We initially enjoyed a demo of the activities, followed by a step-by-step hands-on participatory engagement of the activities. As such, many of us who are unlettered could master the skill and even teach those of our people who reported here late. (Female Youth. Interview by authors. Personal Communication. Yiribotiri, November 19, 2020).

This finding correlates with de Koning et al. (2006) view of impactful capacity building. They theorized that when high levels of participatory approach are adopted in capacity building, it often leads to empowerment of participants and the skills they learn are able to stand the test of time because they grasped them well. Thus, the strength of our capacity building greatly lies in the participatory approach we implemented. The study participants were much convinced that they have acquired the skills eloquently to the point that it would make it easy for them to train others. Due to the practical hands-on approach to our capacity building, the low educational attainment of the study participants was not a barrier or weakness as it was in Enu-Kwesi and Asitik (2012) study on capacity building in entrepreneurial skills development among the youth of Ajumakoenyan-Essiam district of Ghana. The study participants contended that they were poised to set up their enterprises with the employable skills they have acquired via the capacity building to gain income. Thus, Bamfo et al. (2015), Rogerman and Rogerman (2010), as well as de Koning et al. (2006) assertion that successful capacity building must alleviate poverty and enrich the lives of local people, was successfully met by our capacity building. Indeed, when capacities in cultural and traditional craft enterprises are well developed, it often leads to handicraft micro-enterprises which are very reliable sources of generating sustainable revenue, especially in ecotourism sites. The findings of the study of Abisuga-Oyekunle and Fillis (2017) in South Africa confirm our findings. They noted that 92 (68%) of South Africans, including craftsmen, were optimistic that enterprises in cultural and traditional crafts offered reliable means of employment and a steady income. They noted that the remaining 43 (32%) respondents who opposed this were just naïve about the potentials of the cultural and traditional craft enterprises, especially in ecotourism development in the country. The United Nations World Tourism Organization (2008), Joffe and Newton (2007), as well as Stevens (2007) all, attest to the relevance of skills acquired as a result of capacity building in cultural and traditional craft enterprises when well carried out leads to empowered citizens who are able to obtain a sustainable form of livelihood while boosting ecotourism development in their area.

Despite these strengths of our capacity building, the major challenge we faced was our limited financial resources. The study participants wanted us to give them some of the raw materials required for the skills we taught them so that they could practice again while we are away. Other participants had wanted us to carry out the capacity building for a longer period so that more advanced skills could be taught them in the enterprises of interest. Yet, we were unable to do so as a result of our limited budget for the research. Also, in undertaking the capacity building, we noted fatigue and hunger registered on the demeanors of some of the study participants, who were looking up to us for some kind of dietary refreshment during afternoon breaks. Unfortunately, we couldn't offer them any kind of dietary refreshment because of our limited financial resources for capacity building. This somehow affected the active participation of some of the study participants at the latter sections of the capacity building daily. We noticed that some of the study participants did not have the urge to actively partake in the capacity building because of hunger. This situation could have been avoided if we offered them some dietary refreshments during the capacity building training sessions. Thus, we concur with the views of Aladejebi (2018), Benson (2014), Nwazor (2012), and Chinonye (2010) that low financial strength can negatively affect the success of capacity building training. Moreover, we agree with the recommendation of Provia et al. (2017) that arrangements for financial incentives to support community members whose capacities are developed in particular enterprises to enable them to kickstart their businesses are very crucial to the sustainability of capacity building development. Arrangements for more advanced entrepreneurial skills to be offered to community members whose capacities have been developed are also very crucial (Aladejebi, 2018) as suggested by some of the study participants. These advanced skills could cater for the enhancement of the acquired, often basic skills in initial capacity building in some enterprises such as ours, effective business management and marketing strategies, personality management, start-up guidance and business mentoring (Afande, 2015) and others that would lead to the sustainability of their business set-ups.

Figure 22. Evaluation of the capacity building,Yiribotiri, Ghana. Source: Photographed by the authors.

Conclusion

This study was aimed at developing the capacities of local people in selected agricultural communities located around the Bomfobiri wildlife sanctuary in cultural and traditional craft enterprises. This was deemed crucial in offering employable skills to the local people while using the products and services to set up enterprises that would offer essential extended activities to tourists who visit the Bomfobiri wildlife sanctuary to boost ecotourism development. The findings have shown that a greater section of the female youth and the minimal number of males and elderly persons in the selected agricultural communities engaged in capacity building in the cultural and traditional craft enterprises. Based on an enterprise needs assessment, it was noted that the ten cultural and traditional enterprises suggested, were all viable in terms of their abilities in helping the local people gain employment while increasing ecotourism revenue at the sanctuary and promoting the rich cultural heritage of the agricultural communities. However, due to the limited resources for capacity building, we decided to develop the capacities of the study participants in the four topmost selected cultural and traditional craft enterprises. These were textiles, leatherwork, traditional culinary practices, and cultural services. The success of the capacity building was based on its easy tutorial approach adopted, which was the constructivists' principle of emphasizing hands-on activities that prioritize the active participation of the study participants. This led to the massive grasping of the employable skills by the study participants who were poised in setting up their enterprises in cultural and traditional crafts. However, the weakness that may have negatively impacted the capacity building was limited financial resources. The study contends that developing the capacities of local people helps in motivating them in supporting conservation and ecotourism development rather than engaging in illegal and anti-conservation activities because of unemployment. Based on these conclusions, we are recommending that the ministries of Food and Agriculture, Lands and Natural Resources, as well as the Forestry Commission in Ghana, must liaise with agencies and individuals in charge of the production of cultural and traditional crafts so that they could offer essential workable skills to the local people living in fringe communities around protected areas in Ghana. This would help alleviate unemployment and poverty which are often the drivers for the lack of local support for conservation and tourism activities in protected areas in the country. Owing to this, enough funding must be provided by these ministries for the capacity building in cultural and traditional crafts while offering the local people who have received the training, startup capital, and toolkits to initiate the setting up of their micro-enterprises.

Also, the Ministry of Tourism, Arts and Culture, and the Forestry Commission, as well as agencies for entrepreneurial training in Ghana must pay attention to sponsoring initiatives in cultural and traditional crafts in protected areas as viable forms of extended activities that could enhance and extend the experiences of tourists who visit the protected areas in Ghana. This would lead to more patronage and visits to the ecotourism sites while generating additional revenue for the protected areas in the country. For this to be effective, the park management must partner with the local authorities in their protected areas so that such initiatives could be well planned and executed to enrich the economies of the communities and the protected areas.

Future studies must look into developing the capacities of local people in agricultural activities in the remaining six viable enterprises that could enhance ecotourism development in protected areas while training the study participants on the sustainability of such enterprises. Such studies would be important because local people often have limited managerial and marketing skills as well as low technical know-how on how to access financial assistance for their startup enterprises. Therefore, future studies on extended capacity building in marketing, management, product development, acquisition of financial assistance such as crowdfunding, continual skills development, monitoring and evaluation, quality control, and the use of computer technologies are crucial for the sustainability of the employable skills translated into enterprises in cultural and traditional crafts.

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The Present and Future of Medical Music Therapy for Adults in the U.S.A.*

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Abstract
This article provides an overview of medical music therapy theory, practice, and research in the United States. The breadth and depth of treatment as well as clinical goals for those with a wide range of medical problems is described. Medical music therapy uses a range of music interventions. Differences between medical music therapy and other music practices in hospitals, e.g., music medicine are detailed. Results of systematic reviews published in the distinguished Cochrane Library are summarized. Recommendations for theory, practice, training, and research are provided as a means to advance medical music therapy in the future.

Keywords: *Music Therapy, Medical Music Therapy, United States, Music Intervention, Music Therapy Theory*

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It eventually happens to every one of us and everyone we love. People get sick, need medical tests, need medical treatment, need to be hospitalized, have accidents, etc. When illness happens, it can cause a crisis and a host of physical, psychological, cognitive, social, and spiritual challenges. Illness or the threat of illness calls upon most or all of the individual's resources for coping. Being sick implies change and adjustment, anxiety, fear, pain, loss, disempowerment, lowered self-esteem, and existential and spiritual questioning. Many things can help. Music is one of them. (Dileo, 1999:3)

Introduction

Definitions

According to Bruscia (2014), "Music therapy is a reflexive process wherein the therapist helps the client to optimize the client's health, using various facets of music experience and the relationships formed through them as the impetus for change." Music therapists are professionals who undergo rigorous academic and clinical training at undergraduate and/or graduate levels. In the U.S., music therapists also must pass a national examination and qualify for board-certification prior to practice. In some states of the U.S., music therapists also are licensed for practice.

Medical music therapy is a specialization within music therapy. I define medical music therapy as the use of music therapy for the prevention, treatment and continuing care of persons at medical risk or who have medical conditions.

Breadth of Practice

When examining the current status of medical music therapy, one is struck by the breadth of its clinical applications, and specifically the diverse range of medical problems among persons receiving music therapy. These medical problems may be viewed according to the medical specialties within which treatment is provided. Examples of these medical specialty areas are shown in figure 1, but this list is far from complete and continues to grow. From this table it can be seen that music therapists work within most medical specialty areas, but of course, in medical areas where patients have greater and more complex clinical needs, music therapy is more common. For example, music therapists are more often working with cancer patients than with those who are treated for ear problems. In recent years, because of developments in particular approaches to music therapy, there is a good deal of music therapy research and clinical activity with persons with acquired brain injury, for example. Palliative care is also a growing area for music therapy work. Within some medical areas, there is limited music therapy clinical activity but there may be research activity, such as radiology.

It is noted that the area of psychiatry is not included in this table, although there is a great deal of music therapy practice and research in this area. In a similar manner, gerontology is not included as a medical specialty, as persons with medical issues associated with aging are treated.

Anesthesiology/Pain Medicine	Neurology
Cardiology	Oncology
Critical Care	Orthopedics
Endocrinology	Otolaryngology
Gynecology/Obstetrics	Palliative Care
Immunology	Physical Medicine and Rehabilitation
Internal Medicine	Pulmonology
Nephrology	Radiology

Figure 1. Table of medical speciality areas. Within the various medical specialties. Dementia issues are categorized under neurology.

Stages of Treatment

There is research and/or clinical practice in music therapy in all stages of treatment within some of these specialties as follows: 1) in the prevention of an illness or maintenance of health (e.g., stress reduction, exercise enhancement); 2) in medical diagnostic procedures (e.g., cardiac catheterization, venipuncture); 3) in inpatient, intensive (critical care) and outpatient treatment (e.g., dialysis, mechanical ventilation, pre and post-surgery, radiation, chemotherapy); 4) in rehabilitation (cardiac, post-surgery, stroke, other brain injury, etc.; 5) in palliative care (for pain and quality of life); and in 6) in end-of-life care (hospice). Music therapy is found most often in inpatient, intensive and outpatient treatment, in rehabilitation, in palliative care and in end-of-life care. The areas of rehabilitation and end-of-life care are perhaps the most rapidly growing areas in practice.

Clinical Goals

Physiological or medical goals are often the focus of medical music therapy. These may include pain, reduction in blood pressure, heart rate, stress hormones, improvement of respiration, improvement in heart rate variability, etc. However, just as frequently, other clinical goals/outcomes are typically addressed in conjunction with or in lieu of physiological/medical goals. These include: psychological (anxiety, pain, mood, adjustment to illness, coping strategies, stress reduction), spiritual/existential issues (life's meaning, spiritual support, hope), social/familial (expression of feelings and needs, social support, relationship completion, communication), cognitive (sensory stimulation, reality orientation), quality of life and treatment compliance goals. In addition, music therapists work to improve patients' satisfaction with medical treatment and hospitalization.
An acknowledgement of the interrelationship among medical, psychosocial, cognitive, and spiritual factors may be a core aspect in music therapy assessment and goal-setting.

Music Therapy Methods

Music Therapy methods used with medical patients may be categorized as follows: 1) receptive methods; 2) recreative methods, 3) improvisational methods, and 4) creative methods (Bruscia, 2014).

In receptive methods, patients take in music provided by the therapist most often live. The music may be improvised by the therapist, for example, according to the patient's physiological or emotional state, or the therapist may play existing music and adapt this to the clinical state of the patient. For example, the therapist may alter the tempo, rhythm, timbre, harmony or melody of a song or piece of music according to the clinical goal. Pre-recorded music may be used by the therapist when it is not possible for the therapist to play this music, such as orchestral music. The music therapist may also direct or elicit the patient's imagery while listening to the music. Also, the therapist will typically process verbally the patient's reaction to the music.

Music for receptive methods may be selected by the patient or therapist. Typically, the patient's musical preferences are assessed and honored in selecting the music. The patient may have a variety of responses to the music that is heard, for example, through movement, through physiological responses, through an experience of emotion or connection to another. The patient may also recall memories stimulated by the music, for example memories that provide resources for coping with the medical illness.

Using recreative methods, the therapist engages the patient in singing or in playing or learning a musical instrument. The patient will typically perform preferred songs or music for emotional expression, as a distraction from a painful stimulus, or as a way to regulate and structure breathing (through singing or wind instruments). Lyrics of songs may help provide support to patients.

Improvisational methods involve patients creating music spontaneously on instruments or with the voice alone, with the therapist or with a group. Improvisation is often used to facilitate patients' self-expression of emotions, to stimulate imagery, and to develop personal insight. Patients typically choose the instrument they want to play (usually a simple percussion instrument), so skill in instrument playing is not a pre-requisite to using this method.

A common creative method used in music therapy is songwriting. The therapist assists the patient in creating new lyrics to a pre-existing melody, a new melody to existing lyrics or original music and lyrics. Songwriting is used for a variety of clinical goals, including self-expression, self-empowerment and sending personal messages to others, for example as a song legacy for family members by persons at the end of life.

Any of the methods above may also be combined with other types of art forms, for example, with drawing, movement, or drama.

In addition to these methods, there are also specific music therapy methods common to medical music therapy work. These include (to name a few): various song methods (Dileo, 2018), the Bonny Method of Guided Imagery and Music (Bruscia & Grocke, 2002), Analytic Music Therapy (Priestley, 1994), Creative Music Therapy (Robbins, 2004), Music Therapy Entrainment (Dileo & Bradt, 1997) and Neurologic Music Therapy (Thaut & Hoemberg, 2014).

Theoretical Foundations

Medical music therapists base their work on a range of theories (see figure 2) (Dileo, 2015). Many therapists subscribe to a biopsychosocial framework and then may use various theoretical orientations within this framework, such as psychodynamic, psychophysiological, humanistic, developmental, existential, cognitive-behavioral, etc. Most music therapists would identify their theoretical orientation as "eclectic" or "integrative," adapting their orientation to the clinical goal identified. For example, music therapists may use a cognitive orientation to address issues of stress management and anxiety reduction, as cognitive methods are well suited to accomplishing these goals within a limited time period. A humanistic framework may be best suited for persons who need support in accessing and expressing feelings related to their illness or disability. Existential orientations are very appropriate for helping patient at the end of life come to terms with what their lives have meant and for preparing spiritually for their demise. Music therapists are trained to work flexibly and to move within various orientations to meet a range of patients' needs.

Biopsychosocial	Psychophysiological
Humanistic	Transpersonal
Psychodynamic	Developmental
Aesthetic	Medical
Cognitive-Behavioral	Systems Theory

Figure 2. Table of examples of theoretical foundations informing medical music therapy practice (Dileo, 2015).

Levels of Practice

Medical music therapists work at basic and advanced levels of practice. Several authors have proposed levels of practice in music therapy and/or medical music therapy. For example, Bruscia (2014) has classified these levels as: 1) Augmentative, 2) Intensive and 3) Primary. Dileo (2012) has classified levels of practice in music therapy pain management as: 1) Distraction/Refocusing, 2) Supportive, 3) Cathartic/Expressive, 4) Existential and 5) Transformational. In addition, Dileo & Dneaster (2005) have classified levels of music therapy for hospice patients as follows: 1) Supportive, 2) Communicative/Expressive and 3) Transformative. (See figure 3)

Various factors may be used in categorizing levels of practice. Patient factors include: clinical needs, preferences regarding treatment and patient's own goals. Therapist factors include: training and autonomy, theoretical orientation, knowledge and skills, and reflexivity (Bruscia, 214; Dileo, 2015). Process factors include: the roles of therapist, client and the music and the breadth and depth of treatment goals. Contextual factors include the relationship of music therapy to medical treatment (e.g., complementary, integrative, etc.) and the length of the treatment process (Bruscia, 214; Dileo, 2015). (See figure 4)

(Dileo & Dneaster, 2005) (End of Life)	(Bruscia, 2014)	(Wheeler, 1983)	(Dileo, 2012) (Pain)
1. Supportive	1. Augmentative	1. Supportive	1. Distraction/Refocusing
2. Communicative/Expressive	2. Intensive	2. Re-educative	2. Supportive
3.Transformative	3. Primary	3. Reconstructive	3. Cathartic/Expressive
			4. Existential
			5. Transformational

Figure 3. Table of examples of levels of practice in music therapy/medical music therapy.

Patient Factors	Therapist Factors	Process Factors	Contextual Factors
Clinical Needs Preferences Regarding Treatment Patient's Own Goals	**Training and autonomy of therapist Theoretical Orientation Knowledge (Medical, etc.), Skills Reflexivity (Bruscia,2014; Dileo, 2015)**	**Role of therapist, client, music Breadth/depth of treatment goals (As determined by therapist and client)**	**Relationship of music therapy to medical treatment (complementary, integrative, etc.) Length of Treatment Process (Bruscia, 2014; Dileo, 2015)**

Figure 4. Table of factors used in determining level of practice.

Other Music Practices in Medical Settings

During the past 20 years, a number of other music practices for medical patients and medical settings have emerged. These music practices may be provided by medical professionals (music medicine) or by hospital musicians who may or may not have special training to do so and who may be volunteers or paid staff. In addition, there is a widespread self-help use of music by patients. There is little known research regarding the latter or the effects of hospital musicians on patients. However, there is a large literature on the practice of music medicine. These practices are described in Dileo (2013) and Dileo & Bradt (2010).

Music medicine may be distinguished from medical music therapy according to various criteria (Dileo, 1999). (see figure 5)

MUSIC THERAPY	MUSIC MEDICINE
Trained music therapist	**Medical professional No specific music therapy training**
Therapeutic process of assessment treatment and evaluation	**No therapeutic process**
Relationship through music	**No relationship through music, although relationship may exist**
Range of music experiences	**Primarily music listening**

Figure 5. Distinguishing features of music therapy and music medicine.

Research in Medical Music Therapy

There are hundreds of studies concerning the effects of music on various outcomes in medical patients. Music medicine comprises much of this literature, but there is an ever-growing number of studies on music therapy as well. Because music therapy is individually designed and implemented for the patient based on clinical needs and preferences and involves a therapeutic relationship, music therapy is much more difficult to study than music medicine; music medicine can use standardized stimuli without the issue of therapeutic relationship

At the same time, evidence-based practice has been an imperative in the field of medicine in the U.S.A. especially during the past ten years. It has become essential to determine that interventions in medicine are safe, effective and cost-effective. This need for evidence has inspired numerous publications of systematic reviews by music therapy authors both with and without meta-analyses in various journals and also in the prestigious Cochrane Library. A list of systematic reviews of Cochrane publications involving medical music therapy and/or music medicine is as follows:

- Music Interventions for Mechanically Ventilated Patients (Bradt & Dileo, 2014)
- Music Interventions for Improving Psychological and Physical Outcomes in Cancer Patients (Update in Progress)
- Music for Stress and Anxiety Reduction in Coronary Heart Disease Patients (Bradt, Dileo & Potvin, 2013)
- Music Interventions for Preoperative Anxiety (Bradt, Dileo, Shim, 2013)
- Music Interventions for Acquired Brain Injury (Magee, Clark, Tamplin, & Bradt, 2017)
- Music During Caesarean Section Under Regional Anaesthesia for Improving Maternal and Infant Outcomes (Laopaiboon, Lumbiganon, Martis, Vatanasapt, Somjaivong, 2009)
- Music forInsomnia in Adults (Jespersen , Koenig, Jennum, Vuust, 2015)
- Music Therapy for End-of-life Care (Bradt, Dileo, 2010)
- Music for Pain Relief (Cepeda, et al., 2013
- Singing as an Adjunct Therapy for Children and Adults with Cystic Fibrosis (Irons, Petocz. Kenny & Chang 2019)
- Singing for Children and Adults with Bronchiectasis (Irons, Kenny, & Chang 2010)

What follows is a summary of some of the main results of the aforementioned Cochrane reviews according to outcome. Please note that the quality of evidence in most of these analyses was rated as low.

Heart Rate

Music may lower heart rate consistently or inconsistently (Bradt, Dileo & Potvin, 2013; Bradt & Dileo, 2014; Bradt, Dileo, Magill, Teague, 2016)

Respiratory Rate

Music may lower respiratory rate consistently or inconsistently (Bradt, Dileo & Potvin, 2013; Bradt, Dileo, Magill, Teague, 2016; Bradt & Dileo, 2014)

Systolic and Diastolic Blood Pressure
Music may have beneficial effects systolic blood pressure in cardiology (Bradt, Dileo & Potvin, 2013) and mechanically ventilated patients (Bradt & Dileo, 2014)

Music has a potentially small effect on systolic and diastolic blood pressure in cancer patients (Bradt, Dileo, Magill, Teague, 2016).

Anxiety
Music may have beneficial effects on anxiety in myocardial infarction patients (Bradt, Dileo & Potvin, 2013) mechanically ventilated patients (Bradt & Dileo, 2014) as well as in cancer patients (Bradt, Dileo, Magill, Teague, 2016).

Music listening may have a beneficial effect on pre-operative anxiety (Bradt, Dileo, Shim, 2013).

Pain
Music may have small to moderate effects on pain in cardiology patients (Bradt, Dileo & Potvin, 2013) and large effect on cancer patients (Bradt, Dileo, Magill, Teague, 2016).

Depression
Music may lower depression in cancer patients (Bradt, Dileo, Magill, Teague, 2016).

Distress
Music may reduce distress in cardiology patients (Bradt, Dileo & Potvin, 2013).

Quality of Life
Music therapy may improve quality of life in oncology patients (Bradt, Dileo, Magill, Teague, 2016) and possibly in terminally ill patients (Bradt, & Dileo, 2010)

Music interventions may improve QOL in patients with acquired brain injury (Magee, Clark, Tamplin, Bradt, 2017).

Gait
(Rhythmic auditory stimulation) may benefit general gait, gait velocity, stride length of the affected side and gait cadence (Magee, Clark, Tamplin, Bradt, 2017).

Sleep
There is a possible beneficial effect of music on sleep in cardiology patients (Bradt, Dileo & Potvin, 2013)

Medication Use
There is a possible reduction in analgesic and sedative medication in mechanically ventilated patients (Bradt & Dileo, 2014).

Communication Following Stroke
Music may improve communication, including naming of objects and speech repetition in persons with acquired brain injury (Magee, Clark, Tamplin, Bradt, 2017).

Fatigue
Music may cause a small to moderate improvement in fatigue in cancer patients (Bradt, Dileo, Magill, Teague, 2016).

Because the research in medical music therapy is broad and diverse and because there is an increasing number of meta-analyses and systematic reviews published within and outside of the Cochrane Library, the findings from published studies and reviews is extremely difficult to summarize in this brief article. However, the following very general observations can be made concerning this literature: 1). There are variable degrees of effectiveness or no effects at all reported for music therapy as an intervention with medical patients. When effects are found for music therapy, heterogeneous results typically exist. 2). Most if not all meta-analyses on the effects of medical music therapy point to the need for more studies and more rigorously designed studies. 3). Music medicine studies far outnumber music therapy studies. In addition, besides the Cochrane Library publications which attempt to do so, there are only a few meta-analyses that compare the effects of music therapy vs. music medicine (e.g., Dileo & Bradt, 2005; Lee, 2015). 4). Most music therapy studies suffer from small sample sizes, lack of follow-up/assessment of long-term effects, lack of attention to potentially significant moderator variables (e.g., culture, musical training, preference for coping), and insufficient attention to cost-effectiveness and safety, important components of evidence-based practice. 5). There is a dearth of research regarding the use of music therapy with some critical and widespread health problems.

Recommendations to Advance Medical Music Therapy in the Future

Theory

It would be important to identify if there is an overarching theory that might embrace the diversity of practice in medical music therapy. Might Biopsychosocial theory (Engel, 1979), Integral theory (Bruscia, 2014) or another integrative theory explain the multi-faceted effects of music therapy with medical patients and also function as a meta-theory that can subsume the current range of theories being used? It is essential also to consider theories (and their corresponding research) from the behavioral medicine literature, e.g., especially topics concerning pain, the relationship between personality & illness, and psychological factors that can contribute to or result from specific illnesses.

Research

The following topics/questions should be included in a research agenda for medical music therapy.

More Research. First and foremost, there needs to be more research in medical music therapy. Certainly, more randomized controlled trials are needed to support evidence in the field, but other types of research (qualitative, mixed methods, arts-based, etc.) are also needed to acquire an understanding of the patient's experience in music therapy, as well as the process of medical music therapy in various populations.

What's more, future research needs to be more rigorous in design and implementation. For example, quantitative research should be designed to minimize risk of bias and to include appropriate randomization methods, allocation concealment, blinding, etc.). Research results should be assessed in terms of clinical relevance and clinical significance. Moderator variables, such as gender, culture, musical experience, etc. should be actively assessed. Research questions should derive from current, relevant theory.

Research on How Music Therapy Works. Research should include studies of the biomarkers of its effects, the mechanisms of action involved and the active elements of music therapy.

Best Use of Music Therapy. In the future, researchers should examine the best utilization of music therapy for medical patients, i.e., how it can best be used to the most optimal benefits for patients. Related research questions may include: Are there points in the trajectory of illness at which music therapy can be most effective? Are there also effects of music therapy on the music therapist who delivers it? Does physiological entrainment occur between patient and music therapist?

Important Clinical Conditions. It is critical for future researchers to examine the effects of music therapy for salient clinical problems for which there is little research. These issues include: inflammatory processes, diabetes, heart disease (e.g., Dileo & Zanders, 2013), women's health, sleep disorders, medical trauma, and medical patients also having psychiatric or developmental challenges. It is also essential for music therapy researchers to establish research priorities according to these and other salient population health issues and governmental funding priorities.

Research Outcomes. A very wide range of outcomes has already been examined in music therapy research, including physiological, psychological, cognitive, social, behavioral and spiritual outcomes (Dileo & Bradt, 2005). However, future researchers should evaluate some specific topics. Thus far, there has been little research on the contraindications for music therapy, except for example, hearing issues, musicogenic epilepsy, or neurological conditions for which music could be over-stimulative. Although it's quite likely that contraindications for music therapy may be relatively rare, it is essential to identify clinical conditions that may be associated with adverse effects.

Long-term effects of music therapy have been rarely included in research, and it would be extremely important to estimate the longevity of various effects for the patient, for example on pain. Other examples may include the long-term effects of music therapy on the immune system, on illness-related depression, on physiological and biochemical outcomes, and mortality.

As suggested by recent Cochrane reviews, music therapy may affect outcomes that are not directly influenced by medical treatment. For example, music therapy may be an important intervention for influencing quality of life (Bradt, Dileo, Magill, & Teague, 2016; Magee, Clark, Tamplin, Bradt, 2017).) for reducing disease- or treatment-related fatigue (Bradt, Dileo, Magill, & Teague, 2016) or improving patient sleep (Bradt, Dileo & Potvin, 2013). Similarly, can music therapy be effective in enhancing patient compliance with medical treatment, medical regimens or lifestyle alteration?

Of great significance is research on the cost-effectiveness of music therapy. Research on this topic is beginning, and in the future, it may be possible to demonstrate that music therapy may reduce the use of sedative and/or analgesic medication (with their corresponding side-effects), length of hospital stay, length of recovery, increased hospital satisfaction and perhaps reduction in staff time through increased patient cooperation during medical procedures. These are only examples of the possible ways that music therapy may reduce traditional medical expenditures.

Researchers will need to continue to develop music therapy assessments that may uncover aspects of the patient that cannot be detected through other assessments (e.g., neurological functioning). At the same time outcome measures that are both sensitive and relevant to the effects of music therapy are needed, such as a specific quality of life scale for music therapy.

Music therapy research should also assess overall well-being outcomes that are relevant to governmental heath priorities, e.g., number of unhealthy days, self-perceived health status, social participations, etc.

Music Therapy as a Preventive Measure. There is little research to date regarding music therapy in the prevention of illness, but there are indeed possibilities for music therapy to assume this role in healthcare. For example, the effects of depression on health and recovery from illness are well known, and evidence is building regarding the use of music therapy to treat depression (Maratos, Crawford & Proctor, 2011). At the same time, music therapy may indeed serve to enhance social integration, a well-known health protective factor.

To accomplish the aforementioned goals, there will be a pressing need for governmental funding of music therapy research, e.g., for large RCT's, and large multi-site and international studies.

Training in Medical Music Therapy

Because of the complexity of practice as well as the breadth and depth of knowledge and skill required for competent practice, medical music therapy should be designated as an advanced practice. The American Music Therapy Association has implemented specific competency standards for entry and advanced levels of practice (AMTA, 2015 Training for medical music therapy will thus comprise an advanced degree, advanced specialty training and clinical experience beyond the entry level. Competencies for medical music therapy have been published (Dileo, 2015; Dileo & Loewy, 2005).

There is also a need to educate medical professionals regarding music therapy, and formal training programs (e.g., continuing medical education courses) need to be forthcoming. There is also a need for music therapists to develop and offer training programs for medical professionals who want to use or incorporate music in their practices, as well as musicians who are interested in performing in health-care settings.

Medical Music Therapy Practice

The following recommendations are made to address clinical and professional issues of music therapy practice in the future.

As mentioned previously, there are other types of music practices in medical settings offered by medical professionals and/or musicians. In the light of potential and ongoing confusion regarding the differences among these practices, it will be increasingly necessary to articulate to the medical community and to potential consumers music therapy's uses and benefits based on quantitative and qualitative evidence and how music therapy differs from other music practices. It is important to situate music therapy within the range of these practices and determine how music therapy is best used. For example, will a function of the music therapist include assessing patients to determine the type of music practice that is most appropriate for them? It will be important for music therapists to determine how to work most effectively with other practitioners to best meet the needs of the patient.

A focus should be on the development and testing of new and creative music therapy interventions for medical patients, fine-tuning existing music therapy interventions for medical patients, and translating research evidence into practice. There is a need to continue to expand the range of clinical applications of music therapy, populations served and strategies for illness prevention.

The current book containing case studies of medical music therapy will likely go a long way in addressing this last recommendation. Thus, it is hoped that these case studies will provide new and innovative applications of medical music therapy, its processes and its possibilities to stimulate continued and expanded clinical practice, theory building and provide a basis for future research.

Discussion & Conclusion

The Covid-19 situation around the world has brought a greater realization of the importance of music and music therapy for those who are ill and for those who care for them. In addition, the use of music to maintain emotional and physical health for those who have endured isolation and quarantine for so many months has shed great light on the significance of the role of music in human well-being.

This took many forms. Music in the intensive care unit for people with Covid-19 on ventilators helped maintain humanity and a sense of beauty in such a stressful situation. Individuals in lockdown sang from their balconies to communicate with others inviting them to sing and make music together. Medical staff used music to deal with the traumas they were experiencing, to reduce stress, and for emotional strength to continue. The many stories of medical caregivers performing music and dancing together provided stories of resilience. Families in lockdown made music videos together with humorous songs they had created. They shared these through social media to help others know that creativity can mitigate the ravages of isolation. Music therapists were found providing music outside nursing home patients' rooms to stimulate hope and provide connection. Music therapists also found that technology allowed them to continue their important work with their clients and patients and to prevent them from further problems. Our research and recent experiences reinforce our beliefs that music is essential in our lives. Moreover, we have still not comprehended the extent of its benefits in our lives.

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Benin Kingdom's Art Traditions and Culture

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Abstract

This study works on Benin kingdom art traditions and culture. The methodology of these studies were based on field work and oral interview in writing the history of Benin kingdom and its monarchy. The various traditions in Benin City and its environs are also to be identified; potters, bronze casters were interviewed on the history of craft practice. The study also examines the symbolic meaning of each of the traditions. It projects the aesthetic qualities, and the effects of new ideas of the indigenous Benin people's craft, and how Benin culture in Nigeria are interpreted with respect to environmental influences from neighboring communities.

Keywords: *Benin Kingdom History, Benin Art, Benin Culture, Ancient Costume, Bronze Casting, Carving, Pottery, Nigeria*

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Introduction

The Benin's occupy seven local government areas in Edo South senatorial district of Edo state, Nigeria Oral tradition has it that other tribes in Edo state migrated from Benin City. The Benin's are social, hospitable, accommodating and with outstanding records of art tradition in bronze work and other arts and they maintain a high standard of craftsmanship.

Benin City is the headquarter of Oredo local Government Area has developed to the capital city of the present Edo state which is home of culture, artistry and creativity. Benin kingdom became famous for its artistic arts production when an adventurous sea captain De Sequire discovered Benin court art in 1472. He returned to Portugal and described what he has seen in Benin kingdom on his visit to the coastal kingdom. (Elliot, 1973) recorded "in 1486 the Portuguese King sent Joao Alfonso d'Aveiro to Benin with some noblemen as an ambassador from one king to another. He came twice, and on his second visit he died in Benin City (as showed in Figure 1). The Benin court recorded the visit of Joao Alfonzo d'Aveiro and remembered centuries later in the tradition of the royal court and was commemorated on the bronze plaques that recorded important events in Benin history. Because of these, the Oba and the king of Portugal exchanged letters for the first time in which some of the secrets of Benin were revealed to Europeans."

Figure 1. The visit of Joao Alfonzo d'Aveiro. Commemorated on the bronze plaques credit. (Elliott, 1973).

Historical Origin of Benin People

The history of Benin Kingdom from the earliest times to the present can be treated in three [3] phases. As recorded in (Uzzi, 2014) The first phase is the foundation period generally referred to as the Ogiso period [c. 900 – c. 1170]. The second period of the New Dynasty of Kings or Oba's [c. 1200 - 1897], while the third phase is that of Arts and craft, and its impact on Benin society.

The Benin Kingdom from the inception of its over 2054 years of existence is one of the greatest African Kingdoms. Founded by the Supreme God according to its myths of origin from 40 B.C. when the Ogiso Kings began to rule, and the Ogiso dynasty lasted for about 854 years' plus (Ebohon, 2019). The first Ogiso ruler according to (Igbafe, 2007) was Igodo, a prominent elder in his community [Odionwere] who exercised authority over the various small communities which collectively formed the kingdom known as Igodomigodo meaning land of Igodo or town of towns (see Figure 2). The most prominent among the known Ogiso rulers are Igodo, Ere, Orire, Oriagba and Owodo. The Benin kingdom began as a union of juxtaposed clusters of independent communities each surrounded by a moat. Tradition says that the last and worst of rulers of the Ogiso's dynasty was Owodo. (Egharevba, 1968) described his reign ''as a long course of misrule, failure and anxiety'.' In the absence of any heir to Owodo, the people choose from among themselves Evian successor to Owodo since Evian was not an Ogiso, his choice of his son, Ogiamien as his successor in an attempt to legitimize his own dynasty was rejected by the people. This gave rise to the political factionalism, instability and disputes which formed the background of the new Eweka Dynasty.

Figure 2. Various small communities which collectively formed the kingdom known as 'Igodomigodo" credit (Uzzi, 2016).

There is deferent version of the circumstances in which the Eweka dynasty was established. One of the myth version as recorded by (Igbafe, ibid.) is that ''the banished prince of Benin, Ekaladerhan, who was Ogiso Owodo's son, left Benin for Ughoton to escape from his executioners. After a brief sojourn and attempts to bring him back to Benin city, he decided to flee from his new home. Travelling through the village of Erua on the present Auchi road and through the forest, he surfaced in ile-ife, where he became king on account of his fortune telling abilities and magical powers. When the Benin's wanted a ruler, a delegation was sent to ask Ekaladerhan to return to Benin City. He subjected the chiefs from Benin city to a test by asking them to domesticate seven lice for three years and to return to Ife as evidence that they would be able to look after his son, arguing that he was too old to travel to Benin, and was in any case, not in the position to abandon his kingdom in Ile-ife. When the chiefs cultivated these lice on the head of Oliha's slave and returned to ile-ife with them in a well-nourished condition, Ekaladerhan was presently surprised and decided to send his son, Oranmiyan, to rule in Benin kingdom (Ekaladerhan was the father of Oba Eweka).

Oba Eweka (1200-1255). Marked the beginning of Obaship in Benin kingdom he was succeeded by Oba Ewedo (1255-1280) it was Oba Ewedo that gave the kingdom the new name of Ubini which the Portuguese, on arrival recorded as "o Beny" from which Benin city was derived. Oba Oguola (1280) main notable achievement was the digging of trenches, the first Benin moat around the city in Oredo, to wade off attacks from his enemies and the introduction of Art (Brass casting). According to Benin tradition, Oguola sent to the Oni of ife for a brass smith in order to replicate bronze heads sent to him from ile-ife.

The fifteenth century marked the transformation of the kingdom of Benin into an empire under two capable rulers, Oba Ewuare I (1440) and Oba Ozolua (1481) it was during Oba Ewuare I that the city was renamed from Ubini after Edo. The change of the city's name to Edo, the city of love (edo n' evboahire) was to celebrate how his life was spared by the love of Ogiefa's slave. (Egharevba, ibid.) opined that he also encouraged ivory and wood carving in Benin and elevated Benin to the status of a city, and maintained a policy of aggressive conquest. Oba Oguola was the founder of Bronze casting; this art later became a flourishing trade in Benin City especially to the Igun-Eronmwon family which comprises mostly of two (2) families Osa and Inneh's families.

The "Oba" to the Benin's, is the representative of God on earth. When the artists are producing any work of arts either pottery or bronze work, etc. the Oba has to feature, the Oba has to be portrayed bigger than all figures in the composition. The Oba is seen as the link between the spirit world and the earth, therefore, heads of past Obas and heroes were deified and were worshipped as Deities.

Traditional Costume

The ancient costume of Benin kingdom has been long in use, but still relevant in the modern time. The cultural importance's of Oba beaded Regalia of the Oba of Benin kingdom, dates back in history to the 16th Century and the contact with the Portuguese traders through the people of the Delta Region. But records show that even before that time in the 15th century beads were used for the head-dress of Oba Ezoti (1473). Figure 3 shows Oba Erediauwa and Oba Eweka II of Benin kingdom in full ceremonial regalia – Remarkable is his shirt of mesh necklaces of coral and high collar reaching from the shoulders to the chin. The winged head dress is a complicated shape with beads and upstanding forms. Crocodile masks and leopard head masks cost in bronze called uhums ekhue and other symbols hang from the waist. His arms regarded as the seat of his power are decked in numerous metal bracelets and wider wristlets deep set in ivory.

An attendant carries the Oba's sword (Ada) which, like the crown, shirt and shippers, is entirely covered weight and difficult to wear, and it is therefore usual for the Oba to be supported by attendants whining in Public.

Figure 3. Left, the beaded regalia of Oba Erediawa (2016 to date). Right, the beaded regalia of Oba Eweka II. Oba of Benin (1979 - 2016).

In the 16th and 17th centuries, it was reported by explorers to the Delta areas that the men were elaborately robed. Elaborate costume continued into the 18th century making much use of imported articles. The rights to such ancient styles are worn by the Oba and his chiefs and attendants for certain ceremonies (Figures 4 & 5). The upper part of the body was left uncovered. The lower part been covered with a white cotton cloth about a meter square, to serve as underwear. Over this a quality cotton cloth measuring from 14-18 meters long, was wound neatly around the hips and held at the waist with a narrow sash, decorated with fringes or lace at one end.

Within the compound even rich men wore the simple attire of a loin-cloth and wrapper. Poorer men wore 'beluko,' a short kilt-like loin-cloth made from locally woven cloth with bare torso. When an important chief is brought for audience with the Oba, he was not allowed to cover the body above his waist. Draped about his hips was the long like a crinoline, sometimes silk fabric was used. Quantities of coral beads and gold jewelry eventually accompanied this striking costume (see Figure 5, left).

The Benin's usually wear European dress, but on festive occasion the old chief's ceremonial dress reappears. The upper portion of the body is left naked, the only decoration being the coral necklace which denotes a chief The lower part of the body is swathed in many yards of white cloth to form a shirt like covering. The illustration shows the chief with a grass plaited fan decorated with red leather cross and a ceremonial brass sword.

The hair of Benin chiefs is cut in a special way so as to allow a high ridge of hair to run across the head from ear to ear.


Figure 4. Left, Ceremonial paraphernalia of Oba Ewekw II credit wells-crimson (2019). Right, Ceremonial paraphernalia of Benin chiefs credit Negri (1976).


Figure 5. Ceremonial robes of Benin chiefs credit Edo National.

The Benin's recognize the importance of women in the community, but there are no women chiefs in Benin Kingdom. However, the women have their ceremonial dress. The main feature is the wig of human hair which is built up on a high frame and decorated with coral beads, such wig is only worn by Benin women especially the princesses, Olori's (Figure 6, left). The coral necklace denotes her status in the community. Her face has been tattooed with the juice of the indigo plant (see Figure 6, right). Figure 6, right showed casual dress of mother and child, the small boy is holding a box made from hides; it is for carrying gifts to the Oba of Benin who is the overlord of the Benin's. Her choice of dress and color remain unchanged, particular attention is paid by the woman to the patterns selected of which the manufacturers are fully aware. Usually they are bold in arrangement and such articles are telephones, ships, train, flowers, animals and fish are produced in repeat patterns. The head cloth is of silk or some material tied over the head. The skirt is usually made in two pieces and reaches to the ankles.

The illustration below in figure 6, left shows the royal Benin women while the right images shows a royal mother traveling to the local market or for visitation.

Figure 6. Left, Ceremonial dress of Benin Royal women. Right, Casual dress of mother and child traveling to the local market.

Marriage ceremony in Benin kingdom "Oronmwen" is the social arrangement (rites) by which a man and a woman are joined together and recognized by the society they live in (Ero, 2000). Opines that "in the past, babies/girl were betrothed to boys or men by their parents, but today, its more popular to see young men and women of marriage age coming together to court till they decide to marry. When they have made up their minds to marry. An introduction ceremony is conducted where the suitor in company of a few relatives brings some wine to introduce him to the girl's parents. The father calls his daughter and if she acknowledges that the suitor is the person she wants to marry, the father then can accept the wine and a date is fixed for the traditional marriage ceremony where the girl is elaborately dress in beaded costume (figure 7). Traditional marriage ceremonies always take place at the residence of the bride's father. Who is also supposed to give his daughter away.

Figure 7. Preparing for marriage.

It is within the ambit of costume in a bridal ceremony that other sub cultures such as greetings and courtesies will be interrogated. This is because, apart from being yardsticks by which families and their offspring are easily recognized publicly, they are important milestones in assessing the character of persons especially that of youths that are ripe for marriage and wanting to be accepted by another family as one of their members. There are specific greetings in Benin that are associated with particular families and it is from these greetings that unfamiliar members of an extended family know themselves. This act of recognition is very important in modern day social structure to enable relatives show patronage and support to one another as well as preventing them from committing certain social taboos or sacrileges that may have far reaching consequences on the offenders and the entire family at large. Such offences include sexual affairs or murder.

It is in this respect that Benin aggregates themselves with the culture of "omoluabi" in Yoruba terminology, or "omonabiese" in Edo language. According to (Igbinovia, 2010:80-82) "The Benins as well as the Yorubas, share exactly the same beliefs and philosophy about the concept of Omoluabi and what it portends for personal, community, and national progress and development." Continuing, he observed that "Consequently, an Omoluabi or Omolnabiese is marked by goodness, trustworthyness, consciousness, decent moral living, obedience, faithfulness, love, patriotism, mercifulness, patience, truthfulness and ability to meet civil responsibilities and obligations."

It is within the framework of culture of courtesy that the Benins have evolved a unique way of saluting and paying reverence to their Obas which they expect all the visitors to the palace of the Oba to emulate. (Ogunyemi, 1979:61) notes." Now this is how you'll greet the Oba. Clench your right fist, raise the hand up, bend your elbows like this and shake it at him with the other hand holding your bent elbow- all in reverence."

Hereditary

This is a socio-cultural system by which the Benins regulate the society and establish peace and order. The culture of hereditary in Benin kingdom is very sacrosanct and has been in existent from the period of the founding of the kingdom. It is a system whereby authority is transferred by members of the family unit and the ruling class for a smooth and rancor free administration in the kingdom. (Egharevba, 2005:4) views that "About one hundred villages in Benin kingdom have hereditary chiefs (Enigies) who are descendants from sons of the different Ogisos (first rulers of Benin kingdom). He further noted that this method was emulated by subsequent rulers during the Obaship period.

Taboos

Taboos are known as "awua" in Benin language. These taboos include rules and etiquettes put in place to regulate the society and to check peoples' excessiveness or restrict persons of dubious intentions within socially accepted standards and practices. Taboos can be generally applied throughout the society where it becomes binding on all persons or sometimes they are applied through certain social organs such as religion. (Ebohon, 2010:272) contends that when an adherent contravenes its rule, Olokun (the goddess of the river) will unleash certain calamity on the person. As a result, Olokun adherents are expected to abide by the rules and abhor practices that are offensive to the goddess. Some common taboos in Benin includes abhorrence from eating in the dark, desisting from committing incest, not killing or eating vultures and not making love in the farms etc.

Food

Like all societies, Benin people prepare and consume food for personal, communal and festival purposes. There are varieties of traditional foods in their cuisine and their modes of preparation sometimes differ from their uses. The way a particular food is prepared for domestic consumption is different from the way it is prepared for communal or festival need and there are women that specialize in preparing meals meant for special social purposes. In spite of the wide spread presence of national, continental and inter-continental cuisine arising from mass mobility, westernization and the internet, Benin still boasts of a handful of some special traditional cuisine such as "emieki" or corn meal, "akasan" or corn cake, "bobozi" or cassava flakes, "uloka" or bean cake, "eba" or cassava meal.

In the past and even in present day, certain categories of food are delicacy for the elderly or sick persons and pounded yam is the most outstanding food specially meant for elderly people or father of the home or those that are recovering from ill health. This is because yams commonly known as king of crops and are scarce especially towards the planting season. Moreover, preparing pounded yam is usually a laborious task especially before the era of machineries when human labor is required throughout the process of preparing a pounded yam meal. Today, pounding machines have reduced the stress on humans.

Notable traditional soups in Benin society are "black soup" which main ingredients are derived from ground fresh edible green leaves, banga soup derived from palm kernel and "egusi" or melon soup and "ogbolo soup" which major ingredient is derived from juggernaut seed.

Arts and Craft of Benin Kingdom

The ancient city of Benin is known for her great artifacts in the area of bronze-making sculpture, monuments as well as art works that contributed a great deal to her historical civilization. Most notably the collection of brass plaques and commemorative heads, it contributes to a greater extent, to the development of Benin City via tourism, and employment generation as well as enhancing and promoting the cultural heritage. The famous bronze of the kingdom of Benin depict full figure and head, but include plaques decorated in high and low relief with scenes of warriors, chiefs and Portuguese traders. The bronze plaques also illustrate the local architecture, revealing major palace structures with tall central towers. The Benin bronze caster uses lost-wax technique in casting it metals, the artists employed this technique long before the emergence of European influences.

The wealth of Benin Kingdom in slaves, palm oil and petroleum resources as well as bronze and ivory cannot be overlooked. Also the mastery in magical art earned them the respect of people nearby and far and wide. Oba Oguola was the founder of Bronze casting; this art later became a flourishing trade in Benin City especially to the Igun-Eronmwon family which comprises mostly of two families Osa and Inneh's family.

The Benin's use the knowledge of moulding and carving in Bronze casting. It was observed that Bronze casting claims the highest place in the traditional art and craft of the Benin's, especially in Nigeria and African scenes. Oral tradition has it that during the olden days, Bronze casting works were not works that were kept at any body's disposal. But only to the Oba of Benin shine. Among all Benin artistic traditions, Bronze casting is more popular.

Pottery has been an old tradition in Benin too and Africa in general; it is mainly practiced where there is abundant supply of the raw materials, which is clay. The traditional potters do not make use of sophisticated equipment's like throwing wheels, kilns, blungers, etc. In any case, traditional potters produce pots that are used in special ceremonies e.g. Olokun cult, yam festivals and house hold use. (Emokpae, 2001:115) states that "Olokun pot is for the goddess of water; they are carried on the head by newly initiated Olokun priest in Edo state." (Fowowe, 1999:43) points out that pottery making seemed to have been restricted to the rural communities. Intense potting activities went on at Useh (a village about five kilometers west of Benin) and at Oka (another village south-west of Benin City), Uwelu (between Useh and Benin City) and Orha (where pottery with "rope" decoration is made.

The Benin's pottery types are several but most of the pottery types fall into four main functional groupings, namely:

- Food bowl "Ovbi-uwawa"
- Cooking pots "Uwawa"
- Flasks and coolers "Akhamen," "Ovbi-eluba" and "Duama"
- Ritual or cult pots "Ovbiakhe olokun" Usomwan uwawa"

The types and functions vary, depending on the subgroups and village that is producing the pots.

Figure 8. Left, ritual or cult pots "Ovbiakhe olokun" courtesy: National Museum. Right, Ritual Pot.

Figure 9. Cooking pots "Uwawa."

Figure 10. Left, flasks “Akhamen” courtesy: National Museum. Right, a water storage pot.

Arts and crafts now hardly appear in school curriculum, where it appears there are no teachers to teach the subject. (Broni, 2004) observed that most of the objects of pottery have lost their functional role to other objects as a result of development perception, religious beliefs and other factors. (Udeme, ibid) went further to say that “new converts were made to believe that everything indigenous is fetish. For this reason, the converts stopped making pots. Presently the emergence of white collar jobs is gradually affecting the pottery business; there is mass movement of people from village to city. Also because of formal education children now have the opportunity to pursue diverse careers other than being tied to traditional craft; because most of them don’t want to spend their time in the village. (Uzzi, 2004).

Oka which used to be a potting village near Benin has been taken over by modernization, making it difficult for potters to carry out open air firing, while clay which used to be gotten free is now very expensive and difficult to get. The mass production of traditional flask and coolers “has dropped drastically because of alternative products.” (Ekwere, 2002) observed that “Our domestic markets have witnessed the influx of industrial containers such as aluminum pots, pans plastic figs, buckets and basins, porcelains and enamel ware.” This development constitutes serious threat to the traditional craft. Western education has influenced traditional potters of Oka to move into making flower pots and planters. The only occupations of Igun-Eronmwon family and Oka community (village in Benin City) that have been passed from generation to generation are Bronze casting for men while pottery for women. Apprenticeship training was always given to the younger generation about the craft of the entire community.

Igue Festival in Benin

One of the most important festivals the Benin's carry out on a yearly basis is Igue festival. During this festival a lot of merriment and dancing takes place. The local alcoholic drink, palm wine is usually served on this occasion. The container used in serving this drink is usually a pot "owaluba." Coconut and colanuts are cut into 21 pieces served in a small pot used for prayers and thanking God for a successful year. (Udeme, 2006) asserts that "the introduction of Christianity and formal education has had a serious effect on the tradition."

Conclusion

Benin's traditional Culture has come a long way despite little or no encouragement from the state / Federal government, Arts and Culture activities are still going on in Benin, Oka, Usen and its environs. They still produce wonderful Bronze and beautiful pots. In almost every house in ancient Benin kingdom you will see Bronze head, cult pot "ovhiakhe olokun" or "akhamen" water flask. I strongly recommend that government should not let Crafts suffer extinction. The Benin's Artists should be alleviated by giving them short-term loans, organizing workshops and encourage them by collecting some of their works and exhibiting it Nationally and internationally. Government should look into the closure of Fine and Applied Arts Department in College of Education, and introduce Pottery into school secondary school curriculum. Finally, modern methods of kiln firing should be exposed to the Potters and Bronze casters through organized workshops.

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The Museum that Leaps over The Physical Wall:

Museum Practices in Japan Under the COVID-19 Pandemic

+ (Japan)

Abstract

Under the pandemic COVID-19, museums around the world are facing unprecedented challenges. This paper focuses on the museums in Japan and traces their practices between around February 2020 and March 2021. It presents a timeline of changes in the museum scene with along the spread of the Virus in the country and the policies, particularly the declarations of "State of Emergency." To open to the public, an inherent purpose of a museum, becomes questionable when physical gatherings are undesirable with higher risk of virus spread and it is more expensive to remain open with much less visitors. This paper offers three cases studies of practices of crowdfunding campaigns, livestreaming of exhibitions, and a virtual reality exhibition. It argues that the conflicting agendas are leading the museums to dilemmas, however, creativity and digital technology comes to the rescue to a certain extent.

Keywords: *Museum, COVID-19, Crowdfunding, Digital Museum, Museum Engagement, Japan, Virtual Exhibition*

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Introduction

The museum has an inherent purpose to stay open to the public. This raison d'être however is facing challenges in the COVID-19 pandemic. As defined by the International Council of Museums, a museum is "a non-profit, permanent institution in the service of society and its development, *open to the public* (accentuated by the author), which acquires, conserves, researches, communicates and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study and enjoyment" (ICOM, n.d.1). Due to the high infectious capacity among human and widespread of the COVID-19, a new coronavirus known as severe acute respiratory syndrome-coronavirus-2, museums around the globe are experiencing "unprecedented times" as called by Christina Kreps (2020). The balance among the triad, i.e. public health, economic vibrancy, and a need for cultural and entertainment experiences, becomes precarious. Receiving the influence from both the pandemic and governmental policies to consolidate this balance, the museum shares the dilemma with other organizations such as education institutions and cultural enterprises involved in the industries of entertainment and tourism.

This paper analyzes museum practices in Japan under the pandemic COVID-19 with three case studies. Through tracing the museums' reactions during a one-year span between around February 2020 and March 2021, it analyzes the institutional measures to cope with the threat. It particularly focuses on three cases, i.e. crowd-funding campaigns, live streaming in cooperation with Niconico video site, and a virtual exhibition to demonstrate the museums' proactive attitudes towards incorporation of information technology to stay engaged and the strong support from partner corporations and individuals. It reveals the resilience of the museum with the assistance of creativity and digital technology and a transitioning museum model able and keen to leap over its physical wall.

An Overview of the COVID-19 Situation and Museum Responses in Japan

After the first confirmations of "pneumonia of unknown cause" in December 2019, an outbreak around the turn of the year 2021, and the first lock-down in the world between January 22 and April 8, 2020 in Wuhan, China, the number of confirmed cases has reached 116 million with a death toll over 2.5 million by March 6, 2021 (Worldometer, 2021). Now given its name, the COVID-19 marks as an unprecedented virus in human history not because that the pandemic is unique. The Spanish Flu between 1918 and 1920 serves as another significant fight between human and virus in documented history. It is the two features of the twenty-first century, global mobility and wide availability of information technology, that have complicated the situation. The mobility is an issue, not only in spreading the virus, but also in that it is taken for granted; and economic activities, particularly, the tourism industry, depend highly on the mobility of human beings. The higher economic dependence on tourism, the larger damage this pandemic is creating on that specific geographic area. The digital technology, to be more specific, the prevalence of the internet and social networking services (SNS), enables rapid information exchange in which users are gaining both access to huge amount of information and agency to be a producer of information. It is easier to keep oneself updated of what is happening at a geographically distanced place. Information spreads more rapidly and the differences among varying countries become more visualized than before the age of the Internet.

First only as a fire on the other side of the river, the new virus started its spread in Japan from early 2020. After the first case confirmed on January 15, 2020, the total number of confirmed cases now has reached 430,000 with a death toll over 8,000 (NHK, 2021). The first "declaration of the state of emergency" was announced by the Hokkaido Prefecture on February 28 followed by the Act on Special Measures Concerning COVID-19 promulgated on March 13 and two "declarations of state of emergency in response to the novel coronavirus disease" targeting at a wider area in the country between April 7 and May 25, 2020 and second started between January 7 and March 21, 2021.[1] The most densely populated cities and areas, Tokyo and its neighboring three prefectures, Saitama, Chiba and Kanagawa together with Osaka Prefecture have been confirmed with the highest numbers of infections in the country.

Compared with the lockdowns of the major cities in the U.S. and Europe, the measurements adopted by the central and local governments in Japan is a lot softer. On February 26, 2020, the Ministry of Education, Culture, Sports, Science and Technology, Japan required the organizers of cultural events to cancel, postpone, or reduce their scale for two weeks, leading to closures of almost all the museums in the Japan (MEXT, 2020). During the first period of declaration of state of emergency between April and May 2020, schools, universities, libraries, and museums closed upon the governments' request. During the second, the declaration mainly requiring the restaurants to close by 8 pm, many public places such as schools and museums have re-opened with all kinds of measures to prevent the virus spread. This trend of re-opening also echoes with that in the world (ICOM, 2020a & 2020b).

The announcement and messages from the central government have been criticized as unclear and lack consistency. The public has been requested to refrain from going-out for *"fuyo fukyu,"* meaning not needed and not urgent. Work from home and to stay home remain as slogans and it is out of the private organizations, firms, individual's choice whether they would cooperate and to which degree they would answer to the governmental call. In addition to the ambiguity of *"fuyo fukyu,"* the "Go To Campaign" which encourages tourism and dinning outside to invigorate economy was launched between the two "declarations of state of emergency" in the latter half of year 2020. The balance among the control of virus spread, economic recovery, and people's need for social and cultural life and getaways becomes extremely difficult to maintain. Adding to the already hardship, is the untimely international event, the Tokyo 2020 Olympic and Paralympic Games originally scheduled to be held in August-September 2020 and now postponed to 2021. With investment in both hard and soft infrastructure, Tokyo, Sapporo which would hold the marathon, and wider areas in Japan had a high expectation of economic returns particularly through the inbound tourism the megaevent would promise. Presently the smooth opening of the Games in this summer remains largely unclear, not to mention the economic returns.[2]

In this environment, museums in Japan have been facing severe challenges. The close-downs in the first half of 2020, shortened open hours and cancellation of exhibitions, particularly loan-based ones, led to a great drop in ticket revenue. Although whether museum visits are *"fuyo fukyu"* largely depends on one's individual interpretation, the blockbuster exhibition of long tradition in Japan has lost many of its supporting grounds.[3] The cost of varying measurements to contain the virus spread such as online ticketing, acrylic boards, thermographic camera, antiseptic solutions, management of the staff's health condition, additional work to monitor the visitors and guide the visitor routes, adds further financial and managerial burden.

The Pandemic is a crisis for the museum. ICOM has released a "statement on the necessity for relief funds" addressing the urgent need to salvage museums and their professionals (ICOM, n.d.2). The financial plight is however not a new issue for museums in Japan. After the construction boom that ended with the economic bubble in the late 1980s, the museums in the country of which number reaches 2,700 are facing a "winter season," or even the "ice age" (Suginaga, 2016; Fukagawa, 2018). It is a hostile winter in that financial vigor is constantly requested and competition with other cultural or entertainment enterprises is fierce. The cost to maintain the buildings and facilities in need of maintenance or renovation and stable employment is pressing, on which governmental funding becomes less countable.

Around the turn of the twenty-first century, a few legislations mark a shift of the governmental attitude towards museum management from heavy-handed to hands-off. One is the Act on General Rules for Incorporated Administrative Agency (*Dokuritsu gyousei hojinho;* hereafter abbreviated as IAA Act) that creates an impact on the management of the national museums. Born in the late 1990s climate of economic recession and a pressing need to re-evaluate the efficiency of government performance, the Basic Law on the Administrative Reform of the Central Government *(Chuoshochoto kaikaku kihonho)* was released in 2001 (Kato, et al, 2006:16-17; MIC, 2007). Introduced as a part of this reform, IAA reorganizes the national museums and research institutions as the Incorporated Administrative Agencies, a new identity between public and private sectors. The IAAs still receive financial support from the government but are expected to "shift from heavy-handed budgeting to a more independent budget making" (Tomooka, et al, 2002:57). The reform aims at not only improving the institutions' administrative efficiency and downsizing the central government, but also encouraging funding from sources outside the government (Kato, et.al, 2006:16-17).

In addition to the IAA Act, another law, the Designated Administrator System *(Shitei kanrisha seido;* hereafter abbreviated as DAS), also reveals a hands-off approach of the government but on a more local level. Introduced as a part of the Local Autonomy Law *(Chiho jichiho)* in 2003, this system establishes a new administration model of public institutions established by local authorities including cultural facilities such as halls, theaters, and museums. Taking a further step from the 1991 Usage Fee System *(Riyoryokin seido)* which allows the "third sector," or a mix of public and private funders or administrators, to take a proportion from the institutional revenues, the DAS allows the appointed organizations including private foundations and companies to carry out full managerial role for a designated period of time (Katayama, 2007:1-29). In 2013, 27.5% of public museums had introduced in the DAS (Suginaga, 2016). Despite the varying nature of the establishers and managerial body, to create funding mosaic from multiple sources outside the governmental subsidy, particularly self-generated revenue, is a shared agenda for the museums in Japan in the twenty-first century. The COVID-19 pandemic is in a way accelerating the museums' financial re-structuring.

Under the COVID-19 Situation: Three Cases of Museum Practices in Japan

The COVID-19 has led to changes in museums around the worlds. While the negative news reports on staff laid-offs and permanent close-downs, some other reveal positive changes such as the expanding digital engagement. Two examples are "The Met Unframed" at the Metropolitan Museum of Art and "Animal Crossing Art Generator" by Getty followed by other museum institutions. The former utilized augmented reality to allow smartphone users to display virtually some images of a few collections of the Museum. The latter, "Animal Crossing Art Generator" allows the game players of Nintendo Switch game, "Animal Crossing," to decorate their virtual islands with images of art works made available by the museums and cultural institutions.[4] The following will focus on three case of museum practices in Japan, crowdfunding, live streaming of museum tours, and a virtual exhibition.

Crowdfunding: Turning Financial Plight into Opportunities

The pandemic of COVID-19 has led to a plunge in museum visitor number. For example, the exhibition "STARS: Six Contemporary Artists from Japan to the World" at the Mori Art Museum had only achieved half of its expected visitation *(Toyo Keizai, 2021)*. The Report of Fiscal Year 2020 of National Institutes for Cultural Heritage including the national museums confirms a 15% drop in their ordinary income from the previous year, mainly caused by the decrease in the exhibition ticket revenue (National Institutes for Cultural Heritage, 2021:29).

The drastic decrease in profit from tickets and other services urges the museum to make more efforts in generating revenue and some have turned to crowdfunding. The following four museums, all private, launched crowdfunding campaigns in 2020 out of revenue loss due to the COVID-19. The Meguro Parasitological Museum is a small-scaled museum founded in 1953 dedicated to parasitology. Established by the gallerist Watari Shizuko in 1990, the Watarium Museum of Contemporary Art is one devoted to contemporary art. The Yamatane Museum of art founded by the industrialist Yamazaki Taneji in 1966 is famous for its collection of *nihonga* Japanese modern paintings. Established by Ohara Magosaburo in 1930, the Ohara Museum of Art is the first private art museum in Japan. Except the Ohara Museum of Art which is located in Kurashiki, Okayama Prefecture, the other three are located in inner Tokyo. Figure 1 summarizes their crowdfunding information.

Museum	Crowdfunding Period	Platform	Goal (JPY)	Number of Funders	Fund Achieved (JPY)
Meguro Parasitological Museum (Abbreviated as Parasitological Museum)	August 15-31, 2020 (donation stays open to the present)	Home-page	5,000,000	1,724	10,037,643
Watarium Museum of Contemporary Art (Abbreviated as Watarium)	August 26 - October 30, 2020	CAMPFIRE	5,000,000	1,515	21,601,100
Yamatane Museum of Art (Abbreviated as Yamatane)	October 7 - December 14, 2020	READYFOR	5,000,000	872	13,109,000
Ohara Museum of Art (Abbreviated as Ohara)	October 26 - December 25, 2020	READYFOR	10,000,000	1,704	23,155,000

Figure 1. Crowdfunding information of the four museums. (Data sources: Meguro Parasitological Museum, 2021; CAMPFIRE, n.d.; Yamatane Museum of Art, 2021; READYFOR, n.d.1).

The successful cases of crowdfunding reveal merits in creating and strengthening networks and enhancing the museums' public profile. With the exception of the Parasitological Museum which is thematically scientific and utilizes only its homepage to call for funds, the other three are art-related and collaborate with crowdfunding platforms. Yamatane and Ohara turn to READYFOR, the first venture company providing crowdfunding service established in 2011. Watarium uses the CAMPFIRE which followed READYFOR and was also founded in the same year. As the museums' partners, the professional crowdfunding platforms expand the usual communication channel of museums such as the homepages and SNS and excel in reaching a larger audience.

These crowdfunding campaigns function as a tool not only to raise funds vital for the museums' survival but also create and visualize the ties with the star figures and more general consumer/supporters, and communities. In addition to the reasons for the financial needs and planned usage of the gathered funds, their pages also introduce the histories and distinguishing features of the museums, packages of tickets and goods as "returns" and tax incentives. The packages of goods with along tax incentives also share similarity with the *furusato nozei* (paying tax to the hometown) system started in 2008, allowing one to choose which local areas they would like to financially support as a way of paying tax and receive the local specialties as returns. The "returns" mobilize the "supporters" as consumers rather than just good-willed donors. This transition from audience to consumers echoes with the analysis by the museum studies scholar Murata Mariko (2014). Reports on how the funds have been used and news about the museums are also shared among the supporters, consolidating the transparency of the use of the funds and confirming the "public" as the stakeholders. In addition, after the end of the campaign, Watarium publicizes the supporters on its website, including the contemporary artist Nawa Kohei, musician Sakamoto Ryuichi, industrialist Toyama Masamachi, and architect Fujimoto Sosuke (Watarium Museum of Contemporary Art, 2020). Yamatane's READYFOR page includes the messages of support from the artists such as Murakami Takashi and Senju Hiroshi, and renowned art journalists, politicians, and actors and actresses (READYFOR, n.d.2). A kind of "Art Worlds" as termed by the American sociologist Howard S. Becker ([1982] 2008) becomes visualized through the media/crowdfunding campaigns.

The crowdfunding thus serves not only as a financial means but also as a promotion strategy. These campaigns are not only out of a long pressing need for the museums to secure multiple financial sources and particularly to survive in this crisis of the pandemic, but also "museum events" in which the museum directors, star artists, and celebrities attract social attention and the general public is invited to become the museums' patrons. Serious financial plight is turned into an opportunity to create and enhance the networks with the existing and new stakeholders.

Collaborating with Niconico - Broadcasting Exhibitions and Museums Live and Creating Co-Viewing Experience

Another responsive practice, also a collaboration with the existing digital platforms, is "*Niconico Bijutsukan* (Niconico Art Museum, abbreviated as Nicobi)." Providing live streamed tours of museum exhibition, Nicobi is one program offered by Niconico, a video-sharing site founded in 2006. This specific program was started in January 2016, inheriting a predecessor one between May 2012 and January 2013 produced by the art department of Niconico. It. The videos are also saved in its archive accessible afterwards. By March 6, 2021, Nicobi has produced more than sixty programs in wide-spanning genres including exhibitions of art, history, science, and religious events and tours of temples. More than forty were produced after March 2020, meaning that the COVID-19 situation has greatly accelerated its production speed. Probably the program producers saw a rising market need.

When the first declaration of state of emergency was announced on February 26, 2020 and the museums closed their doors answering the governmental request, Nicobi released a timely call to the museums on February 28. It was a plan to cover all the cost to live broadcast the exhibitions that the general public would not be able to physically visit (Niconico news, 2020). Most of the programs are about two-hour-and-a-half in the length and hosted by Hashimoto Mari, a prolific writer on art, and attended by the curators and scholars, explicating the backstage of the exhibition planning and details on the exhibits. Although media programs featuring on art and art exhibitions are not new in Japan with the NHK's television program "*Nichiyo bijutsukan* (Sunday Art Museum)" started in 1972 serving as an early and representative case, Nicobi distinguishes from the print media and radio and TV programs in its live format and *danmaku* comments, invigorating a co-viewing or visiting experience. Although the visual quality of the videos cannot compete with those of the program "Sunday Art Museum" and real visits, the programs are rich in the content with humorous explanations by the knowledgeable Hashimoto, museum curators, and experts whom a usual museum visitor may not have much chance to meet and talk with. *Danmaku*, or "bullet curtain," a feature of Niconico, allows the registered users to "shoot" their comments live and the spectators of the live can read the comments on the screen with a short time lag. In addition, Hashimoto and the staff endeavor to enhance the synchronicity by turning to *danmaku* from time to time to collect the comments and questions from the viewers. This synchronicity enabled by technology and the staff's efforts creates a virtual space in which the exhibits, hosts, and the viewers *co-present.*

This synchronic virtual co-presence became all the more valuable during the closure of the museums. The first program features a tour of "The Tradition of Edo Creativity: The Skill and Soul of Craftsmen Give Birth to Japanese Beauty" at the Edo-Tokyo Museum and its exhibition, live broadcast on March 10, 2020. The exhibition, originally scheduled between February 8 and April 5, 2020, unfortunately met the emergency declaration and extension leading to the Museum's closure between February 28 and June 2. It was only able to open to the public only for the first three weeks of its original schedule. This Nicobi offered a chance for the Exhibition to be seen by more. It was among the most popular programs with 32,039 live views, 3,906 live comments, and 2,757 views after its broadcast (Niconico Art Museum, n.d.).

Live Broadcast Date	Exhibition Title	Museum	Number of Live Viewers	Number of Live Comments
March 10, 2020	The Tradition of Edo Creativity: The Skill and Soul of Craftsmen Give Birth to Japanese Beauty	Edo-Tokyo Museum	32,039	3,906
March 18, 2020	Peter Doig	National Museum of Modern Art, Tokyo	38,087	14,793
March 29, 2020	100 Years of Czech Design	National Museum of Modern Art, Kyoto	31,378	19,660
May 17, 2020	Inaugural Exhibition 250 Years of Kyoto Art Masterpieces	Kyoto City KYOCERA Museum of Art (abbreviated as KYOCERA)	35,526	38,720
June 29, 2020	Masterpieces from the National Gallery, London	National Museum of Western Art	35,843	18,821
July 20, 2020	Kimono: Fashioning Identity	Tokyo National Museum	33,314	21,717
July 24, 2020	Kannon Worship: The Thirty-three Pilgrimage Sites of Western Japan	Kyoto National Museum	33,052	29,772
January 12, 2021	Japanese Architecture: Traditional Skills and Natural Materials	Three venues (Tokyo National Museum, National Museum of Nature and Science, Tokyo, and National Archives of Modern Architecture)	31,244	17,767

Figure 2. Top eight Nicobi programs with the largest numbers of live viewers between March 10, 2020 and March 6, 2021. Source: Niconico Art Museum, n.d.

As shown in Figure 2, the top live-viewed Nicobi programs are mainly those held at the national museums with the exceptions of the Edo-Tokyo Museum and KYOCERA. KYOCERA is a new museum in Kyoto inheriting the building of previous Kyoto City Museum of Art with renewals and additions and more significantly restructured with corporate naming and sponsorship. Its extended opening due to the COVID-19 spread had caught great media attention. The Nicobi tour at KYOCERA is thus not just about its opening exhibition but also the brand-new look of the museum architecture.

Offering diverse programs, the Nicobi programs have achieved in presenting the exhibitions and museums that suffered in the loss of physical visitors and creating a distinguishing co-viewing experience with its danmaku function. The Pandemic offered an opportunity to bring creative contents to the audience and strengthen the collaboration between Niconico and the museums.

Collaborating With Animation Movie "The Girl Leapt Through Time" – A Virtual Exhibition at Tokyo National Museum

The final case for analysis is a virtual exhibition "Virtual Tohaku: Anonymous" between December 19, 2020 and February 28, 2021. Organized by the Tokyo National Museum, the National Center for the Promotion of Cultural Properties, Japan, and TOPPAN Printing Co., Ltd., this exhibition utilized "clusters," a virtual event service founded in 2015 to exhibit fourteen pieces in the Museum collection of whose authors remain unknown, or "anonymous." The conception of the exhibition originated from an animation movie *The Girl Leapt through Time* by the director Hosoda Mamoru released in 2006.

The animation has one of its stages at a museum modeled after the Tokyo National Museum. The hero Chiaki travels through time to seek a mysterious painting which is already lost in his time and meets the heroin Makoto. The museum is not only the place where Chiaki finds the painting, but also the workplace of Makoto's intelligent aunt with a nick name the "witch." *The Girl Leapt through Time* is a popular work with an original novel by Tsutsui Yasutaka published in 1965 and nine adaptions of TV dramas and movies afterwards, among which Hosoda's marks as the only animation.

The embedding of a museum and particularly the Tokyo National Museum was out of the friendship between Hosoda and the curator at the Museum, Matsushima Masato. In the original story by Tsutsui, there is no museum as the stage. When reflecting on how Hosoda incorporated this idea, Matsushima mentioned that they were peers at the Kanazawa College of Art; at an alumni gathering in 2004 when Hosoda was in the midst of creating this film led to this conception (Matsushima, 2016).

After the release of this animation, the Tokyo National Museum had held two events related to this animation, between October 10 and 11, 2014, and between July 12 and 31, 2016 respectively. The first was a part of the Asia Festival during which the animation was screened outdoor in front of the museum's main building at night. During the summer of 2016, the second event included the outdoor cinema for two nights and a special exhibition curated by Matsushima at a corner in the main building. Occupying a corridor among the art galleries, this corner introduced the fictional museum and painting in the animation and other actual-and-anonymous paintings in the Museum collection. Upon an interview with Matsushima in 2017, he emphasized that at the beginning, it was not a collaboration between the animation work and the Museum on an institutional level but realized by their personal relationship. With his background in Asian art, Matsushima was able and willing to serve as an advisor to conceive the mysterious painting and a fictional exhibition of "anonymous" works in the animation. Enthusiastic with developing connections with corporate sponsors and the society, he had initiated the first exhibition featuring flower viewing at the Museum in 2007 during the sakura blossom season for which the location of the Museum, the Ueno Park, is famous for (Matsushima, 2017). The embedding of the Museum and a fictional exhibition in the animation was out of Matsushima's motivation to invite diverse readings of the museum and art works, with which the director Hosoda sympathized (Ibid.).

The virtual exhibition in 2020-21 under the COVID-19 situation is made possible by the pre-existing personal relationship, two related events in the past, and further updated with the integration of digital technology. This event achieved in collecting part of its fund via crowdfunding. Through Makuake crowdfunding, it raised JPY192,600, 12.8% of its original goal, JPY1,500,000 by December 10, 2020 (Makuake, n.d.). In addition to this crowdfunding, the Exhibition showed great inter-laced partnership between the government and corporates. It was co-organized by TOPPAN Printing Co., Ltd and the National Center for the Promotion of Cultural Properties. TOPPAN Printing Co., Ltd has been a long partner of the Museum with a dedication to promotion of digitization and active use of museum collections and cultural properties. The TNM & TOPPAN Museum Theatre showing digital contents was established in the Museum premise in 2007 and renewed as a ticketed theatre in the Museum's Asian Gallery (Toyokan) in 2013. This exhibition was also sponsored as a part of TOPPAN's project, "Bunka geijutsu shuekiryoku kyoka jigyo." This project is a financial scheme set up by the Agency of Cultural Affairs (ACA), Government of Japan in the summer of 2020 to enhance the profitability of culture and arts (TOPPAN, 2020). It aimed at saving the art and cultural enterprises that had been losing their revenue due to the COVID-19 and help build new business models with/after the pandemic (ACA, 2021). TOPPAN was amongst the ten receivers in the fiscal year 2020. Virtual Tohaku in this sense was born in the COVID-19 situation.

Another organizer, the National Center for the Promotion of Cultural Properties, Japan is a national organization under the National Institutes for Cultural Heritage with a mission "to share the wonder of Japan's cultural treasures with the widest audience" beyond museum personnel and volunteers (2021a). Established in July 2018, it is young but has expanded the activities of the cultural institutions. As one of its four major activities, this organization promotes creation of digital resources of cultural properties and distribution of information within and outside

Japan (Ibid.). Based on this vision, the museum is expected to leap over its physical wall to engage with the wider public through the digital contents.

This Virtual Tohaku exhibition was made possible through the partnership amongst the private and governmental organizing bodies. It was successful in drawing the online audience. Charging JPY290 (virtual "cluster coin" 280) for the virtual exhibition and JPY1,100 (virtual "cluster coin" 1,060) for the special talk between Hosoda and Matsushima, a user can access to the virtual space 24 hours during the exhibition period and join the talk on December 18, 2020 live through smartphones, PC or VR devices (Cluster, n.d.1 & 2). As a feature of "clusters," the users appear in the virtual space as three-dimensional avatars and the virtual crowds and emotional reactions can be visualized in the real time (Figure 3). After entering the building, walking upstairs the grand staircase, and getting into the exhibition room all closely modelled after the actual space of the Museum, the user can choose different angles to view the fourteen anonymous pieces exhibited according to a chronological order (Figure 4). Some of the works had appeared in the Animation whilst others were new faces. The exhibits included the national treasures "*Kujaku Myoo* (Mahamayuri)" in the twelfth century of Hei'an period and "Scenes in and around Kyoto, Funaki version" in the seventeenth century of Edo period (Virtual Tohaku, Anonymous, n.d.). According to the report of the National Center for the Promotion of Cultural Properties, the visitation to the Event reached 3,374 with high satisfaction rates, over the Exhibition 74% and over the opening talk 91% (2021b). Its self-evaluation states that although it was not possible to gain the expected income, the Event had achieved in "presenting a new model of content encouraging participation and experience in the Pandemic" and "attracting new audiences in their twenties and thirties, younger than the Museum's usual visitors" (Ibid.).

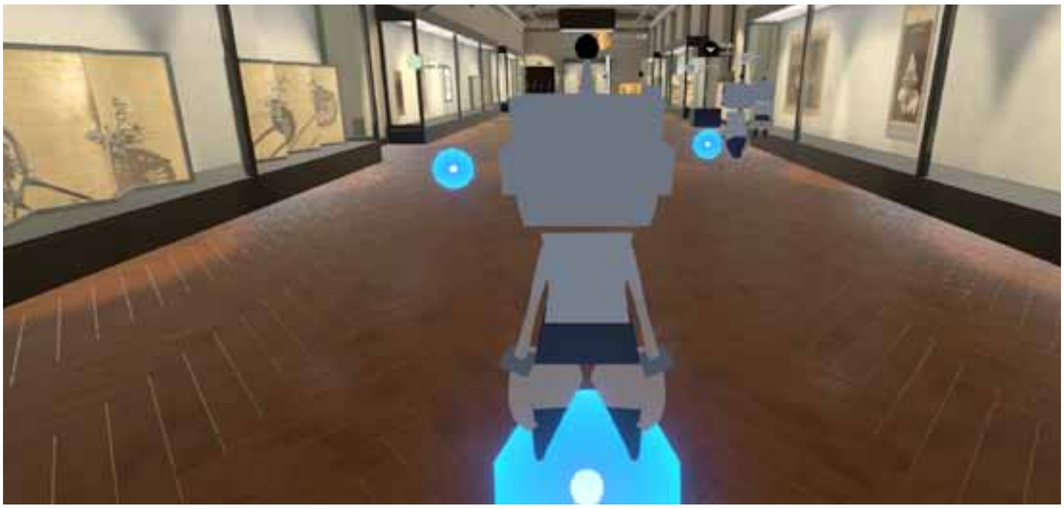

Figure 3. Screenshot of the Exhibition by the author, December 18, 2020. ©Virtual Tohaku.

Figure 4. Screenshot of the Exhibition by the author, December 18, 2020. ©Virtual Tohaku.

Conclusion

This paper has analyzed three cases of museums practices in Japan under the situation of COVID-19, crowdfunding, live streamed tours, and a virtual exhibition. There is further exchange among the three as we can see that the exhibition "Virtual Tohaku: Anonymous" uses crowdfunding; and its online talk had been released on Niconico. These practices reveal the resilience of the museum which has been repeatedly raised up at the conferences on museums before the Pandemic. The resilience lies in the museums' financial health, proactive attitude towards incorporation of information technology and development of partnership with corporates, and a continuous sought to stay engaged with the society. The partnership and engagement cannot be built all of a sudden but upon personal exchange and long-term trust. As can be seen in the case of "Virtual Tohaku: Anonymous," personal relationship between Matsushima and Hosoda, Matsushima's motivation to constantly wire the museum programs to the society, and long partnership between the Museum and TOPPAN are crucial to actualize the Exhibition.

Although the mission of the National Center for the Promotion of Cultural Properties, Japan, "to reach the widest audience beyond museum personnel and volunteers," remains as a difficult task as the practices analyzed above demand literacy of information technology, access to the Internet and varying gadgets on both sides of the museums and participating users. A division between the haves and have-not has always been a highly debated theme in the discussions on the relationship between the museum and digital technology. The model of "musée imaginaire" (translated into "museum without walls" in English) suggested by Andre Malraux is still on its way to be truly democratic ([1947] 1965).

The cases analyzed in this paper however shed light on the future model of the museum. While the Pandemic has severely worsened the financial situation of museums around the world, these creative projects were exactly born in this difficult time. They had achieved in presenting new models to diversify the financial resources, reach new audiences, and create engaging experiences. These practices demonstrate the resilience of the museum and the potential for the museum to further utilize digital platforms and contents.

Two limitations of this paper lie in the distance and a focus on Tokyo. As this paper is written in the midst of the Pandemic, the statistics and situation are in constant change. The paper also pays attention to the situation in Tokyo and other major cities. Experiencing longer closures and more significant drop in attendance, the prefectural and local museums have been facing more sever difficulties in the financial term. The author anticipates future research, particularly when the impact of the COVID-19 pandemic dwindles, to fully analyze with updated and comprehensive data, interviews, and comparative studies among varying locations and industries.

Endnotes

1 See Cabinet Secretariat, Japan, n.d. for the extensions and changes in target areas of the "state of emergency."

2 On March 3, 2021, newspaper articles have mentioned the government's preparation to host the Games without overseas spectators (Mainichi, 2021).

3 Blockbusters in Japan have a long tradition as those sponsored by newspapers and media companies since the early twentieth century. The Art Newspaper rankings of the most attended exhibitions in the world also reveal the frequent entry of the exhibitions held at the major museums in Japan (for example, see The Art Newspaper, 2020).

4 By March 6, 2021, the museums in Japan that have released images of their collection for "Animal Crossing "include Mitsubishi Ichigokan Museum, Tokyo, Tokyo Bunko, Pola Museum of Art, Ota Memorial Museum of Art, and Edo-Tokyo Museum.

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Revealing the Paradox of a Heritage City

Through Community Perception Approach: A Case Study of Parakan, Temanggung, Central Java, Indonesia

Ari Widyati Purwantiasning+ (Indonesia)

Abstract

Parakan is a small city in Central Java, Indonesia. As a part of a region in Temanggung District, it has been designated a heritage city since December 2015 by the Central Government. It has a uniqueness, with both a tangible and intangible heritage. There is an extensive cultural heritage within the city, which represents its history. The research reveals the paradox of Parakan as a heritage city, which relates to delivering the process of conservation and preservation, which still faces many issues regarding community needs. The research method was quantitative, with use of a statistical approach to show the data from the perception of the community. The questionnaires for 300 respondents have been distributed by using Google Forms and have been collected 270 feedbacks from respondents. The paper obtains results using a descriptive narrative approach to describe the statistical data. In conclusion, we recommend that to reduce opposition, the local government of Parakan should deliver an initiative such as workshops or forum group discussions to encourage the local community to enhance their knowledge of cultural heritage, conservation and their willingness to conserve and preserve. Also, local government needs to involve local community in any activities in relate to conservation and preservation.

Keywords: *Community Perception, Heritage City, Oral Tradition, Paradox, Parakan, Indonesia*

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Introduction

The first known use of the word “paradox” was in the renaissance era; it derives from the Latin "paradoxum" or "paradoxo." Both terms could be delivered as two words, "para" and "doxa," where "para" means "the way of" or "according to" and "doxa" means "what is accepted." To simplify the meaning of paradox, the word is usually employed to refer to a contradictory condition of an issue.

Tschumi (1994) stated that a theory of space is not space itself. This is to describe and explain a paradox in architecture. It could therefore be defined that space is not just a real space which has been formed from boundaries, but also something which is covered itself. Lefebvre (1991) also supported this argument by representing the definition of space which is collaborated from activities within it.

Kehoe (2008) clearly discussed the paradox in conservation, particularly architectural conservation. He explained that this paradox could be compared between two historical buildings from the colonial era. The architectural conservation of such buildings could face a paradox between two issues, between conserving and preserving historical buildings which represent the old colonial era and conserving and preserving such buildings in an effort to preserve history for future generations. Although in general the effort to preserve and conserve architectural heritage is also related to the choice of a historical moment which has a significant meaning, in practice the activities of architectural conservation and preservation always face paradoxes related to contradictory issues.

Kehoe’s (2008) arguments are supported by the research of Muresanu (2015), who explained that there exists a paradox between the conservation of architectural heritage and the effort to improve tourism activity within a historical site. The local community has been encouraged to support the enhancement of tourism, because it will improve their quality of life and the environment itself. But on the other hand, tourism activity could also be a challenge for the local community; negative impacts could become a threat to historical sites, and particularly the historical values and norms in the community. Both issues are very familiar to the local government and community, which have been encouraged to make possible the activity of architectural conservation. One group has very thoughtful ideas in addressing the concept of architectural conservation within a historical site, but another believes that such activity, while improving tourism, could also threaten historical values. This paradox facing conservation has been revealed in this research, which defines the level of understanding of cultural heritage of the local community and the level of willingness to conserve and preserve. Historic and Nebojsa (2020) has underlined that strategies of conservation and development basing on a clear perception of the existing potential and their rich use in the future. The active protection of the urban unit and dynamic rehabilitation involves integrating heritage into contemporary trends of life by emphasizing the identity of space. Thus, the activity of conservation and preservation need to be conducted as significant as it is, depend on the understanding of cultural heritage as well as the willingness to conserve and preserve by the community.

A case study was conducted for the research, with Parakan chosen as the subject. Parakan was designated as a heritage city in December 2015 by the Central

Government of Indonesia. One of the areas with the dominant figure in Parakan is Kauman Area. Parakan with KH Subuki or well known as KH Bambu Runcing, became a well-known place to create Bambu Runcing. Parakan became a famous place around Indonesian soldier. Many Indonesian soldiers from other cities have come to meet KH Subuki, asking for blessing and creating Bambu Runcing as a traditional weapon (Purwantiasning, Kurniawan and Suniarti, 2019).

As mentioned by Purwantiasning et al. (2020), as a heritage area in Indonesia, Parakan has many aspects which have a significant character, either physical or non-physical, as well as tangible and intangible ones. Its heritage buildings are Parakan Rail Station, the Chinese Temple Klenteng Hok Tek Tong, Pasar Legi, Pecinan Area, Kauman Area, Kali Galeh Bridge, Kawedanan, the House of KH Subuki, the Cemetery of KH Subuki, Langgar Wali, Kauman Area, the Cemetery of Kyai Parak, and the Mosque Al Baroqah Bambu Runcing. The uniqueness of Parakan is also shown by the existence of heritage ethnic Chinese houses within Pecinan Area, which have a specific architectural character. Parakan is also very well known as the city of Bambu Runcing, a sharpened traditional weapon made from bamboo. KH Subuki established this traditional weapon in the colonial era when he was known as a Muslim leader with a strong character.

Based on the above explanation, we have chosen Parakan for the case study. Using oral tradition and local community's perception approaches, the aim of the research will be revealed. Oral tradition was a significant approach, because we believed that to uncover the history of Parakan and to identify the needs of the local community, it was necessary to conduct interviews with the generation of KH Subuki. Respondents from the third, fourth and fifth generations of KH Subuki were chosen, and a result also has been defined. As stated by Vansina (2006), oral tradition can be defined as verbal testimony transmitted from one generation to the next or later one, which is more precise. He claimed that oral tradition is an approach taken by historians to shed light on historical events through the local community. According to this, we believe that the oral tradition approach is appropriate to reveal the cultural heritage of Parakan and to define the paradox which relates to this issue.

To support the oral tradition approach, we also have employed a local community perception approach, distributing, and circulating questionnaires within the Pecinan and Kauman areas. This approach was intended to ascertain the understanding of the local community about cultural heritage, and its willingness to conserve and preserve it. All the questionnaires were distributed to the local community apart from the generations of KH Subuki; this aimed to avoid double respondents and overlayed results. The perception approach was employed in the research because it intended to reveal the paradox of cultural heritage issues. Luthans, cited in Mulyadi (2014), stated that in perception an individual will bring the intentions of selection activity, organizing activity and interpretation activity. Individuals' perception could be completed by their collecting information, feeling it, and understanding it through their senses. This notion is supported by the statement of Rapoport (1977), who explained that the activities of individual perception can be completed through an individual's experiences.

Research Methods

The research is a quantitative, based on the collecting and analyzing of data statistically, together with descriptive qualitative research with a narrative, descriptive approach to describe and analyze the case study from both physical and non-physical aspects. Since the research is quantitative, we analyzed the data collected using a statistical graphic form to show the results. We have conducted the data collection by distributing 300 questionnaires in order to identify the paradox of heritage cities, particularly Parakan, through oral tradition supported by community perception. There are 270 questionnaires that have been collected as feedback from respondents.

Location and Research Period

The research was undertaken in Parakan, one of the Kecamatan in Kabupaten Temanggung, Central Java, which has been regarded as a Heritage City since December 2015 by the Central Government of Indonesia. We chose the areas of Kauman and Pecinan in Parakan as particular locations for the research (see Figure 1). Although there are 12 identified cultural heritage sites (see Figure 2) within Parakan, we have studied six of these. Three are colonial heritage sites (Parakan Rail Station, Galeh Bridge and Pasar Legi), one is a Chinese heritage site (Klenteng Hok Tek Tong), and two are colonial heritage sites very closely related to the activity of Bambu Runcing making (the House of KH Subuki and the Mosque of Al Baroqah Bambu Runcing). We have chosen those six sites because they all represent the most significant cultural heritage within Parakan.

The research was conducted for about two years between 2019 and 2021, while the statistical data collection took around three months, from July to September 2020. The data collection has been continued to complete the research; we have distributed additional data collection for another three months from July 2021 to September 2021.

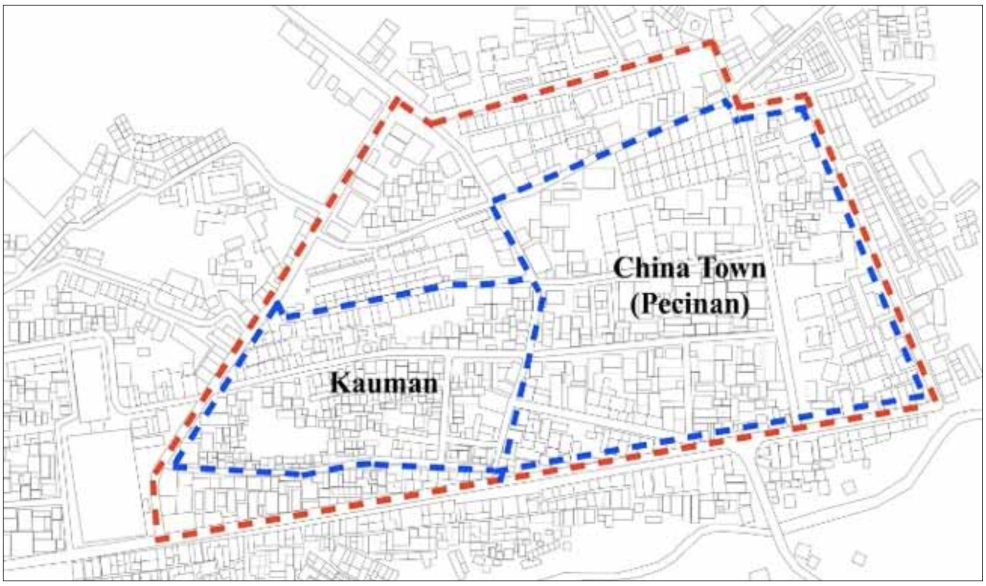

Figure 1. Research location within the historical site of Parakan (Kauman and Pecinan).

Figure 2. Mapping of the cultural heritage locations in the Parakan historical area.

There are 12 cultural heritage sites, six of which are the most significant

1. Masjid Al Barokah Bambu Runcing
2. Masjid Wali
3. Makam KH Subuki
4. Rumah Candi KH Subuki
5. Gedeng Ex BMT
6. Makam Kyai Parak
7. Jembatan Kali Galeh
8. Rumah Gambiran
9. Kantor Kawedanan
10. Klenteng Hok Tek Tong
11. Stasiun KA Parakan
12. Pasar Legi Parakan

Research Tools and Materials

Since this research is a part of wider architectural heritage research conducted using statistical methods, we used the following tools: (1) AutoCAD as software for drawing maps; (2) Corel Draw as a software for mapping analysis; (3) Questionnaires, which were distributed and circulated among the local community in Parakan; and (4) Ms Excel as software to make the quantitative analysis to identify and examine the results. Supporting and additional materials and tools used included a camera, sketchbook, and recorder.

Measurement Methods

Two approaches are used: oral tradition and community perception. In the oral tradition approach, we collected the data through direct interviews with the generation of a significant person with Parakan named KH Subuki. Around 40 respondents were interviewed from the third to the fifth generations. On the other hand, to support the results from the oral tradition approach, we distributed and circulated 300 questionnaires throughout the local community within Parakan. The community perception approach can be examined using the purposive sampling method. The 300 respondents varied in age, educational background, and status; they either originated from Parakan or were immigrants from another city. From the 300 respondents, there are 270 respondents have been collected as feedback. Two types of respondents represented ethnicity, one from the Kauman Area (Muslim and Javanese) and the other from the Pecinan Area (Khonghucu/ Confucian and Chinese). These two types of ethnicities were classified because we believed they would affect the results. The percentage of the type has been modified depending on the population. In the Kauman area, the population has been regarded relatively average with the population of Pecinan Area.

Respondents

For the oral tradition approach, we interviewed 40 people, and for the community perception approach we prepared 300 questionnaires, with 14 related questions. The questionnaires were distributed randomly but covered two groups in the local community. Since the population in Kauman Area is relatively average with the population in Pecinan Area, we divided the questionnaire almost the same amount 50% for Pecinan Area and 50% for Kauman Area. Both areas were represented by male and female. The age of the respondents was randomly distributed using five age groups: <17 years old; 17-21 years old; 21-40 years old; 40-55 years old and >50 years old. From 300 distributed questionnaires, there are 270 questionnaires that have been collected which represented 2 area, 120 respondents from Pecinan Area and 150 from Kauman Area.

Analytical Methods

Since the research aimed to reveal the paradox of a heritage city, which is part of the problem that arises in conservation and preservation activities, we identified the results of the data collection and classified them into various categories. We measured all the answers from the respondents to examine their perceptual opinions. The analytical results will be presented at the end of the research using the standard in an understanding of cultural heritage, as well as the willingness for conservation and preservation. They will then be interpreted to reveal whether there is a paradox or not in Parakan as a heritage city.

Results and Discussion

Understanding of Cultural Heritage

Referring to Undang-Undang RI Number 11 Year 2010, the word “heritage” could be defined as either an individual object, a group of objects, or a part of an object which is about 50 years old or has represented a particular unique style for at least 50 years and is regarded as an object with significant historical, scientific, or cultural value.

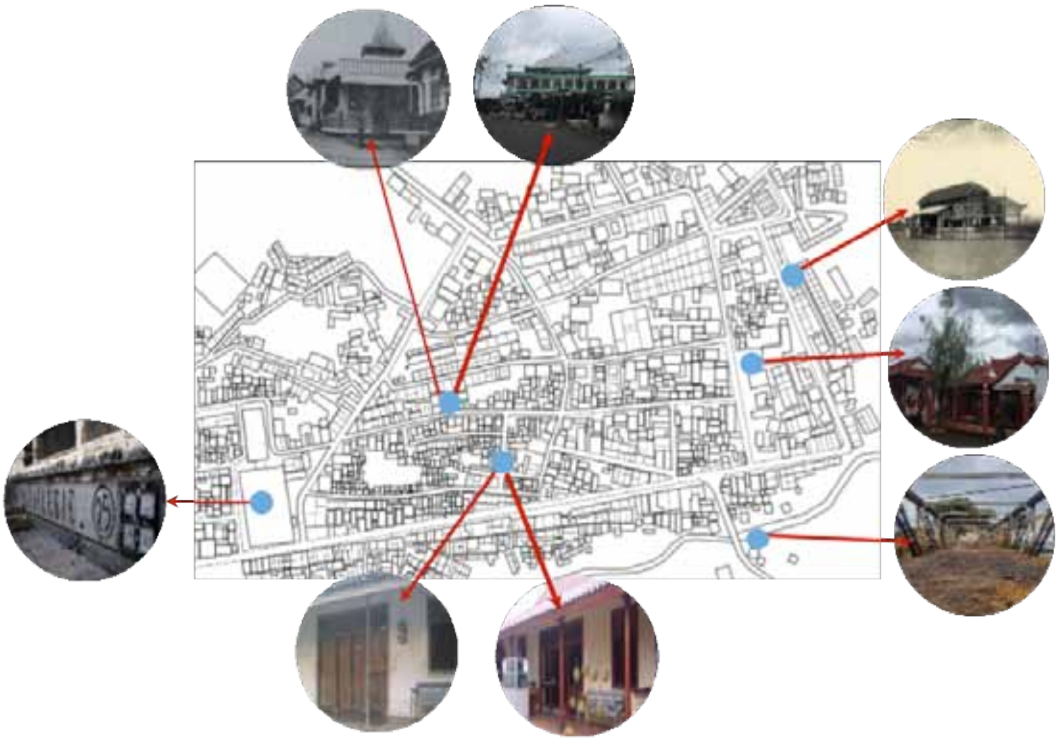

Figure 3. Locations of the six cultural heritage sites used as a measurement tool of community perception of cultural heritage.

According to the above definition, cultural heritage sites in Parakan which have significant value and are more than 50 years old include the following as shown in figure 3:

a. Rumah Candi-House of KH Subuki
b. Mosque Al Baroqah Bambu Runcing
c. Chinese Temple-Klenteng Hok Tek Tong
d. Railway Station from the colonial era - Stasiun KA Parakan
e. Bridge from colonial era - Kali Galeh Bridge
f. Market from colonial era - Pasar Legi Parakan

Purwantiasning and Kurniawan (2020) have stated that there are also some places within Kauman Area which were used for the activities of creating Bambu Runcing. Some of those places still remain the same, either the physical condition as well as the form of the building. But some of those places have been transformed into new form since that the community of Kauman, Parakan have tried to forget the past. The direct interviews using the oral tradition approach showed that almost all the 40 respondents stated that out of the six cultural heritage sites, only two were very significant, namely Rumah Candi-House of KH Subuki and Mosque Al Baroqah Bambu Runcing. They mostly said that both these sites represented the movement of KH Subuki with the Muslim community to fight against the colonial powers. Both sites are also a reminder of the history of Bambu Runcing, as well as the history of Parakan itself. The interviewers also stated that the remaining sites, particularly those representing the history of the colonial era, constituted a bad memory of the colonial era. They have said it is a bad memory because within this site many Indonesian soldiers particularly from Kauman Area were murdered by the Dutch. One of KH Subuki's generation, Asrof said that, even the son of KH Subuki, known as KH Abdurrahman was killed in his own house, while the Dutch tried to find KH Subuki. Furthermore, to support the oral tradition approach, we distributed 300 questionnaires in Kauman and Pecinan Area and 270 respondents have given the feedback. The distributed surveys resulted in the following respondent profiles as shown in Figure 4.

Characteristic	**Pecinan Area**	**Kauman Area**
Gender:	120 respondents	150 respondents
Male	70%	60%
Female	30%	40%
Age:		
<17 years	1.11 % (3 respondents)	
17-21 years	2.6 % (7 respondents)	
21-40 years	44.44% (120 Respondents)	
40-55 years	40 % (108 respondents)	
>55 years	11.85 % (32 respondents)	

Figure 4. Profile of respondents.

Two questions indicated whether the respondents had knowledge and understanding of cultural heritage. The first question asked for a definition of cultural heritage. There were four possible answers to this question: ancient object, historical object, old object, and useless object. Out of the 270 respondents, 85 % stated that cultural heritage related to historical objects, with the remaining 15 % saying that it related to ancient objects (see Figure 5). Both answers have a similar meaning but are different with reference to the definition of cultural heritage. An ancient object not always has historical value, so is not always an object cultural heritage. However, a historical object might be an ancient object as it has historical value which represents a previous era. Both answers could show that the respondents had good knowledge and understanding about cultural heritage.

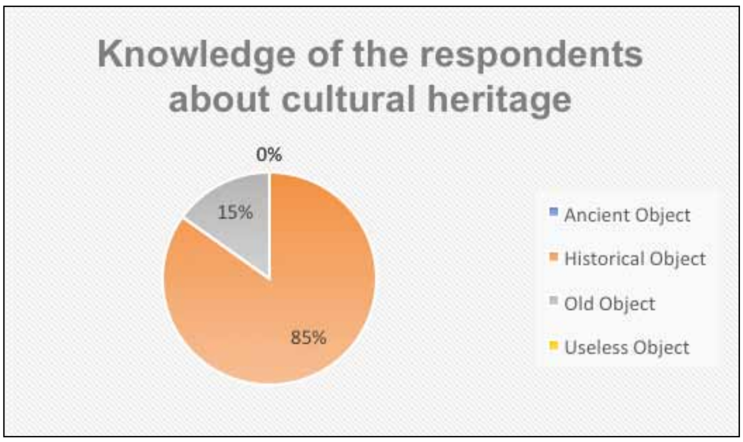

Figure 5. Knowledge of the respondents about cultural heritage.

The second question was about the knowledge and understanding as to whether Parakan had much cultural heritage or not. This question was posed to prove respondents' knowledge and understanding about cultural heritage. The results show that almost 100% of the respondents (96%) knew that Parakan has extensive cultural heritage, which indicates that the knowledge and understanding of all the respondents about cultural heritage is clear. Only two respondents, around 4 % (about 12 respondents) (see Figure 6), stated that they did not have any knowledge about whether Parakan had much cultural heritage.

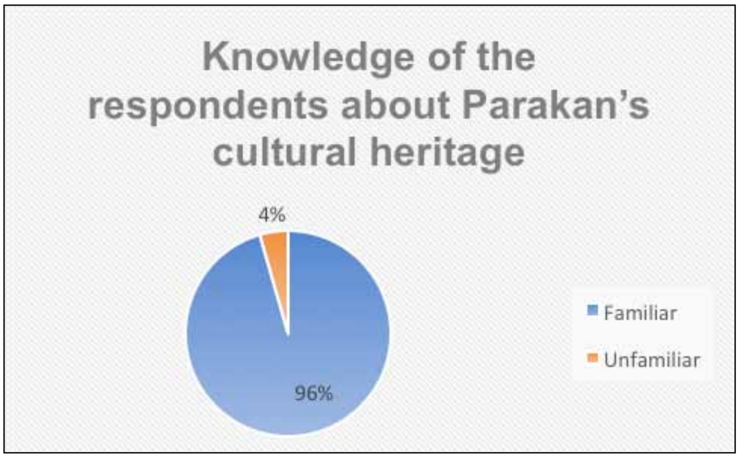

Figure 6. Knowledge of the respondents about Parakan's cultural heritage.

The Willingness to Conserve and Preserve

In previous research, Purwantiasning (2018) mentioned that the designation of certain areas as conservation areas, as well as heritage areas in Indonesia, is encouraged by global concern about the protection of the world's cultural and natural heritage. Since then, Indonesia, which has many heritage areas, has attempted to protect its cultural and natural heritage by designating some regions of the country as conservation or heritage areas. Ancho et al (2021) also stated that preserving heritage building can be seen as an aspect towards knowledge generation rooted on historical past. It provides contemporary perspectives in order to visualize the future. Studies such as these are platforms that celebrate cultural experiences for continuity and sustainable future. Social development in the midst of efforts to value the past requires commitment and sound policy attempts to ensure cultural resources are valued and given attention.

One of the initiatives of the central government is to encourage local governments to implement conservation and preservation programs. To help such programs succeed, local governments have established community groups known as Nata Parakan Luwes or NPL, to assist in their delivery. They have also arranged activities to encourage the local community to show commitment to conservation and preservation. However, many local communities still have a lack of understanding and knowledge about cultural heritage and conservation/ preservation, a situation which has affected conservation and preservation activities.

At this stage, we asked some questions to identify whether the respondents had the willingness to conserve and preserve. By posing six questions referring to the six cultural heritages in Parakan, the results of the research are clearly revealed (see Figures 7 and 8).

Cultural heritage site	Designated as a cultural heritage site			
	Community of Pecinan Area 120 respondents		Community of Kauman Area 150 respondents	
	Agree	Disagree	Agree	Disagree
House of KH Subuki	112 respondents/ 93.33%	8 respondents/ 6.67%	145 respondents/ 96.7%	5 respondents/ 3.3%
Mosque of Al Baroqah Bambu Runcing	112 respondents/ 93.33%	8 respondents/ 6.67%	145 respondents/ 96.7%	5 respondents/ 3.3%
Chinese Temple-Klenteng Hok Tek Tong	118 respondents/ 98.33%	2 respondents/ 1.67%	142 respondents/ 94.67%	8 respondents/ 5.33%
Railway Station from Colonial Era- Stasiun KA Parakan	118 respondents/ 98.33%	2 respondents/ 1.67%	82 respondents/ 54.67%	68 respondents/ 45.33%
Bridge from Colonial Era- Kali Galeh Bridge	118 respondents/ 98.33%	2 respondents/ 1.67%	82 respondents/ 54.67%	68 respondents/ 45.33%
Market from Colonial Era- Pasar Legi Parakan	118 respondents/ 98.33%	2 respondents/ 1.67%	82 respondents/ 54.67%	68 respondents/ 45.33%
Mean	**96.66%**	**3.34%**	**75.35%**	**24.65%**

Figure 7. Statistical results on the willingness to conserve & preserve the cultural heritage of Parakan.

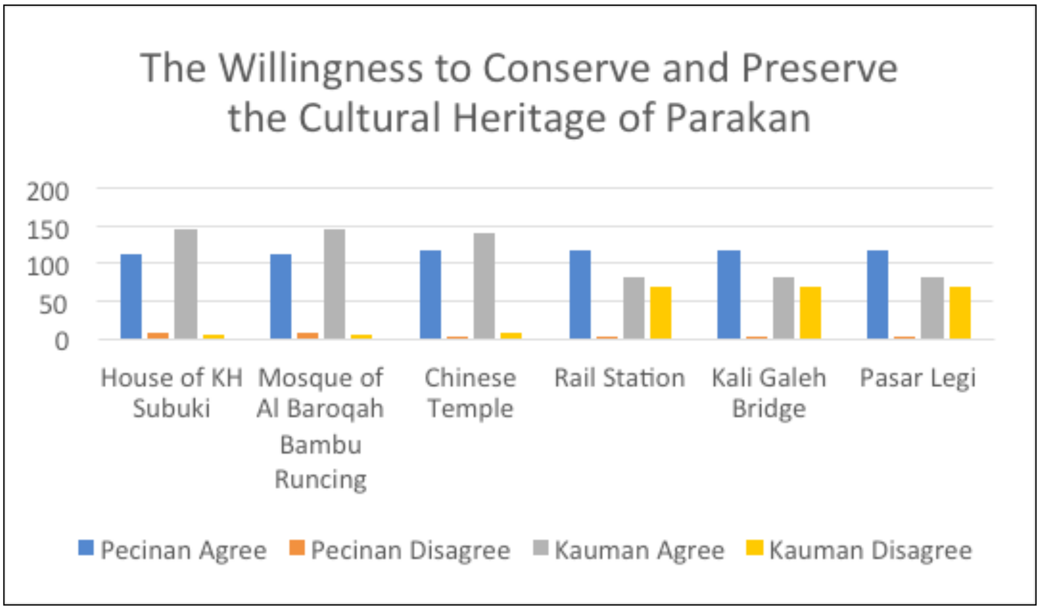

Figure 8. Chart of the Willingness to Conserve and Preserve the Cultural Heritage of Parakan.

Figure 8 shows that the willingness to conserve and preserve depends on the preference of the local community. For example, Figure 7 shows that the local community in Pecinan Area is willing to preserve all the cultural heritage representing the colonial era, such as the Parakan Railway Station, Kali Galeh Bridge and Pasar Legi Parakan, believing they should be preserved and conserved as cultural heritage, as well as Klenteng Hok Tek Tong as a sacred place for Chinese people (98.33% agreed with maintaining these four cultural heritage sites). On the other hand, out of the local community in Kauman Area, about 96.7% were willing to preserve and conserve Rumah Candi KH Subuki and the Mosque Al Baroqah Bambu Runcing, because in this area these two objects are historical places with historical value. Both sites represent the history of Parakan as a city of Bambu Runcing, and also both represent the history of KH Subuki as the founder of Bambu Runcing. Around 54.67% of respondents were willing to conserve and preserve the three cultural heritage sites which represented the colonial era, with the remainder, about 45.33% stating that the sites were reminders of the colonial era (bad memories), so they did not deserve to be preserved and conserved.

The Paradox of the Heritage City

From the above results, the paradox of the heritage city of Parakan can be revealed. The first issue is about the willingness to conserve and to preserve regarding the understanding of cultural heritage, while another issue is about the willingness to cast off the bad memories of cultural heritage. We believe that we do understand this situation, because all the respondents who are related to the history or Parakan in the colonial era mostly live in Kauman Area. They believe that the bad memories of this era could have a bad effect on future generations. From the oral tradition and local community perception approaches, we are able to give various reasons why most respondents within Kauman Area had no willingness to conserve and preserve the cultural heritage which reminded them of the colonial era. These reasons are as follows: cultural heritage from the colonial era could become a bad memory; it could destroy the minds of future generations; it could generate bad emotions and hatred; it only comprises useless objects with poor performance.

However, a similar number of respondents (fewer than 50 % about 45.33%, see Figure 8) from Kauman Area agreed and had the willingness to conserve and preserve their cultural heritage. The reasons for their agreement are as follows: cultural heritage is regarded as a historical reminder; it is regarded as a heritage for future generations; it is regarded as an educational tool for future generations; it is regarded as a witness of old or historical events.

This paradox of the heritage city will always exist in architectural conservation. The local government, together with the local community, should initiate activities to improve the issues of architectural conservation. In this way, the paradox of the heritage city of Parakan could be minimized in order to avoid rejection from the local community, who are not willing to conserve and preserve.

Conclusion

The uniqueness and architectural diversity within Parakan, particularly in Pecinan Area and Kauman Area, are significant reasons why the city is very suitable to be a heritage city. Understanding architectural conservation is not done only through the literature, but also by conducting research, particularly with the oral tradition, which has enabled us to understand the related issues more. By collecting information through the oral tradition and local community perception approaches, the paradox of the heritage city, particularly Parakan, can be revealed. Some reasons behind the issues have been defined as a result of this research.

Although there is a paradox in the heritage city, the issues of this paradox could be minimized if local governments are willing to take some initiatives to encourage the local community to enhance their knowledge and understanding of cultural heritage. We believe that there are still many people who do not have the will to conserve and preserve. We only conducted the research on a significant amount respondent to represent the community of Parakan and to achieve its aims, and the results of the questionnaire do not represent all the needs of the local community of Parakan. As a recommendation, we have suggested to the local non-government organization such as NPL or Nata Parakan Luwes to deliver our suggestion to the local Government such as Camat Parakan or Bupati Temangung. We have recommended the local Government to organize and deliver such as a Forum Group Discussion and Workshop for community to enhance their knowledge about Cultural Heritage, Conservation and Preservation. Furthermore, Local Government should involve the local community in any activities regarding conservation or preservation of a significant area within Parakan. By delivering these activities, hopefully the willingness to conserve and preserve of Cultural Heritage will be enhanced significantly.

For further research, we suggest enhancing the study to a wider local community scope in Parakan, covering the whole area, not only the historical district. Further research could investigate and reveal the potency of Parakan as a historical site in Indonesia by making some investigations with either qualitative or quantitative methods.

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Sikh Music in Bangkok: The Sangeetacharya Band

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Abstract
The objective of this research is to study Sikh Sangeetacharya Band in Bangkok, with regards to their background, their performances of music to accompany devotional hymns, their musical knowledge learning and transmission and their musical art. It was found that Sikhs from Punjab state in India have migrated to Thailand since the reign of King Rama V (1868-1910).The first Sikh temple was founded in Ban Moh district, Bangkok and the Sikh association was established in 1932 to be a center of religious activities. The important identity of the Sikhs, which they strictly observe, is their musical accompaniment to hymns performed every day and at every stage of their lives. Concerning musical knowledge, the Sangeetacharya members have to learn Gurmat Sangeet, which emphasizes the musical performance to accompany hymns from sacred scriptures. To transmit this knowledge, those who are interested in learning the music can enroll in courses taught by the musical masters of the Sri Guru Singh Sabha Sikh Association; they first learn prayers from the sacred scriptures. Instruments used to create the music used with the chants are the sitar, mandolin, harmonium and tabla drums.

Keywords: *Sikh Music, Sangeetacharya Musician, Bangkok Music, Musical Hymns, Urban Music Culture, Religious Performance, Thailand*

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Introduction

Bangkok, the metropolitan center of Thailand, is a city in which people of many races live together. According to the Bureau of Registration Administration, the population in Bangkok in January 2021 was 5,586,051 (Bureau of Registration Administration, 2021: online) while according to a 2008 survey, there were 70,000 Sikhs in Thailand (Sajjamit, M. Interview, 2019).

"Sikh" means "disciple" in Panjabi. Every Sikh is considered a disciple of the Guru, meaning master, which is the name Sikhs call their prophets. Sikhism was founded by Guru Nanak in the Punjab region, north India in 1469 with 10 human Gurus in succession. At present, the Sikhs hold faith in the sacred scripture that designates Sri Guru Garanth Sahib as their eternal prophet (Department of Religious Affairs, Ministry of Culture, 2011:138-140).The Sikhs, one of the large Indian groups in Thailand, can trace their ancestors to Punjab in Northern India since the reign of King Rama V. According to Kamwang, A. (2011:71-74), these Sikhs from Punjab were traders who came to Siam and Lanna as a consequence of negative and positive factors. The negative factor was the suppression of Sikh natives by British colonists and the partition of India which created the Republic of Pakistan which included most of the Punjab state, while the positive factor was the trading prosperity of Siam (original name of Thailand) and Lanna at that time. The first evidence in Thai history of these Sikhs can be found in King Rama V's royal writing at the time His Royal Highness made a journey to the Malay Peninsula in the year 1883. The King wrote about the strong and disciplined Sikh soldiers he found on the way, and later, by order of His Royal Highness, 30 Sikhs were engaged as patrolmen in Bangkok. Meanwhile, Sikh merchants began to arrive in Thailand. The first one, Kirpa Ram Madan entered the country in 1886 initially to trade; eventually he settled in Thailand (Kamwang, 2011:70). His success at the timeattracted more Sikh merchants to go and settle in Thailand. According to the Sikhism code of conduct, a shrine for the sacred scripture should be set up in an area in which more than five Sikh families live. Accordingly, the first shrine was set up in a small, rented house in the Ban Moh area of Bangkok – this was one of the first Sikh communities. In 1932 when there were about 100 Sikh families, the Sikh Association was established as a center for Sikh religious activities, with Mr. Jampee Sajdev as the first chairman. The first permanent Sikh temple, or Gurdwara, was founded in the Phahurat area in 1937 and after World War II it was rebuilt into a larger structure, and this is the largest Sikhs community in Bangkok we see today. Sajjamit, M., a former president of the association, explained that 'Guru' means teacher and 'Dwara' means gate, thus Gurdwara means 'a gate to the teacher'(Sajjamit, M. interview, August 9, 2019). One of the most important daily activities of Sikhs is to pray. Sikhs start their day with a morning prayer,chants tohymns composed by the prophets, ritual of opening the sacred scripture Sri Guru Granth Sahib with prayers, followed by the chants of the Sangeetacharya accompanied with music. The evening prayers are short chants without music called Sohera, performed to honor the prophets and to consider any mistakes a Sikh devotee may have made during the day. From background research, it was found that Sikh ways of life are unique.

For this research, the Sangeetacharya group of the Bangkok Sri Guru Singh Sabha Association was chosen for a case study on Sikh performing art, one of the communal cultures of Bangkok, and to bring about cross-cultural learning which may result in better understanding and happier co-existence of different ethnicities in society. The research was supervised by the Center of Excellence for Thai Music and Culture Research, Faculty of Fine and Applied Arts, Chulalongkorn University.

The objective of this research is to study the Sikh Sangeetacharya group's musical performances for the Sri Guru Singh Sabha Association, with regards to its background, musical transmission and musical art as well as the physical characteristics of the instruments and the musical characteristics of their songs. Using qualitative methodology, the research was conducted by collecting data from documents and accessing musical data through individual interviews and focus group discussions with four musicians or Sangeetacharyas from the Sri Guru Singh Sabha Association, three of them from India and who temporarily stay in Thailand, while another one who works at the association.

The Background of Sangeetacharya Band

Figure 1. The Sikh SangeetacharyaBand: (from left) Mr. Jaspreet Singh (sitar), Mr. Amninder Singh (mandolin), Mr. Rashender Singh (harmonium), Mr. Maninder Singh (tabla). Source: Author, August 9, 2019.

Sikh devotional hymns are called Kirtan, Gurbani Kirtan or Shabad Kirtan since Kirtan is the genre of devotional chants, Gurbani refers to the composition of the Sikh Gurus andShabad (or Shabd) means a musico-poetic passage from the Guru Granth Sahib. According to Khalsa (2014:viii) Gurbani Kirtan refers to the musical rendition of the poetic hymn of the Guru Granth Sahib. Sikh devotional music originated in Northern India in 15 century A.D. and was derived from different kinds of singing in the Bhakti tradition called "desi" together with "margi;" desi is a kind of popular folk style song used for life-cycle rituals and other ceremonies; and margi is a dhrupad genre (classical style of Hindustani vocal music) popularly used for devotional singing (Ibid:26-27). In addition, Kaur (2011:252-253) explained that Sikh Shabad Kirtan began with the songs of Guru Nanak (1469-1539) as the sonic expression of his Divine inspirations and the tradition of Shabad Kirtan was continued by the following Gurus.

Figure 2. Manit Sajjamit, representative of the Sri Guru Singh Sabha Association.
Source: Author, August 9, 2019.

At present, the center of Sikhism lies at the Harmandir Sahib (the golden temple) in Amritsar, Punjab state, India. Hence, all rituals including music orchestration performed by Sikhs around the world follow the standards of Harmandir Sahib. Agroup of musicians who play the devotional hymns is called Ragi Jatha in Panjabi in which Ragi means singers and Jatha means a group of people. The Ragi Jatha consists of two musicians or more, but usually three musicians are included; two of them sing and play harmonium and one plays tabla. The Ragi Jatha with three musicians is the most popular style found in India and around the world, including the Sri Guru Singh Sabha Gurdwara in Bangkok (van der Linden, 2013:129-130). These musicians, called Ragi in Panjabi and known in Thai as Sangeetacharn or Sangeetacharya (master of music), are capable not only in music but also in religious philosophies as well. Kamwang (2017:110-11) remarked that famous Sangeetacharya groups are often invited to perform their music and rituals in various Sikh communities. Their musical performances are regarded not as a profession, but as a religious dedication; as a consequence, there is no demand for payment. This is similar to the Om Uma Devi Shiva, a small Hindu band which is popular among Hindus who live in communities in the business districts in Bangkok and who still maintain their religious rituals accompanied with music as a way of maintaining their identity and roots. (Pornprasit, 2021:225).

The Performance of Music to Accompany Hymns

The Sikh Sri Guru Singh Sabha Association occasionally invites Sangeetacharya musicians from India who take turns to come and perform their Kirtans at various Gurdwaras in Thailand. Sajjamit, A. explained that these Sangeetacharya musicians pay for their trips to Thailand themselves and stay for two months at a time. They are rewarded with gifts and money from faithful Sikhs attending their performances while the association provides accommodation and meals and pays for their trips to Gurdwaras in provinces such as Chiang Mai, Chonburi and Phuket. Sangeetacharya band members who are widely admired for their beautiful music and chanting and they can attract large audiences like a superstar concert. At the time of the research we observed a father and two sons of the Singh family; Rashender, Amninder and Maninder who came to perform in the Sangeetacharya band in Bangkok. Normally they are stationed at a Gurdwara in New Delhi, India and are often invited to many different countries (Sajjamit, A. interview, August 9, 2019).

The Occasions of the Performances

The Kirtan or the musically accompanied chants is the important identity of the Sikhs religious ritual. Kirtans are included at every stage of their lives, the details of which are as follows:

The Daily Praying Ritual

The daily rituals of the Sikhs are to pray and recite Kirtans. Sajjamit, M. explained that the daily praying ritual at the Sri Guru Singh Sabha Association Gurdwara begins at 5 a.m. with the opening and reading of the Guru Granth Sahib for which five Granthi or five virtuous Sikhs will be responsible for carrying the sacred scripture out with great respect. The sacred scripture is opened at a random page, and the verse on that page will be read and considered as the moral of the day. The scripture is read from right to left and taking about 15 minutes to finish each page, all of which were written in Gurmukhi (meaning the scripts of Guru's disciples), using ancient Punjabi, similar to Hindi and Urdu. Finishing the sacred scripture opening and reading, Sangeetacharya band accompanied Kirtans for around 1.30 hrs. (Sajjamit, M. interview, August 9, 2019).

The Ritual of Naming a Child

Sometimes after giving birth to a baby, a mother and her family will go to the Gurdwara to perform a naming ritual. The Granthi will randomly open the sacred scripture and the hymn on the opened page is recited. The first word or first letter of the hymn is selected as the name or the first letter of the child's name (Department of Religious Affairs, the Ministry of Culture, 2011:166).

The Dastar Bandi Ritual

Dastar Bandi is the tying of the first turban ritual for a boy who reaches the age at which can take care of his uncut hair himself. The parents will prepare the Dastar Bandi ceremony for their son, held before the Guru Granth Sahib at a Gurdwara (Ibid: 161-162). Explaining the importance of keeping long hair and wearing a turban, the Granthi will tie the turban on the boy's head while the Sangeetacharya band perform their Kirtans. Sajjamit, M. explained that Dastar, meaning a crown in Punjabi, symbolizes honor and dignity for the Sikhs (Sajjamit, M. interview, August 9, 2019).

The Amrit Ritual

It is the important ritual of initiation into the Sikh faith, for someone ordained as a disciple of the gurus, held before the Guru Granth Sahib at a Gurdwara. In the ritual, the Sikhs vow to observe and follow the Gurus' principles. The ritual includes baptizing with holy water and chants of Kirtan (Department of Religious Affairs, the Ministry of Culture, 2011:163-164).

The Anand Karaj or Marriage

When a Sikh woman reaches the age when she is ready to have a family of her own, a man would approach for her to marry, irrespective of his caste or family, provided that they both are Sikh (Ibid:166-168). The Anand Karaj or Sikh wedding takes place in the presence of the Guru Granth Sahib and consists of the couple revolving around Guru Granth Sahib four times as the hymns are recited. Sajjamit, M. explained that in the past, the parents were responsible for proposing a suitable man for their daughter. However, the tradition is out of practice today, and a marriage depends on the couple's agreement (Sajjamit, M. interview, August 9, 2019).

The Funeral

According to Sikh commitments, when a Sikh dies, he will be cremated without any mourning ritual as who so ever takes birth, must die sooner or later; and that is the law of the creator. Sikh funeral prayers are recited during the service, including a communal prayer called Ardas. Close relatives and friends of the deceased will light up the cremation fire while the Sangeetacharya band recite the hymns. After the cremation, the deceased loved ones will gather together at the home of the bereaved family or at the Gurdwara nearby to read the Sri Guru Granth Sahib. This ceremony is known as the Akhand Paatth(Department of Religious Affairs, the Ministry of Culture, 2011:163-164). Sajjamit, M. added that Sikhs believe that a human being is made of four elements; earth, water, wind and fire. The funeral kirtans of Sangeetacharya band are meant to comfort the family of the deceased and help them realize the truth that the deceased has just returned to his former elements (Sajjamit, M. interview, August 9, 2019).

The Learning and Transferal of Musical Knowledge

Sangeetacharya members have to learn the Sikh musical tradition called Gurmat Sangeet, which is solely focused on performing the musical accompaniment and chants from the sacred scriptures without any other form of music. Khalsa, N. K. (2014: viii) explained that Gurmat Sangeet, literally "music in the Guru's way," is the Gurbani Kirtan in raag (or raga; prescribed formula of melodic mode) accompanied by stringed instruments based on a modern standard. The basic patterns are the same Indian seven patterns of rhythmic cycles and seven notes (svara) as used by singers, musicians or Bharat Natyam performers. Sajjamit, A. (interview, 2019) added that, except for the first chapter, the 1400 texts in the sacred scripture Sri Guru Granth Sahib are all poems with annotations assigning the raga, tala (rhythm) and scale used with each poem, which altogether total 31 talas and 31 ragas. Singh, R. (interview, 2019) mentioned that in the past, Indian musicians used no more than the 31 ragas accompanying the sacred scripture; however, nowadays other ragas are also applied. Concerning the Sangeetacharya band studied in this research, it was observed that Singh, Rajender learnt to play both harmonium and tabla from his father since he was young, while his two sons Singh, Amninder and Singh, Maninder have learnt their instruments in the educational system in which they received a bachelor degree from universities in stringed instruments and tabla drums, respectively.

As for the transmission of musical knowledge, Sajjamit, A. said that at present, there are youths who are interested in Kirtans and ask to learn the music with Sangeetacharya musicians. The classes often take place at students' houses. He also added that the students have to learn first the prayers in the sacred scripture and both male and female students can attend classes (Sajjamit, A. interview, 2019).

The Musical Art Content

It was found from the interviews that there are three important songs used to accompany the religious chants, as follows:

- Sukhmani Sahib. According to Nayar, K. E. and Sandhu, J. S. (2020:1), the Sukhmani (The Pearl of Happiness) is the most celebrated text composed by Guru Arjan (1563-1606 CE), the fifth of a succession of ten human Gurus. Sajjamit, M. explained in an interview that Sukh means happiness, Mani is a jewel, so that Sukhmani means 'the jewel worth happiness.' It is a lengthy composition of one hour's recitation. The prayer means that there is only on way to achieve happiness, to face the truth. The law of truth is the main philosophy of Sikhism (Sajjamit, M. interview. August 9, 2019).

- Asa di Vaar. The name Asa di Vaar: Asa means dawn and Vaar means time. It is the morning prayer which talks about expectations in life which cannot be achieved. Therefore, one should not expect, but rather let life go on as it should and all our wishes cannot be fulfilled. This prayer is the Guru's philosophy aimed at enabling Sikhs to close their minds to the five enemies, which are lust, anger, greed, delusion and arrogance(Sajjamit, M. interview, August 9, 2019). Moreover, Li (2015: 65) mentioned that Asa di Vaar is the most important chant practiced by Sikhs around the world as it enables devotees to pray and listen to the prophets' teachings together before going on to do their daily duty.

- Ananda Sahib: Ananda, implied the forever happiness is the last hymn used to end the praying ritual. Saowaphakpongchai, C. (2012:23) noted that this hymn is used as the conclusion in nearly every Sikh ritual.

Sajjamit, M. (Interview, August 9, 2019) explained that the morning prayer begins with the Sukhmani Sahib, the Asa di Vaar and is followed with the ritual of opening the Guru Granth sahib at a random page, whose contents are explained by the Granthi or the preacher and regarded as the moral of the day. The Ananda Sahib is the last performance to thank God and indicate that the congregation has truly understood their commitments and will follow them.

The Instruments

Sajjamit, M. (interviewed August 9, 2019) explained that in former times in Thailand, instruments used in the performances of Sikh musical accompanied hymns were the sitar, harmonium, tabla drums and cymbals. The Sangeetacharya musicians studied in this research use sitar, mandolin, harmonium and tabla drum.

The band members and their instruments are as follows: Singh, Rajender plays harmonium; Singh, Amninder sings and plays mandolin; Singh, Maninder plays tabla drum; and Singh, Jaspreet plays sitar.The instruments of the Sikh Sangeetacharya band are described in details as follows:

Sitar

Sitar, the main instrument in Hindustani music, is a stringed instrument of the lute family that is popular in Northern India, Pakistan and Bangladesh. Chaturavedi (2007:10-11) said that sitar created from the vina, an ancient Indian instrument, by Amir Khusro in the 14th century A.D. The first Sitar has three strings and so-called she-tar (meaning three- stringed in Persian). The typical length of a Sitar is 1.2 m. (4 feet) with a deep pear-shaped gourd body, a long wide hollow wooden neck, front and side tuning pegs, and 20 movable frets. The sitar can comprise either 7 main strings and three rhythmic drone strings (Kharaj Pancham Sitar) or three main strings and four and drone strings (Gandhar Pancham Sitar) while the sympathetic strings (Taraf) are 11-13. All the strings are metallic. (Weisser, S. and Lartillot 2013:33)Jaspreet Singh, one of the Sangeetacharya members who plays Sitar, works with the Sikh Sri Guru Singh Sabha Association as a Granthi or a preacher and as a coordinator for the association's activities.

Mandolin

Wright (1997 as cited in Sparks, 1989:14) explained that the old type of mandolin, called mandolino, probably originated in 10th century A.D. in South Europe. In 13th century A.D., this kind of instrument was known around Europe in various names; quitaire, gytern, gittern and chitarra. Sparks (1989:14-25) went on to state that at that time, the whole instrument; round body, neck and peg-box, was carved from a single piece of wood and fitted with between three single and four double guts, or possibly metal, strings. By the late sixteenth century, the instrument was known in France as the mandore and in Italy, a similar instrument was known as the mandola, mandolin and mandoline. In 18th century A.D., the golden age of Neapolitan culture,the Vinaccia family of Naples developed the 4-course mandoline with movable bridges. This Neapolitan mandoline is said to be the prototype of the present mandolin. Amninder Singh, the Sangeetacharya musician who sings and plays mandolin skillfully, graduated with a degree in stringed instruments.

Harmonium

Harmonium is a free reed instrument of the aerophone kind. Harmonium was invented by a Frenchman, Alexandre Debain, in 1842. The original one, similar to an organ, was a large instrument equipped with keyboards and two pedal pumps for its bellows. At the end of the 19th century, Europeans introduced harmoniums into India. However, their large size and the way that a player needed to sit on a chair to play did not correspond with Indian culture where people normally sit on the floor. According to Brockschmidt (2003:14-19), in 1875 a Calcutta man named Dwarkanath Ghose (or Ghosh) invented the Indian-syle harmonium based on Debain's. Ghosh's Harmonium was a portable box instrument with its bellows in the back and its keyboard on the top. Its structure and mechanism were simplified to be less expensive and easier to repair. Ghosh also added drone reeds to make Indian drone sounds which were not present in the European harmonium. Abels, B. (2010: 26-33) explained that the most significant difference between an Indian harmonium from its European counterpart is that the bellows are attached to the back of the instrument and is operated with the player's left hand and it is intended to be played whilst sitting on the floor. In Abels' opinion, the Indian harmonium of Ghosh was based on the harmonium flute, a small accordion with a bellows at its back, and the table organ, a small portable box organ, rather than based on Debain's version. Rajender Singh, the Sangeetacharya musician who plays Harmonium, has learnt to play the instrument from his father since he was 8 or 9 years old with 2 to 3 hours for practicing every day. He is so well experienced in Harmonium and Tabla that he also serves as a Guru (music teacher) in Sangeetacharya band.

Tabla Drum

The drum is a percussion instrument that has played important roles throughout history. In addition to entertainment, drums are played in various rituals such as funeral ceremonies, praying for rain, healing and exorcising rituals as well as signaling during wartime battles, stated by Buathong & Binson (2020:113).Tabla is a kind of twin drum of Hindustani or Northern India music, which first appeared around 11-12 century A.D., when Islam dominated Northern India. Pikulsri (1987:26-27) explained that the new instruments in Northern India that came from Muslims were the sitar and the tabla. The tabla consists of two drums. The one on the left of the player, called baanya, is a kettle drum with bass tones whose barrel is made of copper. The baanya's head is 24 cm. in diameter and 27 cm. in height (excluding its pedestal).The drum on the right of the player, called dhaanya, gives higher tones than baanya at the fifth interval. Its head is 18 cm. in diameter and 26 cm. in height (excluding its pedestal). To play the tabla, the player sits on the floor with the drums on their ring-shaped pedestals in front of him. The Tabla is played to accompany instrumental songs, vocal songs and dances. The most important characteristic of the tabla is its clear echoing pitch, which is similar to metal tapping. The particular sound is created with black tuning paste (gab or syahi in Hindi) made of plant resin, ashes and various metal powders such as iron and manganese, all ground together and applied on the center of each drum's head. The precise mixture is responsible for the drum's unique bell-like sound that distinguishes the tabla from other Hindustani drums and allowed clear accurate pitch tuning as required.

Roda (2015:194) said that the tabla has been popular in North India since the 18th century, and there are six commonly recognized lineages of playing Tabla, called gharanas; Delhi, Lucknow, Ajrara, Punjab, Farukhabad, and Banaras which differ from one another in terms of their repertoires and their distinct execution of drum strokes. The Sangeetacharya musician, Maninder Singh, who plays Tabla drum, is a professional in the instrument since he graduated with a degree in Tabla drum from Allahabad University in India.

Examples of Song Patterns

Sukhmani Sahib: The Song of Happiness.

The Introduction (free rhythmic pattern)

The Introduction

The First Vocal Melodies

The Second Vocal Melodies

Figure 3. Sukhmani Sahib: the song of happiness. Source: Author, August 9, 2019.

The Refrain

The Instrumental Ending Melodies

The Ending Melodies (ending with a fade out)

Figure 3 cont. Sukhmani Sahib: the song of happiness. Source: Author, August 9, 2019.

From figure 3, patterns of the song consists of an introduction and melodic sections. A refrain is included between melodies in the short song. This song is used to accompanied Kirtans during several occasions.

Conclusion

The Sikh band in Bangkok is mainly played to accompany Kirtans or devotional hymns in Sikh rituals, not for entertainment. The hymns are from prayers in Sri Guru Granth Sahib. The musicians have to learn the Gurmat Sangeet tradition of musical playing to accompany prayers from Sri Guru Granth Sahib. Though different from regular music, the Gurmat Sangeet based on Indian musical rhythmic and note system. The Sangeetacharya band's duties are similar to those of missionaries connecting Sikhs around the world to the religion center at Amritsar, India. They take turns in travelling to perform their Kirtans in Sikh communities in various countries, and considered the travels as performing religious activity. It can be said that the Sikh ways of life, both day-to-day and in every developed stage from birth to death,strictly adhere to religious rituals for which musically accompanied chants are present at each of them.

Naksuwan, N. (2017:389) said that although Sikhs in Thailand strongly maintain their identities of religion, language and attire with rare mixed-marriages, they can harmoniously live in Thai society, under the Gurus' principle of, "No Hindu, no Muslim, humans are all one. Regardless of caste or physical appearance, every person is of equal honor as they have come from God."The study of Sikh musically accompanied chants is in one aspect a multiple cultural society approach. According to Phra Maha Punya Suwatako, N. (2560:5), the study of ethnic minority cultures regarding their differences in language, tradition and faith is meant to accept their freedom, rights and roles based on equal opportunities for all, which will lead to peaceful co-existence in a better society. Apart from Sikh, there are local culture clusters of Laotians, Khmers, Mon, Chinese, Islam and Brahman-Hinduism as well as Westerners. It was also found that the respective culture owners are devoted to preserve their multi-generational heritage. The natural beauty of these cultural sites remains clearly evident and vibrant, even though there remain difficulties hampering their retention(Binson et al., 2011:42).

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Conceptual Fabric-Calabash Art Installation
on the Beauty and Struggles of African Women

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Abstract

Women play an active role in all activities even though they continue to struggle in the society. Artworks have been produced by artists to project the struggles of women in the community. This study highlights the studio-based practice by the practicing artist or the lead author supported by the co-authors to produce conceptual artworks for art installation that carefully adopts her life experiences to depict the beauty and struggles of women in Africa. The study utilizes fabrics (both printed and dyed), nylon cords, stiff fabrics and calabash to artistically represent and express the struggles and beauty concerning the role of women in the African society. The study revealed several philosophical concepts drawn from a butterfly, chameleon, peacock and an eagle to highlight and project the image, struggles and beauty of the African woman through the artist's life experiences. Individual themes of the artworks seek to share her artistic vision, reflect and project their beauty and struggle of women in Africa. These works were created using appropriate techniques such as gluing using adhesive, hand painting and fabric dyeing to combine materials. The success of the creation process serves as guidelines to practicing artist on how to use textiles coupled with calabash to produce works with concepts from nature to project the beauty and struggles of the African woman.

Keywords: *Calabash, Fabric, Beauty, Struggles, African Women, Art, Africa*

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Introduction

The African woman prides herself in her beauty and the beauty of womanhood has been expressed in most sculpture and painted artworks. Such includes the Venus of Willendorf of the prehistoric era, and the Akuaba doll of the Akans of Ghana. Both have been perceived as fertility dolls although they possess other significant attributes such as beauty and hard work as seen in the physical characteristics of the objects. This belief of women being perceived as fertility dolls had made women suffer education and development thereby not been given the fairness on platforms for greater appreciation with regards to their contributions to developmental agenda of most countries, especially in Africa.

In many respects, opportunities are not given to women in Africa to take up leadership positions, contribute at traditional meetings in the community, marriage opportunities, headship of families and so on, women do not share the same space with men. In an African setting, women are limited to experience power and authority in leadership due to the cultural and historical perception of the inability of women to be leaders. A situation that makes most women uneducated, poor and deprived of inheritance in Africa. African women have always been in agriculture, trade and other economic pursuits, but the majority of them are in the informal labour force. They are guardians of their children's welfare and have an explicit responsibility to provide for their children materially. They are the household managers, providing food, nutrition, water, health, education and family planning (Harrison, 2003). These place heavy burdens on them. Despite all these, women in Africa are prominent for their hard work, fight for their freedoms and rights to clearly change the primitive mind-set of the society which makes it difficult for them to improve and grow within the community. With such challenges, women largely work harder than men approximately 16 hours a day but earn small (Harrison, 2003). Furthermore, these workloads undertaken by women contribute to them ageing prematurely.

The struggles of women most especially in Africa has remained a great concern. Sadek (2014) stated that the African woman has experienced varying wrongs (beatings and polygamy) within the society. This as opined by Sadek has influenced relevant novel writings by Ngugi Wa Thiongo whose works reflects on the experiences of African women. Aside this, renowned textile artists have used their medium to highlight the beauty and struggles of women in Africa. Valentine (2020) and Morsi (2020) cites a textile artist Billie Zangewa from South Africa whose trapestry artworks highlights and centers on the strength, family life, love, lives and experiences of women. Renowned for her two noble works *Soldier of Love* and *In My Solitude,* Zangewa produces these textile works using silk fabrics coupled with hand paintings. She carefully creates scenes that reflects her everyday life which clearly aims at empowering women. Billie Zangewa argues:

> "A woman whose life is not perfect and who has her own struggles, but she is saying we can do it, we can look to the light, we can look to the positives and use those things to lift us up" (as cited in Morsi, 2020).

The calabash remains an integral item in the African society that is commonly used for serving and storing food items, and used in making musical instruments (Stephanou, 2020). It is further regarded according to Stephanou as a symbol for womanhood which is widely used in initiation and fertility rituals for young girls as they grow into women. Rice (2017) and Stephanou (2020) revealed that the calabash is traditionally significant within the Yoruba culture and is attributed to a woman's body or vessel that conceals her gender identity. With such cultural relevance, the calabash is also used in decorating textile surface. Widely produced by the Asante of Ghana, *Adinkra* cloth is made from hand-printing Adinkra symbols carved on a calabash on a textile surface using paste from natural dyes (Seidu, 2019; Frimpong, Asinyo and Amankwah, 2013).

The beauty of the African woman is seen not only in their outward appearance but inner self or good character. Their beauty is much seen in the daily struggles and ordeals they go through to sustain their families. In recent times, it is observed that most renowned artists are using textiles to add voice to issues that confront society. Such paradigm media to artistic expression on issues of corruption, illegal mining and environmental protection, etc., artists have been instrumental in the crusades to address societal problems. Drawing from the work philosophy of Billie Zangewa who produces work from her life experiences to reflect on the happenings of women within the community, this study carefully adopts the life experiences of the lead author supported by the co-authors to produce conceptual fabric-calabash artworks for art installation that depicts the beauty and struggles of women in Africa.

African Idealism and Philosophy of Beauty

The concept of beauty in Africa is unique. African conceptualization of beauty is commonly pivoted around womanhood or feminism. Supporting this, Haselmann (2014) stated that some men in Senegal associate beauty with women in the community. Matiza (2013) however stated that beauty in African contexts draws on the person's or objects internal qualities. Subsequently, aside from such internal qualities, beauty carry certain relevant moral intonations in African contexts. For example, the language of Shona in Zimbabwe; the word "Kunaka" (beauty) denotes well-groomed character and physical attractiveness. From the Annang people of Nigeria, the word "ntuen-akpo" is used metaphorically to refer to a woman who is physically attractive but lacks good manners. Contrary to this, women with good manners and characters but lacks the physical looks are commonly not desired by men in some societies in Africa. That is the reason why a woman who is considered to have an inner beauty, but lacks external beauty would pad up her body with accessories and oils to appear to have a complete beauty. Such an act is described as a beauty enhancement.

Matiza (2013) believes that there is a concurrency in the definition of beauty in Africa. The harmony of physical attractiveness and good conduct and the perception of beauty among Africans is both internal; external deeds are appreciated by sight. A person's beauty can, therefore, be questionable if it lacks key values of beauty of womanhood. Functionality is regarded as a vital value that characterized beauty in Africa. Matiza (2013) argues that being beautiful alone does not clearly constitute beauty but rather having a social character and purpose that propagates essential values, morals and norms to other members in the society especially the young ones. In a study amongst Sudanese, beauty is generally linked to physical appearance coupled with good skills, behavior and knowledge that is useful for the study.

Supporting this, Matiza (2013) observed that a person's beauty is deemed irrelevant or not African when it fails to consider the sensitiveness of others in the society. Additionally, the beauty must reflect the values and norms embedded in the African society. The beauty of an individual should relate and connect with the acceptable norms, values and standards that clearly reflect the reality in the community. Furthermore, beauty is communicative, and conceptually, it can be described as both objective and subjective. Objectively, it involves communicating the standards of the community, to a different standard that varies from community to community which is subjective. This is an elaboration of the common adage that "beauty lies in the eyes of the beholder." Thus, what is considered beautiful is meaningful only to the people within a specific scope.

African Concept of Womanhood

In various traditional African society, the African woman possesses the power that binds society together. The survival of the family and the future of marriages depended a great deal on the African woman. The effective role of women in the African family setting to transferring the cultural norms, values, music, language and dance of the tradition to the younger ones or children. They are described as the teachers of the home in the community to instill values into the children. Women carried appropriate responsibility and were vital to the community due to their intense knowledge of the environment and natural habitat. This made them widely dependable by the community to ensure their survival and good health due to their rich knowledge (as healers) on the healing strength of natural herbs. This clearly outlined the central importance of women with traditional communities in Africa which is "sine qua non" to improve the society. Their influence to the societal life in the community was largely felt. Additionally, they (women) contributed to improving teaching and learning of moral, social and ethical values to their children. This practice played a role to the standard of cultural values when examining behaviors in the society. Women were treated with unparalleled respect because they were seen to be closer to the creator than men ever had the potential of being. This is because women themselves could create because they were able to give birth. As the creation of life, they were charged with the sacred responsibility of caring for the needs of the next generation. Because of this, they can be regarded as the origination of the idea that is now known as sustainable development.

It is an incontrovertible fact that societal sustainable development depends essentially on a solid family structure. In every society, the most important aspect of life and survival was the family. Even though women are described as strong and the family's backbone, they are left out in decision making and hold smaller positions within the African family setting. The Urhobo people of Nigeria, regardless of the family origin of the individual, whether nuclear or extended, single parenting or co-parenting, the female influence on the moral character of the traditional society was very enduring. The reason for this is women's traditional caregiving roles, which put them in a unique and strategic position not only to produce and sustain life but also to help instill socio-religious values and morals in the family is paramount. These teaching activities were geared towards maintaining the life of the family and controlling sexuality. Such activities points to the immerse contribution of women to the traditional society in Africa. With such vital responsibilities, positions and role held by women in Africa, they play supporting roles to the men, and the roles of women were complementary to men.

Materials and Methods

The studio-based research design is adopted using the Double helix of Praxis-Exegesis (Figure 1) Model by Marshall (2010). The model allows to toggle between creative processes both in theory (exegesis) and practice (praxis). Conceptual Development is both theoretical and practical. After gathering data by observation, there is the need for reflection, analysis, description to make sense out of what has been gathered and further creation or development of concepts. The concept will then be translated practically into an art piece through a similar process of observation, reflection, creation and analysis. The response of the viewer towards the work will affect the description both in theory and practice. In short, the processes of development both in theory and practice for this research are co-related and for that matter, the double helix of praxis-exegesis model presents a suitable approach with additional advantage of making changes at any stage in the design process.

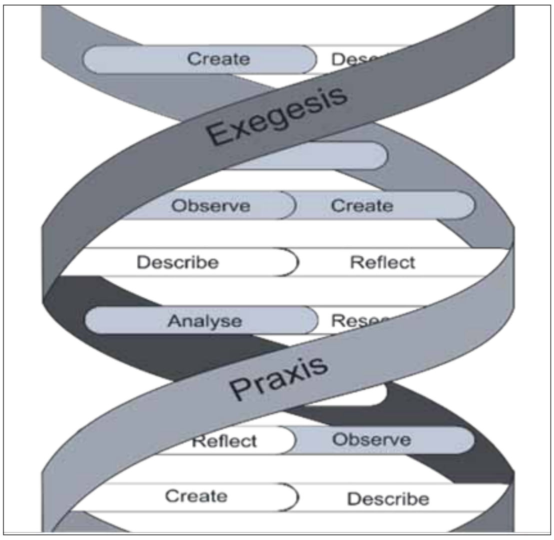

Figure 1. Double Helix Praxis-Exegesis Model (Marshall, 2010).

Observation

The lead author supported by the co-authors adopts her life experiences to produce conceptual fabric-calabash artworks for art installation that depicts the beauty and struggles of women in Africa. She carefully situates and embodies herself within the artworks to highlight and give significance to the ideas and concepts. With such self-reflexivity, the position of the lead author as an insider aids to share experiences that are similar with African women within the community, a situation which is considered important (Teh and Lek, 2018). For the creative process, four animals (butterfly, chameleon, peacock, eagle) were selected to provide artistic and philosophical underpinnings to the artworks. The butterfly naturally has four development stages to ultimately grow into a beautiful animal. Drawing from these stages, the artist reflects and relates her life experiences after having gone through various struggles and challenges but finally overcoming and achieving success at the end. With the adaptive nature of a chameleon to different changes in the environment, it was selected to reflect the various unfavorable circumstances and changes the artist has to go through to adjust herself to different changes in the environment. The peacock is characterized by its beautiful appearance but inherent in it are strength, firmness and love. The artist reflects on these features where she has inherent strength and love to discharge her duties at work for socio-economic development. With the seven character traits of an eagle (vision, courage, tenacious, high flyers, never eat dead meat, vitality and nurture their younger ones) as stated by Hetri (2020), the artist can relate more with these traits in the care and upbringing of her children. In the community, the woman is responsible for taking care of the children, nurturing them, ensuring they are protected and eat well for healthy development.

Reflection

The basis of concepts in art is to summarize and most often talk about issues in the simplest of forms; pictures, whether abstractive or realistic. This study adapts Ikuenobe (2016) theory of beauty which conceptually describes beauty as both objective and subjective. Objectively, it communicates a communal standard, but it is also subjective in that the standard of beauty is different from community to community. This is an elaboration of the common adage that "beauty lies in the eyes of the beholder." The African society hails inner beauty especially of women because of its high regards for morality, character and nature. The African woman is an institution in the development of the African society because of these virtues. Evidentially, the family is the backbone of the society and the African woman is the backbone of the family, hence the foundation on which the society is developed. With the laying of these facts, conceptualizing them in art forms, adding extra meaning and appreciation to the facts and arguments seeks to exonerate the African woman's beauty through her struggles to cater for herself, family and the community that she lives in.

Creation

The creative process employed fabric dyeing, hand painting and gluing as major techniques to arrange the relevant elements or materials (printed and dyed fabrics, and calabash) on a canvas to produce the 3D fabric-calabash artworks for art installation. Other materials used are adhesives (top bond white glue and super glue), cords, mercerized cotton, acrylic paints.

Artwork One: The Butterfly

At the studio, the structure of the butterfly was drawn carefully on the canvas. This gave a clear outline of the butterfly of which pieces of African prints, nylon cords and calabash was arranged and glued on the canvas to build the artwork (Figure 2).

Figure 2. Creation Process of the butterfly art work on a canvas, Studio Practice, 2020, Photo credit: Authors.

Artwork Two: The Chameleon

The outline of the chameleon was drawn on a paper after which it was transferred unto the canvas followed by an arrangement of the calabashes in various sizes and shapes to conform to the shape drawn on the canvas (Figure 3).

Figure 3. Mounting of materials on the canvas, Studio Practice, 2020, Photo credit: Authors.

A cotton fabric was dyed with vat dyes using a marbling technique. The dyeing process utilized yellow, violet, green and orange colors in a random pattern on the piece of cotton fabric. After oxidation, the dyed fabric was cut into pieces and arranged at the background of the canvas (Figure 4). The next step involved making a loop which served as a branch for the chameleon to stand on. Furthermore, the calabash (body of the chameleon) was painted to depict its adaptability to its environment which is the background.

Figure 4. Arranging the pieces of dyed fabric on the canvas, Studio Practice, 2020, Photo credit: Authors.

Artwork Three & Four - The Peacock and the Eagle

As part of every design and production process, this work started with the idea development. That is, the outline of the peacock was drawn on paper and transferred unto the canvas stretched on a wooden frame. The calabashes were arranged on the canvas in various shapes and sizes, to conform to the outline of the peacock and eagle. Fabric pieces were cut into and arranged on the canvas to depict the structure of the peacock and eagle. Subsequently, the fabric was painted to give the peacock an actual feather effect (Figure 5), and clouds with emerging sun on the canvas of the eagle artwork (Figure 6).

Figure 5. Transferring the design onto the surface, Studio Practice, 2020, Photo credit: Authors.

Figure 6. Arranging calabashes and fabric on the canvas, Studio Practice, 2020, Photo credit: Authors.

Analysis

The section presents and discusses the philosophical underpinnings for the four-project works made and reveals its relation to the beauty and struggles of the African women. This is drawn from the informed life experiences of the practicing artist and carefully share her artistic works.

Artwork One- Afafranto Fefeefe Beautiful Butterfly

The beauty concept of the African woman is represented in the various stages of the development of the butterfly. To this effect, these various stages of the development of the butterfly from the artistic concept and philosophical underpinnings, is to project the beauty and struggles of the African woman (Figure 7).

Figure 7. Art Work Afafranto Fefeefe (Beautiful Butterfly), calabash, African prints, nylon cords, fabric pieces, fabric paint, 55× 69 inches. Photo credit: Authors.

Just as the butterfly is observed to typically have four stages of development before becoming the beautifully grown, butterfly is admired by many; so, does the African woman passes through various stages of struggles in her quest to survive, make ends meet and provide a better life for her children and family. Hence, the philosophy that 'there is beauty in ugliness.' The various stages of struggles that the African woman goes through make her beautiful at the end of the day when she has achieved success regardless of the numerous obstacles and challenges, she had to overcome. Again, as observed by Ebila (2015) that proper woman in the African tradition has always been imagined as an icon for family making and this constitutes part of the stages she has to go through in her struggles and development. The butterfly goes through four main stages of development, namely; the Egg, Larva (Caterpillar), Pupa (Chrysalis) and Adult Butterfly

The egg stage: At the egg stage of the butterfly, it mostly lasts 3-7 days depending on the species. This is the most significant aspect that directly transfers to the struggles of the African woman. The diapause stage refers to a period of postponed development in the butterfly development and this is likely to happen during bad environmental conditions. The growth and development of the African woman may be characterized by hostile or unfavorable conditions which may be conditioned at home while growing up or certain ideologies surrounding the female gender.

Larva (Caterpillar) stage: It is for a fact that a very minute caterpillar hatches from the egg and is intended to be an 'eating-machine' to increase its body mass thousands of times before it begins to pupate. This is significant in the struggles and beauty of the African woman. They go through a lot of struggles, hard work and doing all manner of trades and work just to ensure that there is food on the table for her children and family. The African society finds many women engaging in petty trades just to fend for themselves, their children most especially and their family. The African market is full of women engaged in all sorts of trades to ensure that by evening, they would have earned something to cater for the welfare of their children.

Pupa stage: When the caterpillar is full-grown and stops eating, it becomes a pupa. At this stage, special cells that were present in the larva are now growing rapidly. They will become the legs, wings, eyes and other parts of the adult butterfly. Similarly, the African woman gets to a stage where she would have to marry and get pregnant. At pregnancy, the woman is shelved from following her dreams and would have to stay back. Even though she might be staying back, there is another life developing in her womb. Hence, bringing another life into the world. The pregnancy stage may be characterized by lots of challenges and complications which the woman has to deal with. Regardless, it is a crucial stage for the African woman and it forms part of the developmental stages of the African woman. Women are seen as fertility icons and as such, it is prerequisite for the African woman to marry and give birth regardless of the numerous complications associated with pregnancy.

Adult butterfly stage: Interestingly, this is what most people see and might be oblivious to the previous stages and hardships the butterfly had gone through before arriving at this stage. Similarly, the African woman passes through a series of stages in her development as part of her struggles and quest to making a living for herself, children and family. This is the stage where regardless of all the struggles they woman went through, still stands tall above the challenges and succeeds in life. This is the stage where beauty is seen. This is the stage where the African woman's struggles pay off. This is the stage where she succeeds in making ends meet, caters for her children, puts food on the table and keeps her marriage and family together. Indeed, there is beauty in ugliness (struggles). These roles the African woman play make her beautiful and not necessarily her outward appearance. This is why Matiza (2013) argues that in Africa, "beauty is not for the sake of being beautiful but rather having a social character adding that the concept of beauty must have a purpose which it fulfils. As opposed to the Western concept of beauty which is rooted in aesthetics as observed by Startwell (2012), the various struggles of the African woman in comparative to the development of the butterfly makes her beautiful and stand tall.

Artwork Two - Chameleon Woman-The Adaptable Beauty

The beauty concept of the African womanhood is represented in the ability of the chameleon to adapt to different environmental changes. Similarly, the African woman can adapt to various changes she might find herself in be it, marriage, childbirth, unfavorable relationships etc. This artwork (Figure 8), therefore, seeks to project the ability of the African woman to still adjust to unfavorable circumstances and come out strong. This makes her beautiful regardless the struggles she goes through.

Figure 8. Chameleon woman - The Adaptable Beauty, calabash, dyed fabric pieces, fabric paint, 36×58 inches. Photo credit: Authors.

The African society and context regarding gender balance tend to discriminate against women as observed by Ebila (2015). The proper woman in the African tradition has always been imagined as an icon for family making. She is expected to accept marriage and have children because marriage is assumed to be the end goal for most African women. The life of the African woman is characterized by various degrees of changes that might be unfavorable for her but is left with no choice than to adapt to the changes and live with it. That is an epitome of inner strength and inner beauty refers to a person with a pure soul, full of kindness and love for everyone. Someone genuinely concerned about feelings and respect, and at the same time give a helping hand to the ones in need in whichever way possible. This forms a core beauty concept for the African woman because she is compelled to put her dreams and aspirations aside for the sake of her love, kindness and concerns for her children.

The African woman while growing up had so many aspirations and goals to fulfil but because of gender discrimination in Africa, she may be forced to accept marriage at an age when she might not be ready. This becomes a new phase of life which she had not psyched and prepared her mind for it. It becomes a different environment for her which she has to adapt to it. This presupposes that her dreams and aspirations would have to be put aside or in some cases truncated to focus and adapt to her new marriage responsibilities. The traditional division of labour in Senegal saw Senegalese women as responsible for household tasks such as cooking, cleaning and, childcare. These very household tasks become a core of the daily duties of the African woman once she accepts marriage. Along the line, the African woman may get pregnant and pregnancy and childbirth present a new environment to her which she must be able to adapt to it. The rudiments of childbirth and childcare at this stage becomes her focus which means she has to forego her plans and adapt to her new environment. This philosophical underpinning is what the Chameleon project is rooted in. It thus goes to reiterate that the beauty of African womanhood cannot be established without a discussion about her ability to adapt many unfavorable circumstances life and society may throw at her. Yet, she can overcome due to her inner strength and beauty. This peculiar characteristic of the African woman reveals her inner beauty to the outer world.

Artwork Three - Peacock Woman-Masculinity in Femininity

The peacock was selected as the third beauty concept for the artwork (Figure 9). This beauty concept of the African womanhood is represented in the colorful nature and overall beauty of the peacock.

Figure 9. Peacock Woman-Masculinity in Femininity, calabash, African fabric pieces, fabric paint, 51 × 58 inches. Photo credit: Authors.

Mostly, the peacock may be associated with masculinity since it is viewed as a male bird. However, though the discussion herein to the topic relates to the image of femininity, thus, the beauty and struggles of womanhood from an African perspective, the researcher selected the peacock as a beauty concept on the premises that there is masculinity in femininity coupled with the fact that women are associated with beauty and color. The ideology of the researcher is that the African woman loves colors, beautiful things and exhibits masculine traits with strength and boldness in discharging of her duties. African women have shown leadership and played vital roles in so called masculine positions for economic development in society. This confirms Afisi (2010) submission that women have continually fought for their right to work in different sectors within the economy. This has relatively made it difficult for contemporary African women to combine household chores as wives and compete with their men counterparts for promotions and positions for the upkeep of the home. They have also laboured in fishing, herding, farming, and commence like cloth making, pottery, and craftwork, alongside men.

Despite these roles, it is assumed that the beauty and aesthetic arrangement and tidiness of the home are dependent on the African woman. For this reason, one may blame the untidiness and dirty surrounding of a home on the woman. Once a woman marries, the onus lies on her to ensure that her home is kept clean at all times, of which the African women are responsible for household tasks not limited to cleaning and childcare. Further to that, the selection of colorful and beautiful clothes for children is mostly dependent on the woman. The woman is responsible for going to the market or shops to purchase beautiful clothing and decorative artefacts for the house. At this stage, her sense of aesthetics, beauty and her love for colors becomes very imperative here as it influences her choices.

Because the peacock is linked to beauty and many colors, the philosophical reasoning adapted here to the beauty of a woman, is in her ability to ensure high sense of judgments and hard work in executing her marital and professional duties to bring out the totality of the beauty of her family which may be seen in her children's looks, the cleanliness of her home as well as the looks of her husband. In African perception, marriage is of key concern to the woman and this is why the totality of the beauty of her family which may be seen in her children's looks, the cleanliness of her home as well as the looks of her husband rests on the shoulders of the woman. An African woman has to go through all the hassle and tussle to ensure her marriage works and her duties are performed to perfection. This goes to buttress the findings of Ebila (2015) that the proper woman in the African tradition has always been imagined as an icon for family making.

As observed by Cook (2018), peacocks possess long tail feathers, which fold open into an elaborate fan. The researcher draws an analogy herein that, the African woman goes through a series of struggles to protect her children and her family. Hence, the long tail features which fold open into an elaborate fan, according to the ideology of the researcher in the context of the study, represents protection. An African woman would always want to go the extra mile to protect her children's education and upkeep. The woman in a typical African setting could be seen at plying several trades to earn a living to support the education of her children. This is most evident in the case of single mothers where they have to struggle day in and day out to put food on the table and further sustain the education of their children. For this reason, the peacock project emphasizes such protective nature of the African woman in the course of which, brings to bear the many possible struggles she may have to go through in her quest to ensure her children receive the best of everything in her small way. The same situation can be said for the 21st century African career woman who always works day and night to also ensure her children and family are happy and satisfied as declared by Ebila (2015) that, the African woman is seen as an icon for family making.

Artwork Four - The Eagle in African Woman

The beauty concept of the African womanhood is represented in the seven-character traits of the eagle in the artwork (Figure 10). According to Hentri (2020), the eagle's seven-character traits are discussed below to the philosophical concepts behind the Eagle project; vision, courage, tenacious, high flyers, never eat dead meat, vitality and nurture their younger ones.

Figure 10. The Eagle in African Woman, calabash, African fabric pieces, fabric paint, stiff fabric, 56 × 81 inches. Photo credit: Authors.

Vision: A critical observation of an eagle sitting high above a tree or a stiff mountain reveals the attentive nature of the bird. Thus, the eagle's body rests still and with the head tilting from side to side in the quest to critically observe its surroundings. In the course of the eagle flying, its eyes still appear keen in the lookout for its prey. Hence, eagles are noted to possess high vision in that, their eyes are purposely created for long-distance focus and clarity. Hentri (2020) establish that eagles can spot another eagle which may be soaring from 50 miles away. The African woman is perceived to be a visionary character coupled with the ability to see ahead into the future and also foresee the dangers ahead with regards to decisions her children may want to take. The African woman or mother for that matter sees the dangers ahead and become protective of her children and family. As an icon for family making as established by Ebila (2015), a sustainable family is dependent on the ability to foresee risks or dangers ahead and put measures in place to avert or escape them. The African woman is responsible for keeping her home with particular reference to house chores and childcare; the success of her home and children partly depends on her. In the smaller context of a mother-children relationship, the mother could be seen as the leader directing her follower (children) to a successful destination. As such, a leader with a good vision is much preferred here. Africans value internal beauty more than external beauty whereby the internal beauty connotes love, care, compassion, respect, wisdom, faithfulness and truthfulness. It is the love and care of the African mother that drives her to have that high vision to foresee danger ahead and become highly protective of her children and family. Thus, just as the eagle can sight its prey many miles away, the African woman is also able to foresee dangers of life which may be ahead of her children and family and take the necessary steps to protect them. Hence, as part of the character traits of the eagle, the project on the Eagle seeks to project how women have the vision and high sight to spot dangers ahead and become protective of their children and family. This makes the African woman beautiful.

Courage: One of the character traits of an eagle is to never relent to the size and/or strength of its prey. Rather, the eagle would always fight to win its prey or regain its territory. The African woman exhibits a greater degree of courage as she is fearless and determined to protect its territory (children, husband, family, home, work). The African woman is prepared to fight to the end to ensure she gets the best in the interest of her children and family. Many times, African women go through lots of struggles, challenges, difficulties of life, stormy situations and face certain obstacles which pose as threats to the wellbeing of her, her children and family. Nonetheless, the internal beauty character traits as love, care and wisdom, equip the women to become fearless and go all out for what they love and protect it.

Because the African woman is courageous, she never gives up on her children and home. If it means, plying petty trade, she would do it to see to it that her children and family receive the best of education and other life necessities. For instance, a typical African woman is not afraid to venture into certain hard jobs that are associated with the male gender. The African woman may engage in construction work as a casual worker just to ensure her children and household have food on the table. The African woman would go the extra mile of taking many risks to protect and fend for her children. Yaa Asantewaa in Ghana played her role by influencing the Ashanti men to battle the British. She was chosen by several regional Kings to be the war leader of the Asante fighting force in which she succeeded in the end. So, it goes to emphasis the fact the African woman is fearless and would go through the mill just to fend for children and family. These struggles are what the project of the Eagle seeks to project to the world to appreciate the role women play in African society.

Tenacious: In the event of a storm and while other birds fly away with fear, the eagle, on the contrary, spreads its immense wings to soar to higher heights. The tenacity of the eagle therefore takes leverage of the same storm that lesser birds fear. It thus goes to say that the challenges in the life of an African woman are many and these are the very challenges (storms) that the African woman is expected to face in her quest to rising to higher heights in all areas of her life; be it, education, career, marriage, pregnancy, bad relationships, etc. The researcher believes that, just like an eagle, the African woman is only able to rise to higher heights by her ability to withstand the challenges of life without running away from it. Her ability to do this makes her beautiful because her struggles, in the end, pay off. More so, as an icon for family making as observed by Ebila (2015), her tenacity is a much-desired trait to ensure a sustainable family for the fact that the household tasks and childcare also rest on her shoulders. Hence, the work produced by the researcher seeks to highlight all these beauty concepts in the context of African beauty vis a vis. the beauty and struggles of the African woman.

Never Eat Dead Meat: It is also evident that the eagle never eats dead meat. Thus, the eagle does not scavenge but rather eats the meat from the prey it kills itself. Likewise, the African woman would never settle for less. She is determined and highly keen to work hard to make it in life regardless of the struggles and challenges. Similarly, the African mother would not settle for less when it comes to her children and family. The African mother would work toil and pass through many struggles just to see to it that her children receive the best of education and are well catered for. In the end, her joy is in enjoying the fruits of her labour. Thus, when her children in turn grow up to be responsible adults and take good care of her as well in her old age. This makes the African woman beautiful and her struggles ought to be appreciated and that is what the researcher seeks to achieve in this work.

Vitality: For a fact, eagles are full of life and visionary yet, they make time to reflect on their life and re-energize themselves. When eagles attain age 30, their physical body condition deteriorates at a higher rate and this poses some form of difficulty in their survival. Regardless, the eagle never gives up living. Hentri (2020) observes that it rather retreats to a mountaintop and over five months goes through a metamorphosis by knocking off its beak by banging it against a rock, plucks out its talons and then feathers. Hence, every stage produces a re-growth of the removed body parts and this allows the eagle to live for another 30 - 40 years. Similarly, there comes a time in the life of the African woman that she must look back and take stock of her life; thus, the good and the bad experiences she might have been through. This helps her to make a better-informed decision moving forward. Same way, she uses such experiences and lessons to give good advice to her children as well to ensure they also do not make the same mistakes she might have made in the past. Hence, the African mother is full of life and vitality as she uses her experiences to nurture her children. She never gives up living even when the going gets tough for her and her children as well as the family. Also, there is beauty in ugliness in that; all her ugly experiences, in the end, serves as good lessons to direct her children in a better path of life to ensure they have a successful life and this can be said to be the beauty in all her struggles. Thus, her children also have a referential point to make a better living. This makes the African woman beautiful and thus, what the project work seeks to project to the outer world.

Nurture their younger ones: When the mother eagle notices that the time has come for it to teach the eaglets to fly, she gathers an eaglet onto her back, and spreading her wings, flies high. However, she all of a sudden swoop out from under the eaglet and allows it to fall. In the process of falling, it gradually learns what its wings are meant for until the mother catches it once again. The process is repeated and repeated until the eaglet develops the ability to fly. The African woman is responsible for nurturing and grooming her children to become useful members of the society and subsequently contribute their quota to national development. The role of the African woman in the development of children is worth appreciating and celebrating. For this reason, the project of the Eagle seeks to project that aspect of beauty in the struggles of the African woman.

Installation of the Artworks

Due to covid-19, the researcher could not mount the work at its designated place (Ministry of Gender, Women and Children Protection, Kumasi). Pre-installation of the work was therefore done in the fashion studio of the Department of Industrial Art at Kwame Nkrumah University of Science and Technology for observers to appreciate the artworks (Figure 11).

Figure 11. Observers viewing the installation, Photo credit: Authors.

Conclusion

These conceptual fabric-calabash artworks for installation in this study revealed the creative use of calabash and textile fabrics. Using four animals from nature (butterfly, chameleon, peacock and eagle), their characteristic features was carefully linked to the works created based on the informed life experiences of the artist. This research sought to appreciate the role women play in the society for people to respect their contributions to the development of Africa through the artistic expression of their struggles and beauty. The hardworking attribute of African women cannot be overemphasized. African communities see women as unequal with men. In community meetings, traditional settings, marriage negotiations, rights to the positions of leadership, the headship of families and so on, women do not share the same space with men. Leadership occurs within a given indigenous configuration of power, authority and legitimacy. In leadership, women are inconsequential simply because the configuration is shaped by culture, institutions, history, goals and context, all in consonance with particular set up. Despite all these, African women are hardly known for giving up. The beauty of the African woman is seen not only in their outward appearance but significantly through their inner self or good character. Their beauty is much seen in the daily struggles and ordeals they go through to sustain their families. Individual themes of the artworks seek to share her artistic vision, reflect and project their beauty and struggle of women in Africa. These works were created using appropriate techniques such as gluing using adhesive, hand painting and fabric dyeing to combine materials. The success of the creation process serves as guidelines to other practicing artist on how to use textiles coupled with calabash to produce works with concepts from nature to project the beauty and struggles of the African woman.

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Hegemonizing the *Ajat Indu* in Sarawak, Malaysia

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Abstract

This article discusses the reinvention of women's dance tradition, *Ajat Indu* by Sarakup Indu Dayak Sarawak (SIDS), a socio-cultural association established for Sarawak's Ibans in East Malaysia. SIDS aims to standardize, codify, and refine the dance form for tourism and promoting the culture of Iban. Using the concept of cultural hegemony by Antonio Gramsci, this essay examines the role played by SIDS as the hegemonic organization that governs *Ajat Indu* to the extent that the institutionalization of *Ajat Indu* was forced to be accepted by the Iban people as a cultural norm. Although such, there is a form of active subversion of power due to the existence of individual forms of *Ajat Indu* still practiced in the rural areas in Sarawak. Through ethnographic study, this essay analyses the politics of power in the practice of *Ajat Indu* by comparing the performances of Iban's subgroups in the rural longhouses in Sarawak and the urbanized SIDS' version.

Keywords: *Ajat Indu, Dance, Hegemony, Iban, Sarawak, Malaysia*

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Introduction

The stage light slowly fades in. The music of taboh, which consists of engkerumong (the gong-row) tawak (the knobbed gong), bebendai (the knobbed gong) and ketebong (waist drum), is played. An ensemble of female dancers makes an entry into the performance space from the stage's right and left wings. They look beautiful in an elaborate traditional attire on the urban proscenium stage of the festival. The upper body sways from right to left, and their weight shifts gracefully from the right leg to the left leg and vice versa. Their dance moves look like a bird flying in the sky while their head is controlled by the traditional headgear, the sugu tinggi. The movements of the dance are executed with uniformity by the dancers according to the beats of the taboh that beams at the event space in the touristic town of Sibu, Sarawak.

That was my (author - Jamu)[1] personal experience watching the Ajat performance staged by the Dayak Cultural Foundation Cultural Troupe (DCF) during the Borneo Cultural Festival in 2015. The performance was an annual cultural festival in Sarawak organized by Sibu Municipal Council in the heart of the town. I was amazed by the DCF's performance not only for its elaborated staging, but also its significant representation of the Iban community during the event. DCF is a well-recognized foundation that was established to receive and administer funds for cultural, educational, scientific, charitable purposes, and public welfare.

I witnessed for the first time the *Ajat Indu* which was performed outside of the *ruai*, a social-communal space of the longhouse. In the longhouse, *Ajat Indu* was performed by female dancers to welcome guests and to honor the ancestors and rice spirits (*antu*) during the Gawai festival. As someone who was born and brought up in a longhouse located in Pakan, in central Sarawak, I have always wondered where does this staged *Ajat Indu* originated from and why is the performance different from the *Ajat Indu* back in my longhouse? How far could Ajat vary according to the different Iban subgroups? The *Ajat Indu* that I witnessed that day was more orderly in sequence, fast in speed, and some movements were complex, extravagant, and theatrical. It was visually appealing compared to the *Ajat Indu* style we have back in *rumah panjai*. Although these demonstrate typical adaptations when traditional dances are re-staged for formalized performances in Malaysia, this experience intrigued me to delve deeper into the practice of *Ajat Indu*, particularly in teasing out the power politics that are at play.

The *Ajat Indu* performed in the theatrical space is common to the urbanite society but is considered strange to the longhouse communities. According to their subgroup's style, in the social-communal space of *rumah panjai,* the *Ajat Indu* is only performed by a solo female dancer with a slow tempo, repetitive, and moderate movements. The emergence of the hegemonic association, Sarakup Indu Dayak Sarawak (SIDS), in 1961, has changed the interpretation of *Ajat Indu* in Sarawak from the original styles practiced by the Iban subgroups in *rumah panjai*. The *rumah panjai* communities were seemingly coerced to accept the *Ajat Indu*'s reinvention by SIDS, although there is an existing Ajat style of their own that are still being practiced until today. Each *rumah panjai* community regards their Ajat style as the best compared to the others. However, the act of hegemonizing *Ajat Indu* in Sarawak was not willingly accepted by the local communities since they have been practicing the various styles of *Ajat* in their own *rumah panjai.* This study recognizes that the Ajat originated from the longhouses as the *rural rumah panjai* styles. It argues that the beauty of the dance form lies in the variety of styles practiced, each different from the other. Each *rumah panjai* community valorizes its own style and marks the identity of each community. The process of hegemony, hence, centralizes the power on SIDS. This move is strongly opposed and contested by the *rumah panjai* communities that feel that their dance styles have been marginalized through the process of hegemony. As stated by Scott (2008: 318), "subordinate classes are often seen as backward-looking, in as much as they are defending their own interpretation of an earlier dominant ideology against new and painful arrangements imposed by elites and/or the state."

The rural *rumah panjai's* dance styles and costumes cannot be highlighted in any SIDS' occasions or events. The standardized *Ajat Indu* by SIDS is different and as such, resisted by the rural subgroups of Iban. They do so by refusing to follow the standard as well as acknowledge the reinvented style. As a result, two different styles exist, urban style on proscenium stages and rural style at social-communal spaces in the rumah panjai. SIDS reinvented *Ajat Indu* for tourism and cultural representation purposes. Hence, the general public is familiar with the reinvented style by SIDS that was appropriated for touristic performances and for more visible cultural displays, while the rural traditional rumah panjai styles are not visible to the general public.

In 1961, SIDS was established in Kuching to enhance and elevate Dayak women's status to enable them to participate fully in nation-building through educational, social, and economic development strategies formulated in line with the association's objectives and the National Women's Policy. It aims to envision a society of Dayak Women, who are educated, skilled, knowledgeable, progressive, and economically empowered. It is an organization that middle-class Iban women have always dominated. These women or bourgeoisie (Poulantzas, 1979:56-60) are mostly professionals who inhabit Sarawak's capital city, Kuching. They are also seen as role models in rural areas. It has become very influential to the extent that it has started to affect the Ibans' socio-cultural needs, including performing arts. SIDS has slowly grown by opening branches all over the state. SIDS has become a dominant body that fights for Dayak women's rights and improving or enhancing socio-cultural aspects among women, including *Ajat Indu*. SIDS refashions and introduces a new *Ajat Indu* style in Sarawak, borrowed and modified from the Sebuyau subgroup from Batu Gong, located at the Southeast of Kuching. It is chosen because the location is near to Kuching. Furthermore, most of the SIDS' members originate from Sebuyau and its vicinity. Using the concept of cultural hegemony developed by Antonio Gramsci (1997), this essay examines the standardization of *Ajat Indu* by SIDS, the hegemonic body. It is powerful because it has historically influenced the Ibans' ideology, worldview, cultural norms, and behavior after colonialism in 1963.

This article investigates firstly, the existence of Iban subgroups in Sarawak by looking at the migration social status/class, and the social hierarchy according to

Max Weber's theory of stratification, secondly, the emergence of SIDS as the hegemonic body that restructures, codifies, and standardizes the popular dance form, *Ajat Indu*, and thirdly, the comparison between SIDS' institutionalized version of *Ajat Indu* and the styles practised by various Iban subgroups in longhouses to demonstrate the aesthetic changes that have taken place to this dance form and the ultimate resistance of the beholders of tradition to adopt the stylized version.

The History of Iban: Diaspora and Stratification

Iban diaspora emerged during the early migrations and expansions from the pre-colonial 16th century to the colonial eras from 1881-1963. The Ibans migrated from outside of Sarawak, specifically from Kapuas Hulu in Kalimantan Barat, Indonesia, to Ensebang and Engkari basin and expanded to another region, namely Rajang (refer to Figure 2). According to Gavin (2012), early scholars speculated that the term "Iban" is derived from the Kayan term "*hivan,*" meaning "wanderer." But he wrote that the term more likely comes from the Iban word, which "*iban*" meaning "a person," "human being," or more specifically, a "layperson." This study found that the *rumah panjai* communities still use the term to refer to "human being" rather than "*mensia*," a standardized term. In the post-Pacific War (1941-1945) years, with growing political consciousness, Kalaka and Saribas Iban preferred to call themselves Sea Dayak, reflecting a former tradition of coastal raiding. Since the 1970s, that term has largely passed out of use, and today, Iban is universally employed, both officially and by the Iban themselves (Gavin, 2012). Scholars in the past such as Sandin (1957 and 1967), Vayda (1961 and 1976), Freeman (1955 and 1970), Wagner (1972), Morgan (1978), Sutlive (1976), Rosseau (1986), Sather (1996), King (1976 and 2017) have discussed the way-of-life of the Iban that affected them in the post-colonial period including their social class, status, and power.

However, the interest in dance and performing arts of the Iban was non-existent until the pioneering work of Mohd Anis Md Nor (1997 and 2008) on dance, Matusky and Tan (2004 and 2012) on music and vocal performance, and Sather on oral tradition (2001). A critical interest on research in the dance of the Iban led to emerging young local scholars such as Fomalavia Tingang and Nancy Gilbert Apun (2007), Anna Sulan Masing (2012), Bryan Omega David (2016), and Andrew Igai Jamu (2019). These studies focused on the form and the evolvement of *Ajat Indu* in the present context. Still, this essay advances the study on *Ajat Indu* by focusing on the intersection of dance and politics through the analysis of the institutional domination of power resulting in two *Ajat Indu* practices - SIDS and the *rumah panjai* in Sarawak.

The Migrations and the Expansions of the Iban in Sarawak

The Iban, commonly known as the Sea Dayak, is a group of Dayak people found across two-thirds of Borneo Island (refer to Figure 1), known as Kalimantan across the Indonesian border (Mohd Anis Md Nor, 2007:357-362). The Iban of Sarawak is believed to have migrated from the Kapuas Hulu basin of the Kalimantan Barat during the 16th century.

Figure 1. Borneo Map (Source: Google Earth. "Borneo." Accessed May 17, 2021).

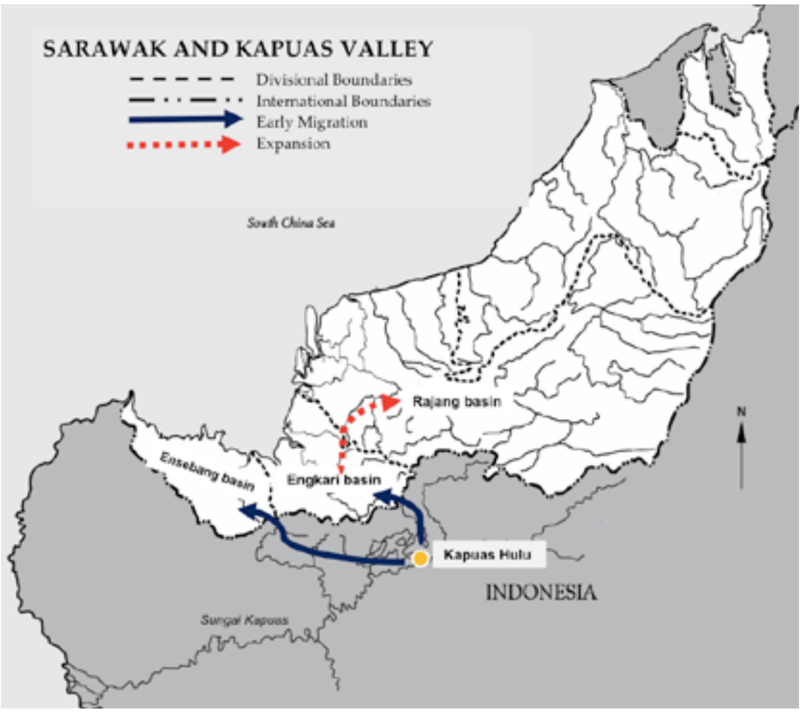

Figure 2. The Early Iban Migration and Expansions Areas (Source: first author).

According to Padoch (1982:1-29), the ancestors of the Sarawak Iban crossed the watershed of Kapuas Hulu to the entrance of Batang Lupar and pioneered the upper Ensebang basin and Engkari basin. Ensebang basin in Kuching is the First Division of Sarawak alongside the river and stream of Batang Sadong, Sungai Pelai and Sungai Ensebang while the Engkari basin in Simanggang (known as Sri Aman in the present) is the Second Division. The Ibans dwell along the stream of Batang Lupar, Batang Ai, Sungai Lemanak, Sungai Engkari, Sungai Rimbas, Sungai Saribas, Batang Layar, Sungai Delok, Sungai Paku and Sungai Skrang. The Ensebang basin expanded to Lundu in 1955 and the Engkari basin expanded to the Rejang basin in 1880 (see Figure 1).

By tracing the Iban paths' migration, Padoch (1982:1-29) subdivided the Iban into specific subgroups such as Balau, Undup, Sebuyau, and Saribas according to their migration patterns. These terms are used by the Iban themselves. It is inevitable because this study utilizes specific terms for Iban subgroups that undoubtedly influenced their performing arts, especially the *Ajat Indu*, after settling for an extended period of time all over Sarawak.

The Iban Stratification

The changes and development of the social and economy have significantly affected the Iban community, influencing their perception and worldview. Changes began earlier with the inclusion of colonial rule that brought together new influences such as beliefs, religions, secular education, modern technology, and the capitalist economic system. The Iban community transformed from a "pre-modern" or "traditional" society to a modern society in concomitant to the British colonial influence. From the *rumah panjai* in rural areas, working-class Iban migrated to the urban area in search of a better life. Besides, transformations such as the Christianization affected the way-of-life of the Iban. Mass conversion of the Ibans is believed to have affected their religious and cultural practices. For instance, the customary law such as *adat begawai* (ceremonial law), and *adat beburong, bemimpi enggau bechenaga ati babi* (omen, dream, and ritual law) that was practiced during the pre-colonial period has gradually changed.

Previous scholars plausibly argued the social system of the Iban. Freeman (1970:180-200) quoted Iban as 'classless' and egalitarian in terms of their social system. This ambiguous statement is nevertheless argued by other notable scholars such as Sather (1996:104), who see Iban not as unequivocally "egalitarian" but as structured around an articulation of principles of both "egality" and "hierarchy" (King, 2017:83-113). As depicted in his publication, Rousseau (1980:52-63) contested Freeman's Iban egalitarian concept as being inadequate. The only reference about the pre-colonial Iban is Sandin as stated in Appell (2001:741-785). The terms "prestige-seekings" or aristocrats, commoners, and slaves coined by Rousseau (1980:52-63) existed among the Iban society during the pre-colonial and colonial-era orchestrated by the Iban themselves in classifying the various social-strata the community. Rousseau (1980:52-63) raised the contradictory points of Iban inequality in several key factors, including *tuai rumah* (longhouse and religious leader), *orang kaya* (rank to community leader gave by the Brunei Sultanate), *tuai menua* (regional leader) as more than *primus inter pares* [the first among the equal] chosen from the "core group" of the Iban. This study shows that the social strata had changed when James Brooke began his quasi-colonial reign in 1841 as the first Sarawak White Rajah. The Brooke Empire ruled Sarawak until the Japanese Occupation in Sarawak from 1941 until 1945. Great Britain legitimately claimed Sarawak as the Crown colony in 1946, which continued until the Malaysia Federation formation in 1963.

The introduction of White Rajah and modern governance to the state changed the traditional way of classifying Ibans' social status and class during the colonial period in its entirety. Rousseau's argument on hierarchy within the Ibans can be further discussed using Max Weber's theory of stratification. Stratification of class, status, and power have affected the Ibans' way-of-life in the pre-colonial, colonial, and post-colonial periods. The stratification indisputably exists hitherto, which has led to the establishment, dominance, and authority of SIDS, logically. A selected group of the bourgeoisie among the urban Iban became the members of SIDS, while the marginalized rural Iban people, who are mostly from the lower-income group, tend to be dependent on the decisions made by SIDS.

This historical trajectory introduces us to entities like SIDS that dominate Iban's cultures, including the form and style of *Ajat Indu*, which is the focus of this research. The existence of a hegemonic body formed by the high stratum of the Iban community's hierarchy has led to the unification and codification of Ajat, the reinvention of a new style.

Ajat Indu in Rumah Panjai

This section will discuss the history of rural *Ajat Indu*, particularly the performances in rural *rumah panjai* derived from my fieldwork, and the fundamental knowledge obtained from the beholder of tradition (the pioneers of the tradition) about *Ajat Indu*. *Ajat Indu* is a tradition of female dance of the Iban community where *"Indu"* is the term used for female in Iban. The Iban's word of *Ajat* is an indigenous category, equivalent to the English word, "dance," while *Ngajat* is a verb, which means "to dance."

The history of *Ajat* was only narrated through oral traditions (*leka main*) such as *Timang* (invocatory chants), *Ensera* (folktales/legends), *Pantun* (traditional songs), and *Pengap* (ritual/invocatory chants) by the ancestors and passed down from generation to generation. According to Sandin (1980), the Iban community believed that *Ajat* was taught by *antu* (spirit) called *Ulup Batu Lichin Bujang Indang Lengain* in the Iban longhouse in ancient times, but the story is considered as a mere myth by the communities. Their own *ajat* styles can differentiate the existence of *Ajat Indu* of the Iban subgroups. The styles of Balau, Undup, Saribas, Skrang and Batang Ai subgroups are more grounded through extensive stomping of foot-works while the upper body is "bouncy." Rajang and Julau subgroup styles are more sustained and graceful with elevated foot-works (as though "floating") while the upper body is bouncy rather than rigid and stiff. Referring to Matusky and Tan (2012:159-184), *Ajat Indu* performance is normally accompanied by the musical ensemble called *taboh* which includes the *engkerumong*, the *bebendai*, the *tawak*, and the *ketebong*.

In the *rumah panjai*, the Iban define the act of musicking the *taboh* ensemble as *betaboh* or *begendang* according to their subgroups. Matusky and Tan (2012:159-184) also stated that the Saribas subgroup used the *dumbak* (barrel drum) in their *taboh* ensemble. In *Ajat*, the engkerumong ensemble will also play several melodies through the gongs and drums' interlocking beats. The musical pieces of *taboh* ensemble can be divided into two tempos which are slow and fast. In *rumah panjai*, the slow tempo usually played for the *Ajat Indu* are called *Ayun Lundai* (The Elegance Sway), *Ai Anyut* (The Flow of the Stream or River), and *Sinu Ngenang* (The Somber Memories).

Ruai, an unpartitioned gallery represents the whole longhouse even though there are many *bilek* (apartments or rooms). Therefore, performing *Ajat Indu* in *ruai* involves the longhouse communities and can be a "play-performance," a specific structured movement system participated by everyone within a performative space, likened to a game (Mohd Anis Md Nor, 2003). The act of "play-performance" in Iban is called *bebuti*. During my fieldwork in several longhouses in Pakan and Ulu Julau, Sarawak, the "play-performance" of *Ajat Indu* in *ruai* takes place during the ceremony of Gawai where female dancers will perform and imitate the daily life of the Iban in their dances such as *muar kesa* (harvesting the weaver ant), and *pelanduk* (imitating the mousedeer). The dance of *Ajat Indu* (by women) and *Ajat Laki* (by men) are performed surrounding the *ranyai* shrine (decorated sacred tree) in *ruai*. The "play-performance" of *Ajat Indu* begins early night (*pun malam*) and continues until early next morning (*dini hari*) until *nebang ranyai* (cutting down the decorated sacred tree) ritual happened. In *ruai*, *Ajat Indu*, which includes the musical pieces and dance itself, is normally performed for non-ritual performance and specific rituals in Gawai. According to other interviews with Jabah anak Layau and Libau anak Matu, the dance practitioners from Pakan, the dance motifs that are performed in the presentational *Ajat Indu* at their *rumah panjai* are named according to the proverbs (*jaku silup*) of the Iban. These dance motifs depict the image of the movements described as follows (see table in figure 3).

	Dance Motifs	**Descriptions**
1	*Entepa, Nelentangka Tapa Jari Lima Berasuk Belulin Tinchin Temaga*	Outstretched arms at the middle level (45 degrees) with the rotation of the wrists ending with palms facing the front
2	*Engkepai, Nunda Tajai Terebai Nyerumba Nyang Panas Lemai*	Both wrists are rotated while arms are moved from right to left and vice versa
3	*Bungai Sembah, Kena Masa Kita Ka Bekedunga Duduk Semuka*	the opening and the closing salutation of the dance

Figure 3. Table of *Ajat Indu* Motifs in *Rumah Panjai*.

When I asked the dancers whether there were any specific dance movements, they answered that the improvisation of the movements is up to the dancers' creativity in ruai. They said that the *Ajat Indu* is performed according to the *"nitihka munyi tempap palu engkerumong." Engkerumong*, the ascending-descending phrases of the gong-row, guides the transition from one movement to another, while the *bebendai* is the guide for the speed of the dance motifs. *Ajat Indu*'s uniqueness by the *rumah panjai* communities can be shown by the skillful interaction between dancers and musicians. These dancers are not trained formally, and neither are they professional dancers, but they dance naturally according to the phrases of *engkerumong* without the need to count the beats. The transitions between the movements are smooth, relaxed, and calm, even though they need to control the heavy silver headgear while controlling their movement's speed.

The structural movements of *Ajat Indu* depict the regal motions of birds from the Iban's cosmology (Mohd Anis Md Nor, 1998). The *Ajat Indu* is metaphorically identified with specific stylized movements, which are described as *bungai ajat* (petals of dance), *pusin ke baruh* (turning the body while doing a low pivot turn on one leg and tilting the pelvis on the gestured leg) and *titi tiung* (stepping sideways and forward like a hopping bird). The fundamental movements of *Ajat Indu* imitate the movement of the bird, such as *burung terebai*, which is depicted through outstretched arms, bent torso, and crossed feet, likened to the birds flying in the sky. *Titi papan* and *titi tiong* are sidestepping motions of the feet with bent and folded arms while wrists are being rotated. This gesture imitates birds moving delicately on the twigs and branches of the trees in the rainforest. *Pusin ke baruh* or *pusin tinggi* are the turns performed on one supporting leg with the other leg gesturing towards the floor while circulating the supporting leg (Mohd Anis Md Nor, 1998). Mohd Anis reconstructed the dance motifs in his structural analysis based on the Skrang subgroup.

SIDS ignored the variegated and individual motifs when it reinvented the standard *Ajat Indu*. Motifs were borrowed extensively from one subgroup, Sebuyau, the subgroup from which most of the SIDS members originated. It is biased because the dominance of power is centered on one group while the other styles are ignored. This move demonstrates that hegemonic power is non-egalitarian, authoritarian, and hierarchical through the cruel act of exclusion/inclusion. Hence, this style pre-dominates other substyles. The unification and codification of *Ajat Indu* were done through a special branch of the performing arts of SIDS called Rumah Dayak, which was later renamed as Dayak Cultural Foundation (DCF) in 1995. Senorita Linang taught this style to SIDS members. While the individual styles remained in the periphery and existed in *ruai* for the visibility of insular audience members, the reinvented style was refashioned, promoted, and circulated widely by SIDS amongst urban practitioners and gained visibility and recognition. While SIDS makes efforts to convince longhouse dwellers to adopt its style, the dwellers are resistant and unwilling to let go their own styles. Clearly, the two strands of practices co-exist - the rural individual styles versus the urban reinvented style.

Codifying, Standardizing, and Hegemonizing the *Ajat Indu*

Ajat Indu in Sarawak became a prominent part of the cultural representation of the Iban. As SIDS being the agent of hegemony that has dominated the interpretation of *Ajat Indu* in Sarawak in the present, this section will discuss the reconstruction and revitalization of the dance for the preservation of Iban cultural heritage, aesthetic values of *Ajat Indu*, and the continuity of *Ajat Indu* in the contemporary scenes outside the longhouses.

As stated in Antonio Gramsci's (1997:85-91) article entitled, Hegemony, Intellectuals, and the State, the state uses cultural institutions in maintaining power in a capitalist society. Even though Gramsci's specific term of cultural hegemony is not stated directly in his writing (Lears, 1985:567-593), the concept has recently been used in popular culture as one of the Marxist concepts of hegemony. Cultural hegemony is popularly used to denote one social class's predominance over others (bourgeois hegemony). The working class and other classes established their constructive points of view about the bourgeois and contributed to preserving instead of revolting the status quo. The connection between persuasion, consent, and the occasional brute force involved in cultural hegemony is obvious. I utilize this theory to examine the "prestige seekings," "aristocrats," and "core group" and how the bourgeoisie formed SIDS. In this hierarchy, the Iban subgroups become the proletariat. The process of hegemonizing the *Ajat Indu* in Sarawak, which began after the formation of Malaysia in 1963, reflected the need to standardize *Ajat Indu* as a homogenized form representing the identity of Ibans. However, the *Ajat Indu* standardization was not an easy task. It became very complicated due to the existence of various styles of *Ajat Indu* in the rural areas practiced by various subgroups, the *rumah panjai* communities as discussed in the earlier section.

The association was dominated by the "core group," whose members originated from the women of "prestige seekings" and commoners from the pre and colonial hierarchy, as stated earlier. SIDS as the hegemonic body, had the supreme power among the Ibans. SIDS shaped the communities by playing its role in codifying the *Tusun Tunggu* (the native customary law). In 1961, the late Tan Sri Temenggung Tra Zehnder represented SIDS at the Simanggang Adat Law Conference. SIDS' proceedings were published in 1963 as "Sarawak Dayak Adat Law," which became the basis for the present Native Customary Law that is being used until the present day. The emergence of SIDS altering the worldview of the Iban and their cultural practices. In its website, SIDS states that "SIDS around this time also introduced the '*Baju Modern*' because the traditional costume was too elaborate and not practical for formal functions, especially for Iban women. The '*Baju Modern*' is a practical and "authentic" '*Half-Dress*' version of the traditional costume. It consists of a sash (*selampai panjai*) wrapped cross-wide fashion over the chest and tucked-in at the back, a long-woven skirt *(kain panjai)*, and some silver accessories to wear with the costume" (Sarakup Indu Dayak Sarawak [SIDS], n.d).

The statement is from the SIDS website that related to the history of SIDS. The members of SIDS are required to wear the *Baju Modern* if there have official events or ceremonies. From the statement, it is undeniable that the SIDS reinvented the micro and the macro elements in Iban's cultural practices. In the performing arts scene, the power and authority of SIDS are shown as they set the rules for *Ajat Indu*. The intervening of SIDS by bringing the structure into the system and invented the new style of *Ajat* by borrowing and modifying the Sebuyau subgroup's style became problematic to the *rumah panjai* communities. Introducing the unified style as an exclusive representation of the Iban communities indirectly disrupts the notion of egalitarianism. Iban as the egalitarian society opposed to the subjects of class, superiority, and subordination, valorize their own styles of *Ajat* in *rumah panjai*. The varieties of *rumah panjai Ajat* were able to share and perform with each other during Gawai celebration. The Iban communities used the open house during the Gawai festival, a mid-year festival, to showcase each *rumah panjai* style. Even though a SIDS unified *Ajat Indu* style existed, the rumah panjai dwellers do not acknowledge or adopt the new style. The community's identity lies in the dance and how it is represented. When it is taken away from its original essence, the *rumah panjai* communities resist acknowledging the style made by SIDS.

After the formation of Malaysia in 1963, SIDS evolved in Sarawak by opening branches all over the state divisions. The bourgeoisie in SIDS are mostly highly educated individuals who are established in the aspects of "economic, social and cultural capitals" (Bourdieu, 1986), inhabited Kuching, the capital city of Sarawak. SIDS has taken a dominant role in protecting Dayak women's rights and in maintaining socio-cultural aspects. As a result of the powerful bourgeoisie manipulating other Ibans' way-of-life, *Ajat Indu*'s practices by the Iban subgroups in the longhouses were deeply affected. SIDS became the so-called "responsible" organization to preserve and control the Iban culture. It also became the authoritative association that decides the rights and wrongs in *Ajat Indu* performances except for the performances staged by Sarawak Cultural Village (SCV). SCV, the tourism organization under the state government, is able to break out from the hegemony only because it is directly governed by the Sarawak Economic Development Corporation (SEDC) and the Sarawak Tourism Board. As such, SCV decides its own style. According to interviews with Othman Hassan and Hamidah Mohammad, the choreographers and instructors of SCV, they said, "our *Ajat Indu* is somehow often being criticized by the authorities of SIDS as not "proper" because our style is different" (personal communications, 2018). That highlights how SIDS attempts to exercise control over the dance form in the state. In the national dance scene, SCV's *Ajat Indu* had been a subject of criticism as they created choreographed Ajat that were taught and performed at Istana Budaya, Akademi Seni Budaya dan Warisan Kebangsaan (ASWARA), and in other performance companies in Kuala Lumpur.

In relation to power, this study intends to borrow from the Weberian concept of social stratification. This concept is useful to examine the resulted gap between Ibans who live in rural and urban areas, along with the manipulation by the bourgeoisie in the Iban tradition. Weber argued that power could take several forms. An individual's power can be seen through their place in the social order, through their class in their economic order, and through their party in their political order. Thus, class, status, and party are aspects of the distribution of power within a community (Weber, 2018:37-54). As the center of power, SIDS, shown their influence in the Iban community, has led to *Ajat Indu*'s standardization. The orders laid out by SIDS rules the Iban subgroups such as Balau, Remun, Saribas, Batang Ai, Skrang, and Rajang. The process of hegemonizing the *Ajat Indu* is illustrated in the flow chart below (see Figure 4).

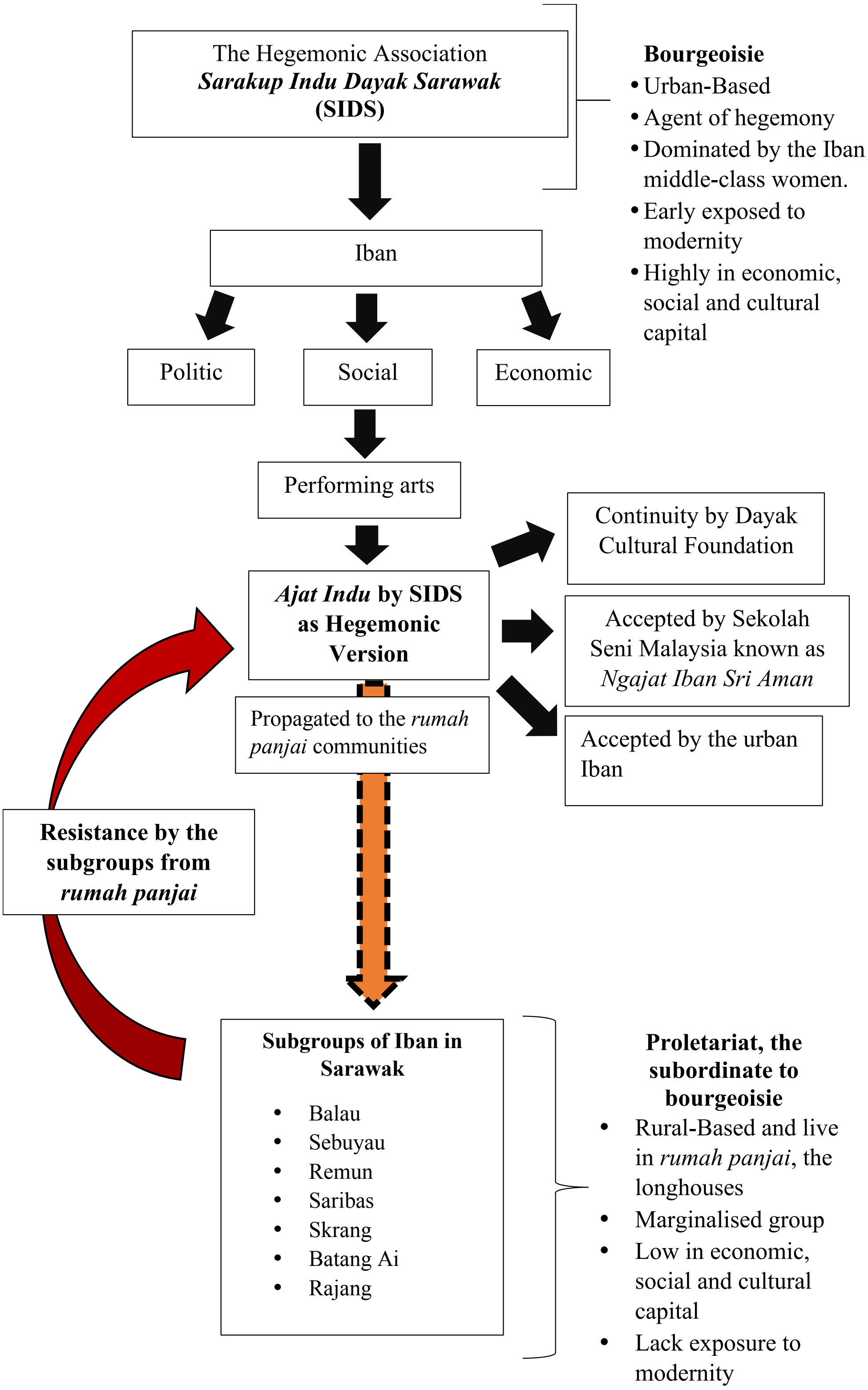

Figure 4. Process of Hegemonizing *Ajat Indu* Flow Chart (Source: first author).

The flow chart shows the process of hegemonizing of *Ajat Indu* in Sarawak. It shows how SIDS manipulates and controls the Iban in Sarawak and the *Ajat Indu*.

The SIDS' *Ajat Indu* was initially learned from Megit, an influential master-teacher and a beholder of tradition, from Batu Gong, the Ensebang basin. She taught *Ajat Indu* to the main members of SIDS, among others, Senorita Linang, Esther Bayang, and Mariam Janting. The *Ajat Indu* classes were held at various houses of SIDS members such as Lily Senada, Gladys Janting, Vida Andrian, and Esther Bayang. Senorita Linang organized *Ajat Indu* competitions in Kuching for children, single adult women, and married women. The standardized version of *Ajat Indu* by SIDS was widely performed at the national level Gawai Dayak Open House, state-level Gawai Dayak Festival, and other official state events such as welcoming ceremonies of the King, Yang Di-Pertuan Agong, as well as state and foreign leaders.

DCF, under SIDS, plays a significant role in propagating the reinvented style. According to an interview with one of the choreographers of DCF, Helena Mathew, the dance motifs were named by Senorita Linang, the institution's manager and a high-ranking member of SIDS. The dance motifs are described as follows (see table in figure 5).

	Dance Motifs	**Descriptions**
1	*Langkah Bejalai*	Pedestrian movement. Stepping both legs continuously with bending knees.
2	*Langkah Burung Semalau*	Depicting magpie-robin bird movement on the branches and twigs of the tree from side to side.
3	*Langkah Bungai Ajat Indu*	The main movement in *Ajat Indu* emphasizing upper torso and arms. Body weight transfer from the right to the left leg while bending the knees.
4	*Langkah Indu Ngauk Ai Mandi Duduk*	Scooping of water from the surface of a stream river in a sitting on toes position.
5	*Langkah Burung Kenyalang Terbai*	Depicting the movement of hornbill flying in the sky.
6	*Langkah Indu Meri Tabi Hormat*	The opening and the closing salutation of the dance.

Figure 5. Table of standardized ***Ajat Indu*** Motifs by SIDS.

This study suggests that the names were given to the *Ajat Indu* motifs also depicts the class, status, and early exposure to education by the group of bourgeoise when they borrowed the words from the authoritative Malay language such as *Langkah* and *Meri Tabi Hormat*. Even though the Malay and Iban languages are from the same Austronesian branch of the Malayic language, but the difference between the standard Malay and Iban is very significant. The rumah panjai communities rarely use the creole language used by the urban-based Iban. *Langkah bejalai,* for example, is the movement of walking that was reconstructed for the dancers to move to their positions according to the composed pathways by the choreographers. As the standardized version of *Ajat Indu* by SIDS became the representation of the whole Iban, the original form of *Ajat Indu* is only performed within the *rumah panjai.* Malay is a privileged language used by the urbanites to categorize and label dance motifs of the Iban. The SIDS version simultaneously marginalizes the language of origin/native categorization in this process.

Besides, new dance motifs have been added to the dance to make it varied and stylized. This move makes the dance less repetitive, complex, and appealing. It becomes attractive when performed on the proscenium stages in uniformity. Floor patterns such as lines and circles are added in the new styles by SIDS' choreographer to make it visually eye-catching for the audiences. Thus, this reinvented *Ajat Indu* becomes popular than the *rumah panjai* styles.

From the aspect of music, *Ajat Indu* is usually performed with entirely different purposes from the standardized performance by SIDS. From my observation, *Ajat Indu* is traditionally performed without using any assigned dance sequence. The dancers can freely perform the dance motifs and improvise according to the music of *taboh* to demonstrate their skills; particularly by balancing themselves while wearing the seven to ten kilograms of *Ngepan*, the traditional costume that allows limited movement of the head, as the body tilts slowly from side to side thus ensuring extremely graceful movements and bearings. Usually, *Ajat Indu* in the *rumah panjai* is performed according to the beats of *bebendai* and phrases of *engkerumong* which plays 16 beats circulation of "ascending-descending" phrases for the transition of each dance motif. Spontaneity, natural, and improvisation are characteristics that make the dance unique. These highlight the beauty of the dance. Each community's dancers improvise in their own way, asserting the power of her style. It accentuates the power of individuality.

In SIDS' version, the *Ajat Indu* is performed during official occasions by the state government in the proscenium stage. Performing the style of institutionalized *Ajat Indu* by SIDS and DCF is the act of performing an artistic likeness or image of *Ajat Indu* with a different purpose than the subgroups in *rumah panjai*. Performing the reinvented and standardized version of *Ajat Indu* by SIDS is a form of the socio-political statement that emphasizes the substitution of old traditional styles to reinventions necessitated by the need for theatrical entertainment. The reinventions of *Ajat Indu* by SIDS are therefore product-oriented and designated for public showcases. *Ajat Indu* by SIDS is appropriated for the stage and is normally combined with *Ajat Laki* (male dance). The movement of the reinvented *Ajat Indu* is choreographed and well-structured. Also, the movement sequences of *Ajat Indu* are arranged according to the performed repertoire in which the movements are shortened according to 4 beats and/or 8 beats. As a result, the reinvented *Ajat Indu* movements are faster, and the costume is simplified (lighter, not heavy as the longhouse costume). Some of the stage crafts related to Iban's daily life have been inserted in SIDS' *Ajat Indu*'s repertoire. The *pua kumbu* (a traditional patterned multicolored ceremonial woven cotton cloth used by the Iban), *buah genuk* (dry gourds to bring water from the stream by the Iban) and *kenyalang* wooden sculpture were inserted in the repertoire to highlight the '*Ibanness*' in the reinvented and standardized *Ajat Indu* for public performances.

The Iban subgroups resist the hegemony imposed by the bourgeoisie. The subgroups subordinated by the hegemonic association resist accepting the reinvention of *Ajat Indu* by SIDS. The reinvention of *Ajat Indu* by SIDS is seen as a strange form of *Ajat* by the *rumah panjai* dwellers. The *rumah panjai's* Iban prefer to perform their own subgroup's *Ajat*. In line with this, I (the first author) experimented with several *rumah panjai* in Pakan, Sarawak from June 2018 until June 2019 during Gawai ceremonies. I performed and showed them the choreographed and theatrical form of *Ajat Indu*, SIDS version, which I learned from school, participated in the local dance group, and the fieldwork at DCF and SCV from 2015 until 2018. The Ibans in the *rumah panjai* called it a "*tarian*" or "*joget*" as it was strange and unusual to them compared to *Ajat Indu*'s performances in *ruai*. The labeling using the Iban's foreign language in *rumah panjai* showed that they did not recognize the standardized *Ajat Indu* by SIDS. Iban folks defined the reinvented *Ajat Indu* as "*Ajat Indu ti dipelajar*," denoting that the form was choreographed and taught in schools. The rumah panjai community's refusal to accept the new style of *Ajat Indu* to be performed in the longhouse is a "hidden transcript" (Scott, 2008) by the marginalized. That is a subtle rejection by the longhouse communities. The Iban folks viewed the standardized version as a strange form even though they knew its existence. This statement also showed the difference between the two styles and the Iban folks' unwillingness to accept the choreographed or reinvented version.

From another interview with Jelimun anak Layau, a master-teacher from Ulu Julau, Sarawak, this subgroup's *Ajat Indu* is different from the *Ajat Indu* in other *rumah panjai*. The style of the Ulu Julau longhouses and the surrounding area is graceful. The foot-work that shown by the female dancers were lighter, and the upper body is bouncier from the other Rajang subgroup like the Iban in Pakan. The Ulu Julau style is more alike with the Saribas and Batang Ai subgroups' styles, while the musical instruments that were played are the same with the Rajang subgroup, which is not using the *dumbak* (barrel drum).

As mentioned earlier, the subdivision of Iban groups in Sarawak is not only based on their different dialects, migrations, and expansion but is also evident from the different costumes donned by dancers of different subgroups and geographical areas. The Saribas group is identified by the *Ngepan Rawai Tinggi* (high brass corset), Balau wears the *Ngepan Baju Kuas* (black upper torso cover), the Batang Ai group is typified by the *Ngepan Skrang* and *Ngepan Lampit Tusu* (crossing belts across upper torso) attire, the Rajang with their *Ngepan Baju Ujan* beads costume, *Baju Buri* (the seashells costume) represents the Kapit area, *Ngepan Julau* (the using of two sashes to cover up the upper torso) in the Julau area while in the Krian area, the women wear the elaborate gigantic headgear called *enseruga* or *mensuga*. The bourgeoisie of SIDS only recognizes the standardized version of *ngepan*. Iban's subgroups called it as *Ngepan Kumang,* a standard set by SIDS in *Kumang* beauty pageant. SIDS excluded and did not recognize the various *ngepan* of the other subgroups. The costumes were worn by the SIDS and continued by DCF and SCV. The representational *Ajat Indu* institution even simplified the ngepan with the reason that subgroups' Ngepan is too heavy for *Ajat Indu* performance. This made the simplified Ngepan Indu are more visible than the various subgroups' *Ngepan*. It showed that SIDS was exercising their power by controlling and manipulating the Iban's cultural heritage interpretation. The standardization and modification of the costumes in an act to rule and manipulate the *rumah panjai's* communities by SIDS. Alas, the simplified *Ngepan Indu* are accepted and worn in several *rumah panjai* because it made them look more superior in the Iban communities' social realm.

SIDS version of *Ajat Indu* serves its purpose as the representation of the whole Iban identity because of the hegemonic process. As part of a new generation of the Iban, I see the *Ajat Indu's* continuity as the political statement to unite and represent the whole Iban community in Sarawak. However, at the same time, the process of hegemonizing *Ajat Indu* leads to resistance among the longhouse dwellers and misconceptions and misinterpretations amongst outsiders (other races in Malaysia), scholars and tourists in understanding the cultural practices of the Iban in rural *rumah panjai*. In the contemporary scene, *Ajat Indu*, the codified form that has been revitalized as the staged performance has become the tourist attraction in SCV and DCF in Kuching and has become the representational dance of the Iban community. The representations of *Ajat Indu* in SCV and DCF are product-oriented, designated for public showcases for tourists, constructing messages of regional and national identities, and providing experiential opportunities for tourists. The continuity of SIDS' *Ajat Indu* may seem to look assured for the time being as it has been included and documented in the syllabus of dance subject in Sekolah Seni Malaysia to be taught to the future generation. However, the future generation may see this style as the only style of *Ajat Indu* and may be ignorant of the existence of numerous other styles practiced at the *ruai*.

Moreover, there are numerous factual errors in the textbooks, particularly in the facts of the history of origins of *Ajat Indu*. For example, in the syllabus, the standardized version is called as *Ngajat Iban Sri Aman* but contrasted with the evidence that it originated from the Ensebang basin while Sri Aman is in the Engkari basin. This case scenario shows us that the representation and sustainability of the individual dance forms in *ruai* is questionable in the advent of much-hyped up SIDS' style.

Conclusion

SIDS is the authoritative association that dominates the interpretation of the Iban communities' culture and has reinvented a new form of *Ajat Indu* as the dance that represents the Iban identity. As a vehicle of hegemony, SIDS influences the *Ajat Indu* as the form of contemporary dance of the Ibans, making the culture within the Iban community homogenous to outsiders, although varied styles exist. The reinvention of the institutionalized *Ajat Indu* becomes the medium of preservation, pedagogy, and urban, national, and international performance to represent the Iban communities. Hegemonizing the Iban's intangible cultural heritage, the *Ajat Indu* in Sarawak becomes complicated due to the existence of various styles of *Ajat Indu* in the rural area practiced by subgroups of the *rumah panjai* communities. While SIDS' version becomes the benchmark for the local choreographers, dance educators, and urban dancers, it is hoped that the subgroups' styles of *Ajat Indu* will be preserved and practiced in the rumah panjai. By losing the individual style of *Ajat Indu* means losing one's identity because dance is seen as a marker of sub-Iban group identity.

Endotes

1. The first author went for the fieldwork and conducted the fieldwork, while the second author (supervisor) worked on framing the layout for this article and the organization of the content. The first person's account is from the perspective of the first author, and the theorization and analyses are done extensively with the guidance of and co-writing with the second author.

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Rain Culture: Rain Induced Behavioral Changes

of People Moving on the Streets in Central Ho Chi Minh City

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Abstract

Rain is a natural phenomenon that has existed for a long time in people's lives, greatly affecting the lifestyle of people and the appearance of Ho Chi Minh City. All the methods, concepts, behaviors and relationships of people in Ho Chi Minh City in their interaction with rain form the whole of the so-called rain induced behavioral culture. Studying the rain induced behavioral changes of people moving on the streets in central Ho Chi Minh City is a meaningful case study to identify the overall picture of behavioral culture with rain in particular, with weather in general, of people in Ho Chi Minh City. This paper suggests the direction of extensive or in-depth research on the relationship between people and nature in Ho Chi Minh City from cultural view as one of the approaches that are not alien to people's lives but rather new to social science research.

Keywords: *Urban Culture, Behavioral Culture, Vietnamese Culture, Rain Culture, Vietnam, Ho Chi Minh City, Weather*

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Introduction

Ho Chi Minh City (HCMC) is one of the most developed cities of Vietnam, with people coming to live and work increasingly crowded. Accordingly, infrastructures such as roads are focused on upgrading and expanding, and more architectural works have also sprouted, contributing to determining the behavioral culture with people's moving here. People in a certain area in HCMC such as the central city will have living habits that are affected and regulated by the surrounding environment, even those who just pass through that area have more or less manifestations (whether reluctantly or voluntarily follow) of the lifestyle in that area in a pattern of imitation to be similar, to adapt.

Rain is a natural phenomenon that is indisputable in terms of its duration and degree of attachment to humans, as well as in all other places of the world, it affects and has a great impact on behavioral culture with the surrounding environment of people in HCMC. In the view that all manifestations in life are worth studying if they last long enough and have a certain influence on people's lives, this paper initially refers to rain induced behavioral culture of people moving on streets in central of HCMC (irrespective of whether the main resident, the resident or who just come to work) through aspects such as wearing raincoats, choosing places to shelter from the rain, dealing with constraints caused by rain and the role of stakeholders in addressing them. The content of the items developed in this paper shows that in the way people moving on the streets of central HCMC deal with rain, there are both effects of the civilizational factors of the times but also the influence of traditional agricultural culture. The development of infrastructure and urban population density brings people many good utilities, but also brings some consequences that hinder people's lives if they are not well developed. Traffic jams, flooding, traffic collisions, accidents caused by potholes on the road, being splashed with dirty rainwater from the road surface… are unfortunate inconveniences caused to people moving on the streets in central HCMC when it rains. Facing these troubles, people moving on the streets have chosen to behave flexibly to adapt to the situation, sometimes behave respectfully and softly.

The observation method and the transect walk method are mainly applied in the paper to clarify aspects of the rain induced behavioral culture of people moving on the streets in central HCMC in a specific and objective way. We observed the ways and manifestations of the behavior in the rain and with the surrounding environment in rain of people moving on the streets in central HCMC, focusing on the large, crowded roads in busy districts such as District 1, District 10, District 3, District 7, District 5, Binh Thanh District, Go Vap District, Phu Nhuan District. Many of the points raised in this paper have a reliable basis because they are our actual observations in the process of living in central HCMC from 2002 up to now. During this time, we experienced moving in the rain, directly saw, contacted and talked with many people about their concept and behavior with rain when moving on the road in central HCMC. To increase the reliability of the research content, we conducted a survey of 30 people by questionnaire. The surveyed subjects were randomly selected, the common point is that they have been moving on the streets in central HCMC (90% of the surveyed people have a regular level of movement on the road, the remaining 10% have a level of movement less often but there is no one who has never been on the road). The age of 30 people surveyed is between 19 and 50 years old, having lived in Ho Chi Minh City from 1 year to 40 years. Their current occupations are very diverse, in which, 80% of people regularly use 2-wheeled vehicles (such as motorbike, bicycle), 6.7% people regularly use vehicles of 4 or more wheels (such as car, taxi, bus) and 13.3% of people regularly use both 2-wheelers and 4-wheelers. Given the age, length of time living in HCMC and occupation of the surveyed subjects, it is possible to ensure that they have enough cognitive ability to answer and properly explain their behaviors with the rain while moving on the road in central HCMC. At the same time, it also helps our research to have a more comprehensive and objective view through the statistical results from the survey.

The Rain Induced Behavioral Culture of People Moving on the Streets in Central HCMC and the Use of Raincoats

It is easy to see that "in urban life, citizens do not stay in one place. They move daily to go to work, in order to adapt labor for operational needs" (Tran Ngoc Khanh, 2018:427). In the process of moving that inevitably forms human's behavioral culture with surrounding natural and social environment. In each country, each region with different modes of movement will have different behavioral culture characteristics. In urban districts in HCMC, the traffic mainly by motorbikes of people moving on streets determines a very specific method of behavior with rain: mainly using raincoats, without the habit of using umbrellas. In our survey, when asked "When you are moving on the streets in central HCMC, if it rains, what do you usually do?," 66.7% of people answered "find a place to buy a raincoat to wear, then keep moving." The remaining people did not choose to buy raincoats, but their answers were more or less related to the raincoat, that is: 13.3% of people answered "find shelter from the rain" (this case may include both those who already have a raincoat but don't want to move in the rain) and 20% of people answered "keep moving in the rain" (this will happen if the people moving on the streets already have raincoats on their vehicles or it's raining lightly). In another question, when asked "When you are moving on the streets in central HCMC, if it rains, will you take an umbrella?," 60% of people answered "never," 30% of people answered "occasionally" and 10% of people answered "regularly." Those who choose to use an umbrella solution when moving in the rain must be moving by bicycle, walking or moving by 3-wheeler without a roof at a slow speed. Because if they move by motorbike with an umbrella (even when it is sunny or rainy), it is very entangled, easily causing accidents and collisions with other traffic participants on the road, especially if driving fast. The survey results of these 2 questions show that people give preference to raincoats when moving on the streets in central HCMC when it's raining, while umbrellas are not the right choice for most people. This is also a common feature in the behavior with rain of Vietnamese people. If "the system is a collection of elements interacting with each other and with the environment" (Le Ngoc Hung, 2015:140), then the system of rain induced behavioral culture of people moving on streets in central HCMC is also made up of many factors, in which it is impossible not to mention this use of raincoats. In some areas where many companies, offices or shopping malls such as the center of District 1, sometimes pedestrians use umbrellas to cover the rain. Sometimes people moving by bus or car can use umbrella to cover the rain to wait for the bus or car. In case of light rain, people can also use whatever they are there to temporarily cover the rain while walking or riding by motorbike (mostly people sitting in the back) such as using hands, hats, coats, newly purchased goods, bags, hand fans, even turning the shirt they are wearing (for men) or using a plastic bag to cover their heads (as many people think it is easier to get sick if the rain gets their head wet). The preference for motorbikes and the demand for convenience and speed in moving in a developed city, along with the inherent flexibility in the character of Vietnamese people have decided to choose the above rain cover when moving on the streets in central HCMC. Among them, raincoats are the most popular and favorite items.

During the rainy season in HCMC (around May to November depending on the year), on people's means of transport (mainly motorbikes) when moving in inner districts usually have at least 1 raincoat. Raincoats have many designs and colors to meet the diverse needs of people, there are 2 main types: 2-flap raincoat and full-body raincoat. 2-flap raincoats are thick, opaque or transparent color, usually monochrome, long, sometimes printed with advertisement or logo on the back (usually raincoats of companies or brands), priced from 30,000 VND. 2-flap raincoats are available in a variety of types such as bat-wing raincoats, raincoats for 1 person and double raincoats, raincoats with visors, raincoats with buttons on both sides, raincoats with transparent plastic areas to not cover the motorbike lights in front, raincoats for children… Wearing 2-flap raincoats on motorbikes for people in HCMC in particular, Vietnamese people in general, is also quite fluent and convenient, perhaps because it has an open structure and Vietnamese people have a long tradition of *ao dai* (a traditional garment with lower front & back fabric pieces). The rear flap of raincoat will be carefully seated or fixed to the front by motorcyclist. If a raincoat is used by 2 people, the person in the back will cover the rain with the rear flap of raincoat, this also works to fix the raincoat flap to avoid it being too long to get caught in the rear wheel, causing an accident for motorcyclists.

In case someone inadvertently leaves the rear flap of raincoat to fall freely, the surrounding traffic participants can help remind the rider. Ordinary laborers with low economic conditions or who want to buy cheap raincoats will choose full-body polyethene plastic (PE) raincoats with prices from only 5,000 VND to 15,000 VND. This type of raincoat is very light, thin, very small and compact when folded, monochrome or polka dots, transparent, long sleeves, with or without fixed elastic band at the cuff. Its inconvenient point is that it is easy to tear and entangle when riding a motorbike or bicycle, it is impossible to carry a backpack after wearing it because there are no 2 separate flaps, the coverage is not long, so the wearer easily gets wet feet. Among these 2 types, people moving on the streets in central HCMC prefer to choose a thin, full-body and cheap raincoat because it is affordable for everyone, easy to buy anywhere on the road. Therefore, when asked "What kind of raincoat do you usually choose to buy?" Up to 76.7% of people answered "cheap and convenient raincoat,,"20% answered "high quality, expensive raincoat" and a few 3.3% answered "raincoats with famous brands." In addition, when asked

“How much do you usually buy a raincoat?," 46.7% of people answered the price “from 5,000 VND to 15,000 VND," 20% of people answered the price “from 15,000 to 30,000 VND," 33.3% of people answered the price is “more than 30,000 VND." The most chosen answer in the 2 questions above is “cheap and convenient raincoat” and the price “from 5,000 VND to 15,000 VND” is referring to the characteristics of cheap full-body PE raincoats mentioned above. In addition to the 2 main types of raincoats above, there are also full-set raincoats, more expensive over-raincoats and specialized raincoats for specific occupations such as raincoats for military and police.

Figure 1. Left, thin, full-body, cheap raincoat (Binh Tien Raincoat Company, 2021). Center, Two-flap raincoat (Viet Raincoat Company, 2021). Right, a rainwear set (rain suit -including pants and jacket (TopList Joint Stock Company, 2020)

The sale of raincoats on the streets in urban districts in HCMC clearly shows the flexibility in the places of sale, sellers and methods of selling raincoats. From the time it’s going to rain until it rains, raincoats will be sold everywhere on the streets (on sidewalks or in indoor spaces) as long as there is a place to hang them for people moving on streets to see. In the question “If it rains while moving on the street in central HCMC, where do you usually buy raincoats?” 83.3% of people answered “buy at any place that sells raincoats by the roadside," 16.7% of people answered “find the nearest store that sells raincoats." Anyone can sell raincoats, usually vendors on the sidewalk, even motorbike repairmen or grocery store owners. When it was just in the time it’s going to rain, they quickly displayed raincoats for sale. At each point of selling raincoats on the sidewalk, there is usually a large umbrella or a temporary roof so that buyers can stand to wear raincoats. Raincoats on sale are usually cheap, mainly serving the immediate needs of people moving on the road to respond to rain, and thin full-body PE raincoats are preferred. The survey results of the following 2 questions prove that preference. When asked “What kind of raincoats do you usually buy?” 53.5% of people answered “thin material," 26.7% of people answered “thick material” and 20% of people answered “synthetic material." Or with the question “What kind of raincoat structure do you usually buy?” Then 73.3% of people answered “covering the whole body," 23.3% answered “divide into 2 parts” and 3.3% answered “raincoat set (including pants and shirt separate)." The speed, availability, convenience and cheap price are the advantages of buying and selling raincoats on streets in central HCMC. Those who want to buy high-quality raincoats before going out or want to have a wide selection of raincoats can buy in advance at markets, stores or buy online on sales websites (such as tiki.vn, shopee.vn, sendo.vn…) and websites of raincoat businesses.

The process of rain can be divided into 4 phases: (1) when it's going to rain, (2) when it starts to rain lightly, (3) when it rains heavily and (4) when the rain stops. Depending on weather conditions, sometimes phase 1, phase 2 or both phases are missing. In phase 1, people moving on streets may still not wear raincoats because it has not rained yet or they hope that even though it shows signs of about to rain, it will not rain. However, they can still prepare raincoats on their vehicle. In phase 2, there are some people wearing, some people have not yet put on raincoats and continue to move in the hope that the rain will not be heavy. In both phase 1 and phase 2, some people will drive quickly to their destination because they think they can avoid the rain. In the question "When moving on the streets in central HCMC, when will you buy a raincoat to wear?" 32.1% of people answered "when it's going to rain," 35.7% of people answered "when there is light rain" and 32.2% of people answered "when it rains heavily." With 32.1% of people buying raincoats to wear since "it's going to rain," that means 67.9% of people don't buy raincoats to wear at this time. With 32.2% of people buying raincoats to wear since "it rains heavily," that means 32.2% of people will not buy raincoats if it doesn't rain heavily. These figures of 67.9% and 32.2% of people (maybe some people have already bought raincoats before moving) partly reflects the situation that a part of people are quite subjective with buying raincoats to wear when moving on the streets in central HCMC even though it is going to rain or has the light rain. However, in phase 3 when the rain is completely heavy, the wearing of raincoats will officially take place for those who have not yet worn raincoats.

Figure 2. Left, People wearing raincoats move on the central HCMC (Cao An Bien, Doc Lap, 2021). Right, People wearing raincoats in traffic jams in the central HCMC (Le Ngoc Thao, 2021).

When asked "If it rains while moving on the street in central HCMC, where do you usually wear a raincoat?" 76.7% of people chose to pull over to the side of the road to put on a raincoat (in which 50% of people answered "park the vehicle in an empty place on the side of the road to put on a raincoat," 26.7% of people answered "park the vehicle at any place on the side of the road to put on a raincoat"), the remaining 23.3% of people answered "find a sheltered place to wear a raincoat." When it rains heavily, the typical scene often seen on the streets in central

HCMC is that all motorcyclists who have not yet worn a raincoat will pull over to the side of the road and simultaneously step down wearing raincoats. It can be seen that heavy rain is the signal to create that uniformity. It is worth noting that under the impact of heavy rain, it seems that everything will be rushed, but people have a high sense of order. Each motorcycle is lined up in a long line like a comb, whoever wore a raincoat quickly ran away to make parking space for others. This is a rare order on streets of HCMC, a type of conditioned collective reflex, which can also be seen as a kind of collective pattern formed from the long-term interaction with the rain of humans in HCMC. "All over the world, since the beginning of human history, it can be shown that peoples have been able to adopt the culture of peoples of another blood" (Ruth Benedict, 1934:10). When there are certain conditions, they can form common types of reactions, adapt to a certain situation of life where they coexist and suffer the same influences. This wearing raincoats in unison or some aspects of rain induced behavioral culture of people moving on streets in central HCMC are mentioned in the sections below are adaptations formed by this rule.

People on the road can observe the weather with the experiences of the community and the individual to predict the possibility of rain to prepare for wearing raincoats. When asked "How do you know the possibility of rain when moving on the streets in central HCMC?" Immediately 76.7% of people answered "self-observation of the weather and sky to predict the possibility of rain" (the remaining 23.3% of people with other answers will be detailed in the first part of section 4 below). These forecasts may be true or false, but it is worth mentioning that they reflect the human perception that has been drawn up over a long period of time that "human beings exist in the natural environment, develop together with the natural environment" (Tran Quoc Vuong, To Ngoc Thanh, Nguyen Chi Ben, Lam My Dung & Tran Thuy Anh, 2005:26). For example: some people think that if it's going to rain but there is only strong wind or it is still sunny or the sky is pink, there will be no rain; some people think that if the light rain lasts for a long time, it will not stop quickly and will not be able to turn into heavy rain; or if it rains while it's sunny, the rain will stop quickly... Is this way of observing the weather derived from the original agricultural culture of the Vietnamese people, because work in agriculture, it is inevitable that people have the habit of observing nature and predicting the weather themselves? The flexibility in buying and selling raincoats in the analysis above is probably also of this same origin. Even if some people choose to leave their motorbikes at work or a parking space to get home by motorbike taxi, the raincoat is still an indispensable item, they can wear their own raincoats or use the driver's rear raincoat to cover the rain (if the driver wears a 2-flap raincoat). Diversity of vehicles and forms of transportation when it rains (private motorbike, motorbike taxi, bus, cyclo, bicycle, walking) are chosen by people using raincoats when participating in traffic is another expression in rain induced behavioral culture of people moving on streets in central HCMC, contributing to clarifying the flexibility to adapt to the living environment in the rain of people in HCMC.

The Rain Induced Behavioral Culture of People Moving on Streets in Central HCMC in Choosing Places to Shelter from the Rain

When it rains, people who are moving on the road in central HCMC think about wearing a raincoat or immediately looking for a place to buy a raincoat, then run straight to destinations, however, sometimes they also choose a solution to shelter from the rain. People in HCMC, especially in the evening after work hours, in fact most people start to have free time, but when observing them moving in the rain on the inner city streets, it feels like everyone rush, focus on running away to do something like there is no time to shelter from the rain. When it rains lightly or they predict it won't be heavy, they don't need shelter from the rain. This is clearly seen in the survey results from the question "When it starts to rain lightly while moving on the streets in central HCMC, what will you do?" When asked, 40% of people answered "drive quickly to where you need to go," 30% of people answered "find a place to buy raincoats to wear or wear raincoats that are available right away," 26.7% of people answered "continue to move normally because the rain has not been heavy" and only 3.3% of people answered "find shelter from the rain to wait for the rain to stop." However, when asked "If you encounter heavy rain while moving on the streets in central HCMC, what will you do?," The number of people choosing to find shelter from the rain increased, but still lower than the number of people choosing to wear a raincoat with 26.7% of people answered "find shelter from the rain immediately," 66.7% of people answered "find a place buy a raincoat to wear or wear a raincoat that is available right away" (remaining 6.6% of people answered "drive quickly to where you need to go").

People who are planning to leave somewhere at a time when it's going to rain or there is light rain can prepare a raincoat on the vehicle or wear a raincoat, but if it rains heavily, they usually choose to continue staying there, unless they are reluctant to go, the preferred solution is still to wear raincoat or rent a motorbike taxi or taxi. In the case of having to shelter from the rain, the choice of rain shelter for people moving on streets in central HCMC is also diverse and flexible depending on the actual conditions of circumstances and the needs of each person. People who shelter from the rain are often those who do not have raincoats available but do not want to buy raincoats for many reasons, such as: (1) they feel that it is more convenient and quick to run into a place to shelter from the rain; (2) they don't have enough money to buy raincoats; (3) they are afraid to move in the rain, especially in heavy rain, because it is easy to get wet, the streets are slippery and can be flooded; (4) they are having free time and do not need to move in the rain; (5) their bodies are not well, should not move in the rain; (6) they don't like the cold of the rain; or maybe even (7) they like to watch the street view in the rain. Sometimes it is possible to see a small number of people wearing raincoats but still sheltering from the rain for these reasons, except for reason 2.

Le Ngoc Hung stated that "human is not a biological system that reacts passively to stimuli from the external environment [...] Human is a positive personality system capable of creating society, creating himself and the entire human universe" (2015:140-141). In this way, the creation of raincoats with the wearing of raincoats and the choice of places to shelter from the rain while moving on the streets of people in central HCMC can be considered as typical expressions of the positive personality of HCMC people in behavior with rain. In the question "If you have to shelter from the rain while moving on the street in central HCMC, where would you choose to stay?," 33.3% of people answered "anywhere covered," 36.7% of people answered "anywhere covered where no owner is," 13.3% answered "anywhere with shelter but deserted" and 16.7% answered "the places where there are other people are also sheltering from the rain." Any place with awnings, roofs, even at shops that are open for sale, if there is an empty space in front, can become a shelter for people moving on streets from the rain. However, many people rarely choose the area in front of private houses with owners staying at home to shelter from the rain out of a sense of politeness. They can take shelter from the rain in shops because those are open spaces, with many people, with lights, to the extent that it is both safe for people to shelter from rain and safe for shop owners. While private houses are smaller, personal and separate spaces, if sheltered from the rain, it is easy to create wariness and bad misunderstandings between homeowners (even neighbors around those houses) and people sheltering from the rain. The tendency to seek shelter from the rain of people moving on streets in central HCMC is also determined by the trend of crowds, places where many people are sheltering from the rain, if there is still space, they are often sheltered by people moving on the streets, perhaps because of the higher safety in these places. Some people also choose food and drink shops to visit to combine drinking or eating and sheltering from the rain. Here they can just eat, rest, go to the toilet, use the phone and free wifi (if available) for entertainment and can avoid the rain, it's important that they have free time. In general, the choice of rain shelter for people moving on streets in central HCMC, although flexible, still ensures basic safety factors (a bright place, the street frontage, there can be many people sheltering from the rain…), there is still space, not a private house, most importantly, a roof.

Behavioral Culture of People Moving on the Streets in Central HCMC with Consequences During and After the Rain

When rain, sunshine or other natural phenomena are inseparable from human existence, there is always a close relationship between humans and nature, then it can be said that the way people behave with the natural environment to conquer or harmonize, like the behaviors of people moving on the streets in central HCMC with rain, all reflect the behavioral culture of the people there. Rain, especially heavy rain, will cause many disadvantages to people on the streets in central HCMC. When asked "What is the most unsatisfactory thing on the streets of central HCMC when it rains?," 36.7% of people said it was the situation of "being splashed with dirty water by vehicles running around (rainwater mixed with soil, sand, dirt on the road surface)," 30% of people answered "flood situation," 26.7% of people answered "traffic jam," the remaining 6.6% answered that "some people drive recklessly such as speeding, swerving, running through red lights…." Because of such limitations, in the minds of most people on the road, they often do not like the rain, although sometimes they still know it is a natural thing. When asked "How do you feel when you have to move on the streets in central HCMC when it rains?," 76.6% of people did not like it (of which 33.3% of people answered "don't like it because it was wet, dirty, has to move slowly…," 43.3% of people answered "don't like it but find it normal because the rain is a natural thing"), the remaining 23.4% of people answered "feel normal" (13.4%) or "like it because it's cool" (10%).

Some people, even after the rain has stopped, still wear raincoats for a long time because they are afraid that the rainwater mixes the soil and sand on the road following the rotation of the rear wheels of the vehicles in front, splashing on their clothes and bodies. These stains are left for a long time will be very difficult to wash, and if the clothes are dirty, they cannot attend the events they are going to. This can be seen more clearly when large vehicles such as cars, buses and trucks pass by because their wheels will shoot water at people around more, especially in places where rainwater is puddled or flooded after rain. Each time these vehicles pass, they will create strong water waves that knock down motorbikes around. Some drivers are aware of this, so they slow down when passing those places. Another worrisome problem affecting people's moving is that some roads have been dug or sunk due to poor construction quality, creating large and small holes on the roads. These holes, along with a number of sewers on both sides of the roads that are not properly covered, can easily cause people moving on the roads to fall by collision or cannot be observed in time to avoid them in the flood water during and after rain.

When asked "In your opinion, where do the restrictions when moving on the streets in central HCMC usually occur when it rains?," Up to 60% of people choose "all roads in central HCMC," the remaining 33.3% choose "roads in inner city districts but not the central area of HCMC" and 6.7 % of people choose "roads in the central area of the inner city of HCMC." The restrictions that occur on the streets of the central HCMC during the movement of people in the rain (mentioned above) mostly occur on all roads in the inner city districts of HCMC. The roads in the central area of the inner city of HCMC are considered to have few such limitations, perhaps because this is the center of the city, the infrastructure is more focused on investment, the urban management is strictly carried out and people's awareness when moving is also better. The urban area in HCMC is 140.3 km2, although it accounts for only 6.82% of the total area of the city (2,056.5 km2) (Ministry of Planning and Investment, 2020, section 1, paragraph 2, line 1) but the number of people gathered here to live, study, work and play is very large, only the number of people living here is 7,125,497 people, accounting for 79.23% of the total population in HCMC (8,993,082 people) (Population and Housing Census, 2019, lines 12, 14). Therefore, the number of people moving on the streets is also very crowded. If before, the phenomenon of traffic jams in central HCMC only occurred at off-shift hours, rush hours, but now traffic jams are getting more and more severe, almost any time of the day, the roads are also crowded, easy to jam if there is any problem on the road. Traffic jam can be considered a chronic disease in big cities like HCMC, but traffic jams during the rain, especially heavy rain and flooded roads, are really inconvenient for people moving on the streets. If people suffer the scene of moving the vehicle little by little, getting wet or trying to control the vehicle in flooded water, the difficulty of moving in the rain will increase.

However, in that traffic jam scene, it inadvertently creates a beauty in traffic when it rains for people moving on streets in central HCMC: no one tells anyone but everyone is consciously waiting to move, not causing any difficulties for each other. Of course, it is inevitable that there are a few people who have poor awareness or have an urgent need to go, but if they are in this situation, everyone must try to endure, as long as someone honks the vehicle horn to pass, the people around will all turn to look with displeasure. This is when the tolerance of Vietnamese people is best shown. In addition to traffic jams, flooding during and after the rain is also a frequent phenomenon on some roads in the inner city districts of HCMC, especially when the rain is combined with high tide, it increases the situation of deep and heavy flooding such as on Nguyen Huu Canh street of Binh Thanh District, Co Giang street and Calmette street of District 1, Luong Dinh Cua street of District 2, Doan Van Bo street of District 4, An Duong Vuong street of District 6, Huynh Tan Phat street of District 7… Flooding causes many difficulties and damages for people's moving.

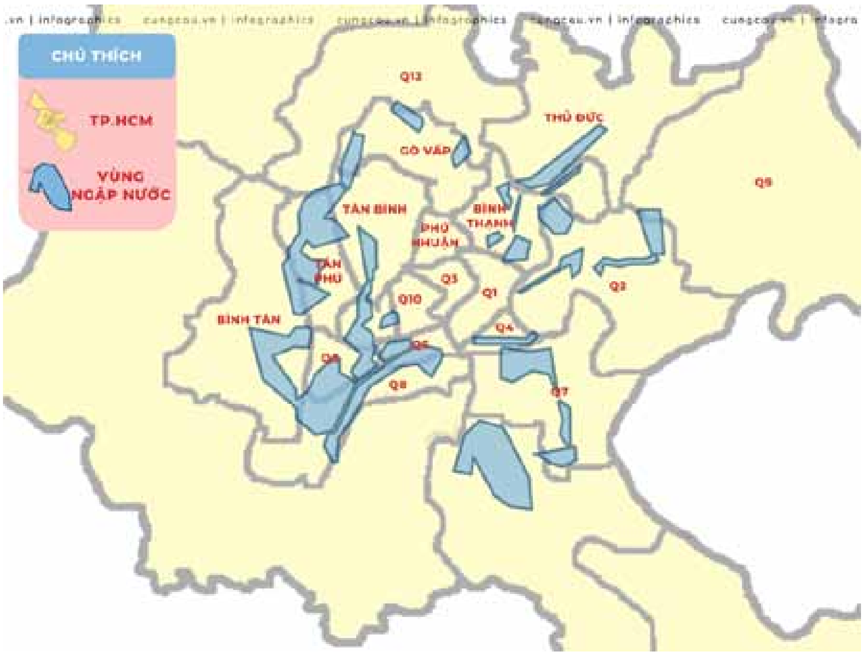

Figure 3. Areas (highlighted in blue) where flooding occurs during rain and high tide in central HCMC (Thuan Tien, 2020).

The acts that violate traffic laws of some people moving on the streets in central HCMC when it rains, such as passing a red light or speeding, not wearing a helmet but only raincoat hat when riding a motorbike or driving while drinking alcohol is not acceptable because they can easily cause accidents involving people around. Particularly for the case of riding a motorbike on the sidewalk when it rains, it should depend on the specific circumstances to assess the level of violation, if the road is small but there is a lot of traffic and it is flooded, a better view may be available. However, people moving on the streets need to be aware that it is illegal behavior and should not promote and consider them as the right thing to do. In the case of the road without traffic jam or flooding, these behaviors will certainly not be acceptable.

Some Discussion on the Impact of Stakeholders on the Street Behavioral Culture When it Rains by People Moving on the Streets in Central HCMC

Although there are now many popular channels of information on weather for the people such as weather forecast programs on television (VTV, HTV...), weather forecast applications on mobile phones, weather news through newspapers, social networking sites... but mostly with the mentality of not worrying too far and the view that "nang mua là viec cua Troi" (sunshine and rain are God's business), people in central HCMC often directly observe the weather to predict possibility of rain when moving on the streets rather than viewing weather information from those channels before going out on the road. Watching the weather directly will be faster and more convenient for moving on the road. So when asked "How do you know the possibility of rain when moving on the streets in central HCMC?" (mentioned at the end of item 1 of this paper), up to 76.7% of people answered "self-observation of the weather and sky to predict the possibility of rain," while only 16.7% of people answered "knowing through the weather forecast information on the mass media" and 6.6% of people answered "know only when it really rains." This is a feature that the media, forecasting agencies and weather researchers should pay attention to choose the appropriate method of forecasting rain for people moving on streets.

One suggestion, for example, should be to conduct large-scale surveys on the current situation, the need to see news about rain on media channels and the ability of people moving on streets to trust such information in central HCMC in particular, people in HCMC in general. Thereby, the management stakeholders such as government agencies, newspapers, non-profit organizations... will have the basis to set out development orientations and measures to attract more attention and trust of people moving on the streets in central HCMC for rain forecast programs. Forms of information about rain conditions to people moving on the streets may include sending text messages, notification messages through weather forecast applications, information on television, on social networking sites. All strategies for the development of rain forecast as well as related weather phenomena to serve the convenience of people moving on the streets in central HCMC should be carried out in a step-by-step process (from research, experiment, official operation to studies to restructure later) to avoid wasting money and effort without achieving effective benefits for society. From the beginning, it should be determined that the development of rain forecast for people moving on the streets in central HCMC is a non-profit job, for the purpose of contributing to ensuring social security for people when staying in HCMC. The rain causes restrictions on the movement of people in central HCMC, somewhat restraining their spending, even spending on roadside shops. Therefore, it is necessary to have reasonable development plans so that people can feel secure about moving on the road even in rainy and windy weather, so they have the mind to spend on social consumption segments (shopping, dining, entertainment, using paid services), thereby stimulating the general development of HCMC.

Rain is an inevitable natural phenomenon, people cannot deny it, but people can choose how to live with it, which is the core of people's behavioral culture with rain. This core is formed from the rule that "man is also natural, in man there is also nature (instinct, innate) and man must always live with nature" (Tran Quoc Vuong, To Ngoc Thanh, Nguyen Chi Ben, Lam My Dung & Tran Thuy Anh, 2005:26). People moving on the streets in countries will have their own way of behavior with rain on the road, some countries like to use umbrellas (like Korea, Japan), some countries like to use raincoats like Vietnam. These behaviors are all determined by the cultural context, social space (directly street space) and all other relevant factors (including infrastructure and superstructure). If the average total rainfall of the whole country in 2019 is 1200mm-3000mm (National Center for Hydro-meteorological Forecasting, 2020:02), the average rainfall of HCMC is 1,979mm. The average number of rainy days per year in HCMC is 159 days (Ministry of Planning and Investment, 2020, item 2, line 4), accounting for nearly half of the total number of days in the year. These figures show the cohesion and important influence of rain in the lives of people in HCMC, it affects and dominates nearly half of their life time in the year. Among the people moving on the streets in central HCMC also have their own ways of behavior with the rain, but regardless of the choice of behavior, the important thing that they need to have is civilized and lawful behaviors when moving in the rain.

In the question "In your opinion, what should be done to prevent the restrictions encountered while moving on the streets in central HCMC when the rain does not occur?," 30% of people answered "every citizen should be conscious of moving on the streets in central HCMC in a more civilized way." Or when being asked "When moving on the streets in central HCMC when it rains, if there is a collision with other vehicles, what will you do?" Then 86.6% of people chose the solution to ignore, do not need to resolve the collision, the remaining 13.4% answered "If causing damage to your vehicle, it will be resolved to the end such as claiming compensation, calling the traffic police, holding responsible." Of those 86.6%, 23.3% of those answered simply "ignore and keep moving" and 63.3% of those answered "If it is a minor collision that does not cause significant damage to your vehicle then will be ignored." This figure of 86.6% shows that the majority of people moving on the streets in central HCMC still value gentle and peaceful behavior when participating in traffic, and do not like the tendency to violence, quarrel or make a big deal, especially during rainy and windy times. This greatly contributes to creating urban beauty, a civilized and healthy lifestyle for the central HCMC in particular, and for the whole of HCMC in general. When asked the reason for that action of "ignoring," 50% of the surveyed people answered "because think they (the people who collide with them) did not do it intentionally, because the rain limits their mobility (such as not seeing the road clearly, slippery roads, roads with many potholes...)," 16.7% of people answered "because of the fear of touching others" and 33.3% of people answered "because it's raining, if you stop to solve the collision with others, there will be negative effects such as getting wet in the rain, wasting time, and possibly causing more traffic jams on the streets." In these answers, we see very clearly 3 main reasons for the act of "ignoring" reflecting the personality of people moving on the streets in central HCMC when it's raining, which is: the fear of touching others, sympathy for each other among people moving on the streets, the fear of making the streets more congested. According to our assessment, these are their positive and good personalities. Although there is still a personal reason that is the fear of wasting time, fear of getting wet in the rain, but this is a completely convincing reason in the uncomfortable situation from the weather. According to the understanding that "urban is like a living body, in which the roads are the lifeblood for the body parts" (Tran Ngoc Khanh, 2018:56), it is clear that civilized behaviors on the streets in the rain of people in central area will contribute to building an overall good lifestyle in HCMC, aiming for a city worth living, civilized, polite and gratitude. This also takes time to realize extensively and comprehensively, cannot be achieved anytime soon when people on the streets in central HCMC come from many different regions, the diversity of population leads to the diversity in their behavior with rain.

Tran Ngoc Them commented, "urban is characterized by a large number of people […] In a society where the number of people is too large, people hardly know each other, the foundation to maintain social stability should not be sentiment, morality, but it must be laws, regulations, and rules. The law is decisive factor for the order of urban society" (2013:200). Accordingly, the law will play an important role in shaping the behavior of people when moving on the streets in central HCMC during the rain. However, Ruth Benedict took the opposite view when said that "society is only incidentally and in certain situations regulative, and law is not equivalent to the social order" (1934:182). Combining these 2 perspectives, it can be generalized: the law is one of the factors that shape the human behavioral culture when moving on the streets in central HCMC in rainy weather, in addition, it is also necessary to have the awareness of individuals and the community while on the roads, especially in the context of society in Ho Chi Minh City, there are still many people who do not consciously respect the law. HCMC is in a transitional period with the whole country, so perhaps it is necessary to accept a step-by-step change in all aspects of life, and cannot be reluctant to achieve everything immediately because it is easy to cause negative consequences. When the traditional cultural values influencing the lifestyle of people moving on the streets have a common voice with modern legal values, then it is possible to achieve consistency in their behavioral ways without being forced to pray in the rain induced behavioral cultural context in central HCMC.

In order to make moving in the rain of people in central HCMC more convenient and that behavioral culture in moving becomes beautiful, progressive, in accordance with the policies and laws of the Vietnam government, it is necessary to have impacts from the authorities of inner districts in particular, the city authorities in general. Also in the question (mentioned above) "In your opinion, what should be done to prevent the restrictions encountered while moving on the streets in central HCMC when the rain does not occur?," 20% of people answered "Authorities at all levels in the city need to arrange more police forces to regulate traffic in central HCMC when it rains, especially in places where traffic jams or flooding often occur," 43.3% of people answered "Authorities at all levels in the city need to upgrade and repair the quality of roads in central HCMC" and 6.7% of people answered "all of the above solutions" (including the solution "every citizen should be conscious of moving on the streets in central HCMC in a more civilized way"). Accordingly, authorities at all levels in the city can arrange traffic police,

police, militia, and even people to voluntarily live in quarters to go to places and routes that are often crowded with traffic and jams, flooded or prone to accidents in the central city to regulate traffic, penalize drivers who break the law to deter those who are intending to act similarly. If the force is large enough, it can be arranged on all roads, thus supporting people more effectively. On the other hand, it is necessary to quickly research and implement measures to thoroughly combat flooding during and after rain; to soon complete the works of roads, bridges, clean roads and sewers for the convenience and safety of people's moving in rainy weather.

On the side of people on the streets, it is necessary to raise the awareness of participating in traffic on the streets in central HCMC during periods of rain, for example: complying with the general regulations of the law such as not speeding or passing red lights in the rain, not stopping on the crosswalk when red lights, not overloading, not drinking alcohol and always wear a helmet when driving; obey the signals and instructions of the traffic conductors; keep a certain distance from large vehicles to avoid being hit or splashed with dirty rainwater; do not honk the horn when everyone is unable to move in the traffic jam or flooded. At the same time, do not throw rubbish indiscriminately, especially the preference of disposing of rubbish right at the mouth of the sewer should be eliminated to both keep the streets clean and make it easy to drain rainwater on the road. In this respect, as Tran Ngoc Them writes, "to effectively overcome the arbitrary habits, it is necessary to start not with education or building civic consciousness, but from the legal awareness and law enforcement" (2013:201), so in addition to the self-awareness of the people, there is also a need for strict legal regulations. In addition, the city needs to arrange a system of trash bins with reasonable distances on all roads in central city, manage and clean those trash bins so as not to cause bad odors or trash to be dumped on the street when it rains.

The good behavioral culture on the streets when it rains of people moving on the streets in central HCMC can also be expressed in the act of slowing down vehicles when passing through stagnant water or flooded places during and after rain to avoid splashing dirty rainwater or knocking people around. Pedestrians on the sidewalks wearing raincoats or holding umbrellas should pay attention to avoid falling because the sidewalk is slippery, avoid collisions with motorbikes running on the sidewalk because the road is jammed, should not go near the edge of the road for their own safety and to not be contaminated with rainwater from passing vehicles, pay attention to the height and low of the umbrellas when moving to avoid collision with other pedestrians or objects on the sidewalk. A recent situation that has also caused some loss of life and property is the falling of trees on the roads. When it rains, especially heavy rain with strong winds or under the influence of storms, people should move slowly or seek shelter from the rain. If anyone has not been on the streets, should stay where they are to avoid the trees on both sides of the road or on the median lines falling, being broken into the body. If find that there is an accident on the road during the rain, people can join those around to give first aid or assist in calling an ambulance as much as they can, however, it is necessary to pay attention to self-preservation of personal property in this case, and take care to avoid getting a fever from standing under the rain for a long time.

In order to ensure that cultural achievements and social progress in large cities like HCMC can be continued to be maintained and developed, it requires cooperation from all stakeholders in process of living in HCMC. This cooperation must take place simultaneously in all aspects of the life of HCMC, which of course includes the behavioral culture with weather, such as rain, of people moving on the streets in central HCMC in particular, the whole city in general. Therefore, although knowing that the authorities at all levels of HCMC are responsible for finding enforcement solutions to the remaining restrictions on the streets when it rains in the central city, but the city still needs support from the people in building the civilized lifestyle, the conscious of complying with the law while on the streets. The positive traditional cultural characteristics of Vietnamese people such as the spirit of mutual affection, patience, tolerance... need to be promoted and transformed from within the spirit into external actions of every people on the streets when participating in traffic during periods of rain in central HCMC for general development of social life in HCMC.

Conclusion

The degree of rain from small to large, from a state when it's going to rain until it rains and the consequences after the rain all affect the behaviors of people moving on the streets in central HCMC. People here have been behaving with rain along with the surrounding environment in the rain very flexibly, diverse in aspects in order to best adapt to the living environment in the rain. In the civilized and modern context of urban districts in big city like HCMC, there is still the appearance of behavioral culture bearing the spirit of agricultural original people. However, it is not possible to attribute all methods of behavior with rain by people moving on the streets in central HCMC to this agricultural original culture, as it would be contrary to progressiveism. Moreover, the hurried and pragmatic industrial lifestyle, along with the urban civilization of the current market era, increasingly affects the behavior of people on the streets in central HCMC, making flexibility in their behavior with rain is increasingly evident and diverse. In such cultural context that both traditional and modern, their behavioral culture with rain should be seen on the basis of having originated from the agricultural lifestyle of the Vietnamese people and being developed and strengthened under the influence of the modern environment in HCMC.

People living in the same country in the way of behavior with rain, in addition to common characteristics, still have specific characteristics that are determined by the socio-cultural environment in which they live, this even happens in different areas of the same city. The rain induced behavioral culture of people moving on the streets in HCMC will be more clearly identified when observed in the inner city districts of the city. Although it has only been 45 years since HCMC was officially named, but the rain induced behavioral culture of people moving on the streets in central HCMC is absolutely worthy of study for the following reasons: (1) HCMC is the most populous city in Vietnam, in which the central city is densely populated, people moving on the streets here come from many different places, so their behavioral culture with rain also diverse, both old and new, is set on the common basis of the street scene here. (2) All phenomena, whether the smallest or the shortest in life, but having a certain influence and impact on human life are worth studying, let alone here the rain has an significant influence and impact on the daily life of people in HCMC. (3) Studying the relationship and behavioral ways between people on the streets and the rain in areas in HCMC such as the central area will help to better identify the culture of people in HCMC, contribute to the planning and implementation of policies for the development of living environment in HCMC.

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Live Music Performance Business in the Wind of Change:

A Case of Popular Music in Thailand

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Abstract

The objectives of this research were to study the factors affecting both the support and hindrance of the live performance business in popular music in Thailand during 2007 - 2017; to classify Thai consumer groups for popular music concerts, and to investigate the adjustment strategies of business operators in Thailand during that period. This research was conducted using mixed methods. The data was collected from three sources, which are in-depth interviews with five executives from Thailand's most reputable concert promoters, synthesis of news content during 2007 - 2017 and survey techniques using a questionnaire with the audience of 241 Thai concert participants. The results showed that the live popular music performance business in Thailand was complicated because of four important business factors, which are politics, economics, technology, and consumers. These factors motivated Thailand's concert promoters to find ways to adapt themselves to a competitive business environment. There are three adaptation strategies for survival in the business. This study provides knowledge for sociologists about the crucial situations that other developing countries may be facing in organizing concerts. Furthermore, it aims to be helpful for entrepreneurs, especially concert producers and event organizers, to apply the various strategies stated in the study for future use.

Keywords: *Live Music, Live Performance, Popular Music, Concert, Thailand*

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Introduction

In urban cultures, popular music concerts are one of the vital elements (Hoeven & Hitters, 2019:263) which are understood as a valuable asset because they not only fulfil the intrinsic value, such as joy, pleasure, emotional stimulation and meaning (Hoeven & Hitters, 2019:264), but also provide an economic impact on the music industry. There has been a consistent increase in the concert organization business in Thailand. It can be noticed from the first half of 2020 that concerts from both Thai and international artists are occurring at a rate of up to 24 (Thaiticket Major, 2020). Although all of them were cancelled due to the COVID-19 outbreak, it still reflected the growth of concert organization which resulted from changes in the music business for many years. IFPI (2019:13) reports that since 2004, there has been a weak signal of decreasing income from physical purchases and that signal has been stronger from 2007 until 2018, affecting many record labels trying to produce more live concerts in order to substitute the income at this moment (Rondán-Cataluña & Martín-Ruiz, 2010). Additionally, it is found that the growth of foreign artists' live music performances is obviously increasing, which might result from the economic recession around the world. Consequently, foreign artists have to expand their customer base and search for more income outside the country, together with the growth of technology that gives consumers access to international music easily and affordably. For instance, in the case of YouTube growth, it provides the ease of music consuming, creating, and sharing to people (Cayari, 2011:2). Those do not include digital music downloading that gives an impact on the music industry in positive and negative ways. This shows that concert performance is one of the main means that generates income to artists at all levels, regardless their level of fame.

The years 1983 to 1997 were considered the golden era of Thai music business. Conversely, it became the opposite from the year 2007, resulting in the business having income from live music performance since then (Pichaipat, 2010:162-163), as also happened in western countries. Meanwhile, PWC (2017:24) indicated that in 2017, the music business in Thailand would turn out better, especially in the field of live music. It was a sign of the end of the aforementioned business struggle. Therefore, this research focuses on studying the movement and adaptability of entrepreneurs during 2007- 2017.

As mentioned above, live music performance is a major way to create income, it influences the increasing competitions in this business consistently. During that decade, many unexpected incidents occurred, starting from the global great recession in 2008 from the matter of the subprime mortgage market in the United States (US); in Thailand, the great flood crisis in 2011, the political issues in 2014, and to the change of Thai reign which adheres with the old tradition and culture, which only is found in some Asian countries. To understand the situations in the live music performance business in Thailand is not only to provide knowledge to the entrepreneurs in the country, but also to explain the uncertainty of this business as well. To learn all the business supports and barriers from the past is to learn how to cope with those factors. It could be essential knowledge to people who are associated with live music performance production business in every area, and it can be said that learning the past can predict the future (Döhrn, 2006:17). Especially, popular music; that is mass produced, mass marketed (Kuhn, 1999:754), generally treated as a commodity (Kulczynski, Baxter & Young, 2016:240), a favorite music genre in Thailand (Leesa-nguansuk, 2019), which contains a variety of sub-categories, including rock and roll, pop, rap, bebop, jazz, blues and many other genres (Connolly & Krueger, 2005:2), and changes according to the time period (Borthwick & Moy, 2004). It means that being aware of the market situation is absolutely necessary.

The previous research studies in live music performance business found that the study about concert performance or live music performance has been popular for a long time (such as Schultz, 2009; Westgate, 2020; Kruger & Saayman, 2012; Mhiripiri, 2012). However, the studies which reflect the holistic management of live music performance business during the business crisis period were not found, especially in countries located in Southeast Asia, which is a rising star in the global market (Hicks, 2019). This research aims to answer the three significant questions: 1) in the period of 2007 to 2017, exploring the supporting and hindering factors that the live music performance production business in Thai popular music encountered and their effects; 2) determining whether Thai consumers who attend popular music concerts can be classified into a group or not, and 3) determining how entrepreneurs in the live music business, popular music genre, adapted with strategic terms during the past period.

Literature Review

Chaos Theory

Chaos theory is developed from the study of Lorenz (1963) which focuses on the study of the changing, complex and nonlinear system. The study reflects that when any actions happen repetitively, the results will be slightly different. Finally the chaotic system happens. As same as Doherty and Delener (2001:69), they identified the attributes of Chaos theory as mentioned above. It includes behaviors and interactions of the agents who are in the system. Additionally, it presents the sensitivity of a complex system, which means if there is any change in the internal or external conditions, it might greatly affect the particular organization. Change happens all the time. It is hard to predict and control. Especially, in the field of social science, various social factors are found to interact with each other, which makes the results greatly different (Levy, 1994:168). As a result, it drives even more the occurrence of business adaptation in order to survive (Burgelman, 1991:239). Chaos theory plays an important role presenting the alternatives, in which the executives understand that in complicated situations, the occurred result might not be the only one. Furthermore, the executives need to have information that is important, relevant, and sufficient (Mina, 2012:32).

Levy (1994:170 - 171) viewed the connection between chaos theory and organizational strategies utilized in the situations in a chaotic system that can be numerous due to the following facts. First, long-term planning is extremely difficult, because it is necessary to predict the future situation and all possible scenarios must be presented. Second, it is hard for the industry to reach stable equilibrium because any decision would bring about changes anyway. Third, dramatic change can happen unexpectedly, and organizations sometimes underestimate the actual impact of change that might occur in the industry. Fourth, short-term prediction can be done since the chaos systems might contain the repeated actions which are still predicted.

Owing to the rapidly changing environment, the existence of long-term competitive advantage is impossible which Cooke, Appel-Meulenbroek & Arentze (2019:171) called a transient competitive advantage. In order to maintain the advantage in the competitions, organizations must adapt consistently.

Organizational Adaptability

Business adaptation is the heart of business operations in this present world, which is complicated, fluctuating, and unstable. According to the world's rapid change, entrepreneurs have to either adapt or die, either eat or be eaten (Denton, 1998:83; Burgelman, 1991:253). Although changes always occur, no one can accurately predict the impact of change, so resilience is essential for survival (Denton, 1998:83).

There are a few clearly given definitions of the word 'adaptability.' Boylan and Turner (2017:186) concluded that 'adaptability' is a change in the behavioral attribute with the innovative or creative methods for predicting or responding to the environmental change in order to solve the problems appropriately. Additionally, it can be seen that adaptability is found in all levels of individual, team, or even organization (Nkurunziza, Ntayi, Munene & Kaberuka, 2018:64; PiÓrkowska, 2016:256). The final goal of the adaptation at whatever level is to overcome the occurring obstacles and challenges as well as to improve the organization in order to reach an achievement (Boylan & Turner, 2017:194).

Even though business adaptation is extremely necessary, the music business responses to the technology change very slowly. There were signs of change that had occurred since the beginning of the 1980s, the collaboration between Philips and Sony for opening the business of compact discs (Ulrich, 2011:7) to replace vinyl, followed by the era of the drop-off in the sales of physical music entering the age of digital music files that heavily caused piracy problems. Until 2018, the first time that the growth rate of the global music market reached its highest, up to 9.7%, since 1997 which the IFPI has started to follow the market up to now (IFPI, 2019:12). It takes 20 years for people who are in the music business to adapt and accept the changing world, while the changes often occur from the fringe or out of the music industry, such as with Apple's iPhone or Amazon's e-commerce business model, instead of happening from within the music industry itself (Ulrich, 2011:19).

Methods

In-depth Interviews

This research uses in-depth interviews with five executives from famous companies who are promoters of popular music concerts of Thai and foreign artists in Thailand. The interviewed executives are between 25 - 45 years old, with their experience in the business between 5 - 15 years. The interviews were arranged and conducted from February to April 2018.

Documentary Research

This research uses content synthesis from the news appearing in Thai news databases during 2007 to 2017, using both Thai and English keywords which are 'concert,' 'live concert,' and 'live music'; also, 162 selected news articles were used.

Survey Instrument

The data were taken from a survey conducted between January to March 2018 among the 241 respondents who were more than 18 years old and purchased at least one concert ticket in the past year. Only popular concerts in any popular music genre were investigated, meaning small places like pubs and bars are excluded. This questionnaire comprised questions about the demographic characteristics: the participants' behaviors of live music performance visiting; the customers' needs in visiting live music performance in the period of next one year; the tendency of behavior occurrence in the future, and their responses to the marketing strategies referring to the marketing mix concept.

Results and Discussion

According to the study results, the combination of data from both qualitative and quantitative research techniques were analyzed. The qualitative data gave the picture of the business situations of Thai concert performance production as well as the adaptation used by the entrepreneurs in order to survive during the period. The quantitative data, collected from consumers, will be presented in order to reflect their needs and behaviors towards the business. The study results are presented below.

Figure 1 presents the timeline of popular music concert business situations in Thailand during 2007 - 2017, which combine both the synthesis of news and the interviews of five executives in this business directly. It can be said that the concert performance production business in Thailand rarely has a sweet moment throughout those 11 years. Competitions in this industry, in Thailand, have been consistently intense, having new players entering and exiting all the time.

Apart from that, Thailand encountered economic recession from 2007 to 2017. There was only a short time that the economy appeared to recover during 2010 - 2013. Furthermore, Thailand experienced sensitive political issues for so long from 2007, and faced the Thai coup d'état in 2014. For 11 years, Thailand has encountered various events occurred in each year. The K-Pop trend continuously took a long time from 2007 to 2011, and gradually decreased until 2017. Although Korean artist concerts are still organized, they do not seem to be as popular as they once were. Meanwhile, sponsors have changed their behavior from constantly supporting concert promoters to limiting their budget; until eventually, big sponsors have changed their role to become concert promoters themselves in order to secure their business. Finally, concert promoters have to shift the market target from their consumer or B2C (business to customer) to organization market or B2B (business to business).

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
- Concert of K-Pop was popular - Music piracy due to digital file - Baht currency depreciation - The increase of independent artists	- K-Pop - The growth of digital music and musical theatre - Budget limited by sponsors	- K-Pop - H1N1 outbreak - Budget limited by sponsors	- K-Pop - Online and social media booming - Budget limited by sponsors	- K-Pop - Consumer behaviors were changed entirely - Sponsors arranged concerts by themselves - Great flood - Baht currency appreciation	- K-Pop trend was decreasing dramatically from this year	- Music marketing was focused - Technology on performance stage was focused - The demise of Supreme Patriarch	- Recession of concert business due to political situation - Various radio stations were in the business	- Economic stagnation of concert performance production business continued from 2014	- Consumers focused on online consumption - Thai artists preferred producing a single than album - The demise of King Rama IX - Concert digital downloading	- New operators in the market
Economic Political Competition	Economic Political Competition	Economic Political Competition	x Political Competition	x x Competition	x x Competition	Economic Political Competition	Economic Political* Competition	Economic x Competition	Economic x Competition	Economic x Competition

x = the absence of aforementioned issues' references during that year.

Figure 1. Timeline of the business situation of popular music concert in Thailand during 2007 – 2017 (Source: Author). Note: x = the absence of aforementioned issues' references during that year.

According to entrepreneurs' views, the concert organizing business is not easy. One of the key informants pointed out that the success rate in concert production can be classified into 2:2:6. The first 2 means the concert is successful; the second 2 means the concert makes neither profit nor loss, and 6 means the concert is at a loss. Moreover, some promoters have to stop the concert before it happens. This response was similar to a key informant explaining that people who actually arrange concerts and gain profits are counted as not more than 5% of the total concert promoters. However, though the business is risky, the entrepreneurs see that it is a valuable business if they move in the right direction.

The overall growth of the industry tends to be better when the market revenue approximately reaches 100 - 130 million USD during the periods. It was found that the growth rate, evaluated from the total number of live music concerts in Thailand, increased around 20% each year, but the received profits did not increase accordingly. Even though there are concerts with new contents and styles that should be able to push the market to grow, it is not growing enough as expected because of the limitation of customers' purchasing power. It might be an effect of having more big concerts, including concerts of worldwide popular artists. Therefore, the average number of concerts per year has sharply increased, but the profits of each concert have decreased due to customers' scramble among concerts. Part of this might have occurred due to the loss of revenue in which the physical music product is a pusher to create an increase in the number of live performances of the artists. This situation had been happening in the United States as a result of sites like Napster, and the overall entertainment industry piracy phenomenon, which caused massive damage to music business revenue (Mortimer, Nosko & Sorensen, 2010:3).

In 2017, the trend of electronic music in Thailand has increased significantly. The key informant stated that it is because going to clubs and bars is not fun as it used to be. The law requirements, for example, determining the opening and closing time strictly, or limiting the age of night entertainment places' visitors, caused the change. This information has been confirmed with the study of Waevsamana (2017). It found that Thai Gen-Y consumers, who loved to attend EDM (electronic dance music) music festivals, spent 125 - 172 USD per event. They loved dancing, dining and drinking. This reflected the replacement of the nightlife with the attendance of music festivals. Although EDM sounded popular in Thailand, it was still less popular than it was in the neighboring country markets, such as Vietnam and China. They held EDM music festivals with a greatly higher number of visitors than Thailand.

The Factors Affecting the Popular Music Concert Business in Thailand

Figure 1 shows that there are numerous environmental factors associated with the concert business. But only four major factors have a strong impact on the business. The first factor is the economic recession; the second is the political conditions that lack steadiness and stability, and the third is technology shift. The first three factors play an important role in changing consumer behaviors, which is the fourth factor, significantly. Mulins and Walker, Jr. (2013) reflected those four factors as the macro-environment of the business used for measuring the interest of the market and business. However, if the marketers can analyze and predict the tendency of the macro-environment well, it can be acknowledged whether the particular business is still interesting or not. The four factors still affect all people who are involved in the business, including sponsors, music record labels, artists, operators, and entrepreneurs who finally will be pushed to learn to adapt in order to survive. Ulrich (2011:17) claimed that the technology factor is important in the business. It is a factor that entirely changes institutes and socio-economic situations. Apart from the aforementioned four factors, another phenomenon in Thailand that other countries might never encounter is the pause of the entertainment activities during the demise of important people in the country. In this case, the absence of the concert would be extended from a month to a year. As a result, promoters had to adapt properly in this situation. For example, as other types of music were not allowed, arranging concerts with royal music composition could be carried out for the particular time.

According to the chaos theory, it identifies the complicated forecasting in business due to various variables or related factors. The interactions among them may happen infrequently. Entrepreneurs have to solve specific problems instead of planning, which is called "Nonprogrammed decision" (Mina, 2012:29). The situations throughout 11 years change the landscape of the business and the associated people that will be mentioned in the next topic.

The Major Associated People in Popular Music Concert Business in Thailand
The facts about concert business in Thailand can be presented by classifying the main relevant people in the industry: consumer groups; promoters; sponsors, music record labels; artists, and operators. Although the general live music network might consist of venue, audience, promoters, artists, managers, and agents (Brennan & Webster, 2011:4), the study results showed that the key partners, who are involved in Thai concert production, are identified as follows:

Consumer Groups
Consumers play an important role in the business as the main blood vessel of an organization (Hadi, Abdullah, & Sajilan, 2015:252). The tendency of Thai consumers is to willingly pay for their tickets with the increasing price. Meanwhile they have to plan to save their money in advance because the purchasing power of Thai people is limited. Thai consumers are still more likely to visit Thai artist concerts than foreign artist concerts. The consumers are also difficult to please. They care about visiting trendy concerts. But if there are more arising, they would lose interest. The fact is that they want to make a difference by avoiding trendy events in order to be admired as special. Additionally, consumers choose more wisely than before. They would visit concerts that they feel most worthwhile, most favorable, or never been to before. Among concert varieties, the consumers would select the most appropriate choice for themselves.

Referring to a survey of Thai consumers, it is found that they are interested in many genres of music. The first top three ranks are Pop-music (26.2%), R&B

(19.3%), and Rock (12.9%), respectively. Most customers that go to popular concerts are from the Bangkok area. A key informant stated that concert touring in some major up-country provinces, such as Had-Yai and Chiang-Mai, is an attempt, because it is not successful. Exceptionally, adults, about 35 years old, are the prospect target. Although they live in up-country provinces, they have high purchasing power.

The data collected from the questionnaire shown that most participants were female, 147 people (60.7%), aged between 21 - 26 years old (43%), earned monthly average income around 562.5 USD (56.5%) ($1 = 32baht), and visited concerts once a year (43.4%) in average. Moreover, the median of ticket price was around 46.88 USD; the average is around 67 USD (S.D. = 44.26). The results discovered that 41% of the sample preferred buying tickets for Western artist concerts because foreign artist concerts were increasing from the last few years, followed by 39% of Thai artists, while Asian artists were 20.1%. In the consumers' views, visiting concerts is a reward for themselves after a period of hard-work. It was also an activity that they could join with friends or family members. According to this, it is agreeable with the questionnaire's results that the consumers visit concerts for three major reasons: 1) the need to support their favorite artists (39.3%); 2) the need to be relaxed (27.3%), and 3) the need to do activity with friends and family (16.5%). Concisely, it reflects that the consumers literally do not want to only consume music, yet they want to acquire their emotional benefits from visiting concerts as well (Westgate, 2020).

In the past, Thai consumers went to concerts to meet artists because it was very difficult to see them in real life. Currently, they expect more from the shows. The survey results showed that the consumers' desire to visit a concert with modern technology is 31.5%; they can joyfully dance is 17.8%. Apart from those, they tend to go to the ones that provide them a better social status, for instance, posting the activity in Facebook while seeing Bruno Mars concert makes them feel like they are in the upper class of the society. This perspective reflects how much the consumers increasingly pay attention to the perception of the society and surrounding people. According to Kotler, Kartajaya, & Setiawan (2017), consumers currently give more importance to F-Factors, which include Friends, Families, Facebook Fans, and Twitter Followers, than any other marketing communications. They care about others' opinions toward what they do.

For the market segmentation in the concert market, it can be considered from the artists on stage, since the artists are the ones determining who should be the market target in the particular music performance. The key informants presented an interesting concept. Here are some examples. When choosing Korean artists, they want to get diverse customers who mostly are female, between 15-50 years old, and mainly are in secondary school. When choosing Japanese artists, the customers, called 'Otaku,' are usually male from secondary school to working age. If choosing indie artists, the target group will often be university students. If choosing Western artists, such as Justin Bieber and Ariana Grande, the target group will be teenagers, between 15 - 25 years old; if choosing Madonna or Britney Spears, the target group will be LGBTQ. If choosing EDM concerts, the target group will be first jobbers or over the age of 20 years old.

In regards to quantitative data, it is found that Thai consumers can be classified by their favorite artists. The K-means Cluster Analysis, an unsupervised method, was used to find a relation between examples under any determined variables (UC Business Analytics R Programming Guide, 2018) using five categorical variables, which are concert ticket price and four aspects of marketing mix. As a result, Thai concert consumers are categorized in three groups with the details of the test displayed in Figure 2's table.

Variables	Cluster			F
	1 (n = 91)	2 (n = 57)	3 (n = 93)	(Brown-Forsythe)
Cost (mean score)	0.563 (86.2)	-0.31 (47.57)	-0.36 (45.31)	(29.789)
Product (mean score)	-0.08 (4.25)	-1.13 (3.45)	0.79 (4.93)	(108.641)
Price (mean score)	-0.15 (4.06)	-1.00 (3.14)	0.77 (5.06)	109.97
Place (mean score)	-0.11 (4.38)	-0.97 (3.52)	0.71 (5.21)	87.297
Promotion (mean score)	-0.06 (4.31)	-1.09 (3.39)	0.74 (5.02)	119.131

Figure 2. Table of the mean group differences between variables (score comparison).

When analyzing the difference between groups in non-continuous measured variables with Chi-Square and Monte Carlo, it showed that the first consumer group, 91 people, are willing to pay for the most expensive concert ticket, average 93.75USD per time. They admire Asian artists, purchase tickets on the first day of sale with a desire to visit concerts and to support the artists at a level of .05 statistical significance.

Meanwhile, the second group, 57 people, pay an average of concert ticket price around 51.86 USD. This group gives less priority to the four aspects of marketing mix compared to the other two groups. They prefer Western artists, and go to trendy popular concerts.

The third group, 93 people, prefer to pay for the lowest price of concert tickets, or around 48.75 USD on average. Additionally, this group gives the most priority to the four aspects of marketing mix compared to the other two groups. They prefer Thai artists, and attend concerts for relaxation.

The clarity of the aforementioned customer groups perceptibly reflects the types of artists they are interested in, which agrees with the research of Van Eijck (2001), who found that popular music consumers are usually young. However, the difference in genders, careers, or interests in legitimate culture are not found. While the marketing mix was used to study the factors that motivate consumers to watch live music performance statistically, appeared in the work of Manners, Saayman and Kruger (2014), showing that general management venue, event technology, convenience, marketing promotion, and easy access to concerts are the core reasons that consumers use to decide to visit a concert. Furthermore, from that research at the time, it was also found that the marketing factors played an important role with the popular music consumers more than consumers of other music genres, especially classical, rock, and blues music.

Promoters
In Thailand, there are few major players in the popular music concert business. They can be classified into four categories: 1) indoor showbiz, dominated by A-Time media group; 2) outdoor festival, dominated by Gan 555 Company Ltd.; 3) EDM concert, dominated by Zapp Entertainment, and 4) Imported concert,dominated by BEC-TERO Entertainment.

The revenue of concerts is from sponsors and ticket selling. Therefore, the selection of artists affects the purchasing decision of sponsors and consumers. In the current situation, promoters have increasingly imported foreign concerts that customers want to see most. Nowadays, importing concerts can be done easily. Meanwhile, BEC-TERO Entertainment, a long-established famous promoter company, has formed a partnership with Live Nation Entertainment Company, based in Los Angeles. Thereby, the negotiating power in famous international concerts has increased. Artists are able to perform within a region or for many countries at a time, which also saves the overall expense as it will be divided.

Concert productions in Thailand often use the same operators of the same associated partners and suppliers, up to 80%. Entrepreneurs or promoters usually choose people they are familiar with. One of the key informants, a new generation in this business, viewed that this kind of issue obstructs new young people to grow and limits opportunity for other people who might gain knowledge and ability to create concerts in Thailand. However, working with people in their connections makes promoters feel confident in the quality of work. They can spend their time on finding ways to create revenue. For business networking, it is important for the organization's success, especially in small and medium enterprises (Murwatiningsih, Oktarina, Wahyuningsih, & Murniawaty, 2019:36).

The competitive situation since 2007 has still been increasing. There are plenty of promoters as well as the influx of foreign artists to perform concerts in the country. The key informant pointed out two causes of the increase in players in the business: 1) the music and entertainment business is attractive, and 2) the current technology can easily operate and arrange small-sized concerts with extremely lower cost. Because of the abundance of players in the concert production business, the chance to lose is growing, and a lot of promoters are leaving. Another dangerous problem from having many competitors is the use of a pricing strategy that destroys the market. Especially the distribution of free tickets, which causes long-term disadvantage to the market. Also, when customers have too many choices with the same purchasing power, they become sensitive and concentrate on the availability, attractiveness of alternative brands, and substitute products (Mullins & Walker, Jr., 2013). Nonetheless, the positive effect is that it helps stimulate the market to stay alert and keep provoking the old players to be more creative. This can make customers understand the culture of attending concerts more by having a variety of concerts.

Sponsorships

It is a very difficult time to seek sponsors due to the effects from economic recession and the increasing number of concerts. In addition, seeking sponsors in Thailand mainly depends on their connections. At the same time, major sponsors have changed their role to be concert producers themselves, such as large alcoholic beverage manufacturers. They have learned that producing concerts by themselves requires the same budget they used to spend to sponsor concert promoters. Since they do not aim for revenue from producing concerts, they only would like to establish experience to consumers under the same budget. The key informants indicated that in the past, major sponsors would contribute approximately 70 - 100% of the concert cost. In the present, 10 - 30% of financial support is difficult to find; in the worst case, some concerts do not even have a sponsor, which means the revenue is from ticket sales only. The aforementioned situation has been consistently happening since 2016.

Music Record Labels and Artists

The change and adaptation in the concert industry has partly been affected by the actions of music record labels and artists. For years many artists have left the music record labels to become independent artists to create the opportunity to be on stage with other artists from the main music record labels, unlike the past when a concert would be performed by artists from one music record label only. Apart from those, new-faced artists can easily be known via social media networking. Although they can popularize themselves as an artist in their channel, it is not easy to be a superstar. Without superstars, there are no concerts that can attract customers to attend as they did in the past. Moreover, artists currently prefer to produce a single rather than make an album. The results are that artists do not have enough songs to be solo on stage. Thus, gathering a number of formerly popular artists has grown in popularity, this style is commonly called 'reunion concert.' On top of that, Thai music record labels also push their artists to perform live music in pubs, bars, and restaurants, which causes the ease to approach Thai artists for consumers without having to pay for concerts. As a result, the motivation to attend paid concerts is reduced. At the same time, foreign artists with a large fanbase will help establish the advantage to promoters since there are foreign customers, who travel to Thailand in order to visit the concert. Many countries in Asia might reject performances of some international artists, providing the opportunity to support Bangkok as a music city, especially in case of Bangkok has been picked as one of the world's most popular tourist destination for many years (Boonpen, 2019).

Operators

During this particular period, there is only one major ticket operator in Thailand, Thai Ticket Master. There are few competitors in the market but not very famous.

Promoters who present small concerts, around 1,500 – 5,000 seats, turn to direct ticket sales through websites or online social media. However, if it is a large concert, with 10,000 seats or more, or an event that requires seat number identification, the operator would run the ticket sales system. The heart of choosing operators is to consider their operation system that should be stable and difficult to go down. Regarding this, it is because the key informant has had the lessons of having non-expert operators who offer lower compensation, but their ability of running the system is not excellent, compared to the major operator.

Following the theory of chaos, entrepreneurs should leverage the information for generating bold solutions (Mina, 2012:28) that may differ from their knowledge and experience. Their solutions are demonstrated in the form of various business adaptations.

The Business Adaptation of Popular Music Concert Promoters in Thailand

This article aims at studying the adaptability of popular music concert promoters because they are directly affected by changes in the business. According to the study, it showed that promoters have adapted themselves to go along with various situations by utilizing the below principles.

Understanding consumers & meeting their needs rapidly by using the following methods:

1. Concert development – emphasis is placed on presenting concerts that meet the needs of the target audience with purchasing power. Trying to take action no matter the results would turn out right or wrong. For example, trying to reach a niche market like what happened in the United States in 2000 is to organise more small concerts (Mortimer, Nosko & Sorensen, 2010:10) but hard to gain profit. Promoters found that customers' demand is in accord with concert artists. For Thai artists, the concert concept and theme should be focused; for foreign artists, the reputation of the artist should be considered first, and for every concert, the fanbase of the artist is important.
2. Communication via online – the communication channels have changed from using the mainstream media to online media to save the expense, and specifically, to approach consumers. It is also possible to reach foreign customer groups as well. Moreover, the use of social network CRM is one of the processes that motivates customers to purchase and advocate products in this present world (Kotler, Kartajaya & Setiawan, 2017).
3. Community building – trying to build a community of customers for reaching the target group in the long-term are focused. To collect accurate customer databases, the more customer databases are reached, the more they can present 'tailor-made' products to customers (Guichardaz, Bach, & Penin, 2019:20-21). Building customer community also creates brand engagement for consumers even more (Kaur, Paruthi, Islam & Hollebeek, 2020:3). Finally, good relationships between consumers, companies, and artists will be reached, providing greater ease in purchasing decisions (Guichardaz, Bach & Penin, 2019:14).
4. Make a new trend – a creation of a trend is built in order to promote the sales volume, using excellent communication strategies to popularize the trend before the concert happens through social media. This concept presents the

important principle that human beings are social animals who desire to live together or talk about the same issues in a social group (Kotler, Kartajaya & Setiawan, 2017). Therefore, the utilisation or creation of trends will approach the target customers, especially Thai people who mainly follow trends. As one key informant put it:

> It [is] only a trend, if it is popular, they (customer) have to be in a hurry to take it. Thai people wait for the trend, wait for friends, they won't decide it by themselves.

Marketing strategies to solve problems using the following techniques:

1. The countering of pricing strategies – promoters try to solve these problems by limiting the distribution of free tickets to sponsors and business partners. In the case of the medium-price tickets that are hard to sell, promoters would set up a new zone in order to offer a new price to customers.
2. The expansion of the concert life cycle – arranging more concerts for many consecutive years, promoters need to find younger customers to replace older ones. In other words, promoters are required to understand that people who attend a concert today might not be interested in attending the same one in the next ten years since their ages and favorite music styles would have changed. Furthermore, this method will influence new customers to fill concerts continuously. This life expansion product has been discovered to be used to extend a trendy age of Lady Gaga, a famous artist. The utilisation from understanding product life cycle will continue the product to be sold, though it is decreasing in popularity (Simões, Gonçalves, Gonçalves, Silva and Melo, 2019:388-389). It will also help support the efficacy of sales and organisation achievement (Dragnic, 2014:125).
3. Other methods – if sales are not successful or do not achieve the targets, entrepreneurs may consider two significant plans: 1) considering possible cost reduction, considered an ordinary solution in other countries (Frith, 2013:297), and 2) seeking ways to change the unsold tickets to create business networking opportunities instead.

Business survival strategies include the following:

1. Joint venture and Alliance – there is a merger between Thai promoters and foreign companies for many years, including the creation of business alliances to increase established negotiating power and financial strength.
2. Diversification – when concert performance alone is unable to create enough revenue for an organization, promoters turn to another business in order to sustain the old business. For example, one promoter became a broadcast content provider, some promoters became corporate event organizers. In this case, it happens with world-class music record labels as well (Guichardaz, Bach & Penin, 2019).

The three management strategies of concert promoters are all the methods to respond to the market competitions, especially when there are more competitors in the market. Edmondson (2008) indicated that companies normally respond with four types of reactions: 1) doing nothing and operating the business as usual; 2) developing strategies and countering by using marketing mix; 3) seeking cooperation with competitors in the market, and 4) leaving the market. The best reaction is seeking cooperation among competitors. But promoters need the skills of seeking a compatible partner, called transactional capability (Guichardaz, Bach & Penin, 2019:18-19). Gnjidic (2018) stated that the environment has affected organizational strategies; likewise, organizational strategies have influenced environmental change as well. With all that stated, one business strategy may have a different impact on the entire market and create even more chaos.

Conclusion

Throughout the past 11 years, 2007 - 2017, popular music live performances have served the public as a stress reliever. They are a gathering place for fans and people who have the same interest; a trace of unforgettable nostalgia; a symbol of social class of urban life, and a symbol of differentiation of generations' identity. But for entrepreneurs in this business, especially concert promoters who create concerts, this moment was once again the time of the wind of change. From the era of physical music to digital music, live concerts have become an unprecedented mainstream income.

At the same time, the four main factors, namely: economic recession, political conditions, technological shift, and consumer behavior together play a role in the business. Concert promoters offer a wide range of solutions for solving problems due to business difficulties. If there were more factors involved, there would be more chaos in the system. In a chaotic system, an entrepreneur's response to problems is likely to be more of a failure than success. Because a lack of knowledge about those factors limits an entrepreneur’s ability to predict the impact of a solution accurately (Mina, 2012:30).

A literature review found that a study of Pichaipat (2010) on the music industry in Thailand during 1983 - 2007 found that entrepreneurs in the industry managed their business by solving immediate problems rather than managing them with a good plan. They were unable to keep up with change in consumer behavior. Even in the years between 2007 and 2017, the situation remained unchanged. Therefore, knowledge of each factor is very important.

In many media, they forecasted a booming trend in live music business from 2013 onwards, with an average growth rate of 6.2% (PWC, 2014:2). In fact, the results of this study showed that this business was growing but at a low rate. This illusion of business growth has attracted many entrepreneurs to the market and made it a highly competitive market. They fought for consumers and sponsors with limited budgets for their entertainment consumption because of the economic recession. With the aforementioned situations, concert promoters had to adapt themselves and be flexible to change by creating a number of possible scenarios (Levy, 1994:170). They should present them as business adaptation methods such as, understanding the needs of consumers, marketing plans for solving the problems, and business survival strategies.

Regarding this study, it does not only provide lessons and guidelines for running a business in the chaotic period of popular music concert production business in Thailand, but also to investigate experiences of concert business during this period. The research could be useful for implementation in other countries.

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Assessment of Housing Satisfaction Among Women in Nigeria:

Experience from Ibadan Municipality

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Abstract

This study investigated satisfaction with public housing amongst women in Ibadan Municipality, Nigeria. A cross-sectional survey of residents in two selected housing estates owned by the Oyo State was conducted using structured questionnaire as data collection instrument. Data were analyzed using descriptive statistics and inferential. It was observed that most women living in public housing sampled in the study area were low and middle income earners and not satisfied with their present housing conditions. The management aspects of the housing schemes, size and security of the dwelling units were the main factors that determined respondents' satisfaction with their housing environment. Therefore, the paper concluded that there is need for more knowledge of the peculiarity of housing needs of women among policy makers, investors and housing developers as well as the involvement of women at all stages of housing provision in Nigeria.

Keywords: *Housing, Satisfaction, Women, Urban, Public Housing, Nigeria*

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Introduction

Housing is a decisive integral of spatial formation, balanced development and ecological unit. It is one of the most important needs in man's life. In fact, housing which used to be regarded as mere shelter is now much more than that, thus in today's parlance, housing is the totality of the house and the environment in which it is situated and those infrastructural facilities which make living in them convenient and safe (UN-Habitat,2006:34; Ajanlekeoko, 2001:13). It has different meanings for different cultures, groups and individuals. Okupe (2002:3) sees housing as a strategic asset to man, irrespective of his/her socioeconomic status, color or creed and as such there lies a passion and emotional attachment to housing in African traditional setting. Nevertheless, the level of housing production in Nigeria despite the number of housing programmes and policies is still at its lowest ebb (UN-Habitat, 2009:4; Onifade and Saibu, 2020:302).

Housing, therefore, is a fundamental product of every human effort irrespective of his or her financial standing. Provision of shelter is that passive and primary function of housing while its secondary function is the creation of an environment that is best suited to the way of life of a people - in other words a social unit of space (Salisu, Odulaja, Ogunseye, Fasina and Okunubi, 2019:183). Housing symbolizes the social status of the family to both the wider community and in the nuclear family setting itself. While the quality and quantity of housing stock is a reliable barometer of measuring the technology, culture and above all, civilization level of any nation. It contributes to the general wellbeing of a people, race or community (Cooks, 1988:131: Mabogunje, 2003). When we use the word quality in this study, its usage is on a broad base, and encompassing a variety of meanings defined by researchers in almost all fields. The quality of a house determines the reference as home if it performs some fundamental function for the residents. A house with all its necessary physical attributes must have a rich set of evolving cultural, demographic and psychological meanings attached to it to be 25 called a home (Weisman, 1992:23; Gilroy and Woods, 1994; Agbola, 1990:179; Mohit and Al-Khanbashi Raja, 2014:48).

Anita and Marais (2006:72) confirmed the fact that women are more affected by the housing condition than men. The various researches on housing satisfaction have been able to determine some factors that determine housing satisfaction which may vary between different socioeconomic and cultural groups in a society. Gilroy and Woods (1994:3) researched on housing satisfaction among Korean American elders and discovered that the housing or residential physical environment was not significant to their level of satisfaction while (Yoade, Adeyemi and Adeyemi, 2005:246) was able to research on housing satisfaction of single mothers in Columbus and found their income level affecting their housing condition and satisfaction.

Housing satisfaction on the other hand can be defined as the level of fulfilment of a need and pleasure an individual wants to derive from a particular quality of housing. Ibem, Anozike and Azuh (2011:426) corroborated with (Mohit, Ibrahim and Rashid, 2010:19) that housing or residential satisfaction can be defined as a measure of the difference between the residents' actual and desired housing and neighborhood situation based on their needs, aspirations and expectations as well as with environment. They also corroborated with (Moser, 1987:2) that housing satisfaction is the degree of contentment experienced by an individual or a family member with regard to the current housing situation.

Studies on housing satisfaction have been carried out for various purposes such as to measure the success of housing policies or projects (Ogu, 2002:38; Onibokun, 1985:68), as guide policy (UN-Habitat, 2009:22); assess housing quality (Onibokun, 1974:192) and many more. Housing satisfaction studies help in discovering the levels of satisfaction and dissatisfaction of occupants of a particular housing type. Mohit et al., (2010:156) posited that it helps in predicting behaviors and housing mobility in an area. Also, it helps in determining the various factors which contribute to these rates or levels of satisfaction with peculiarity to different groups in the society.

However, more recently, residents' satisfaction with social housing in Selangor, Malaysia, was assessed based on the dwelling unit features, housing unit support services, public facilities, social environment and neighborhood facilities (Onibokun, 1976:333). Ibem and Amole (2011:286) added that housing satisfaction can be measured based on the socioeconomic characteristics of the residents such as marital status, income and educational background. Numerous researchers have investigated housing satisfaction based on demographic and socioeconomic characteristics of different cities such as (Salleh, 2008:489) who worked in Abuja and Benin (in Nigeria). Many others argued on different number of determinant factors of housing satisfaction such as housing facilities, housing environment, and housing maintenance. Currently in Nigeria, only few researchers have been able to work on gender sensitive housing satisfaction matters in the area of urban women (Asiyanbola and Filani, 2007:9).

However, there is much gap in examining housing satisfaction level among urban women living in Lagos public housing estates; one the most populous and fastest growing cities in Africa (Clement and Kayoe, 2012:117). It is obvious that there are little or no research efforts on housing needs, satisfaction, perceptions, and aspirations of specific social groups such as women in family units which could be different from men (Ibam and Amole, 2012; Morakinyo, Okunola, Odewande, and Dada, 2014:48). Hence, there is need for research efforts to be devoted towards this direction in order to ascertain the satisfaction level of urban women with their residential facilities. This research aims at determining the factors that affects urban women housing satisfaction in Ibadan municipality and suggesting a policy guide in achieving a socially and environmentally inclusive housing development effective at meeting its targets as well as contributing to the body of knowledge. This paper therefore provide answers to the following questions; what are the socioeconomic characteristics of women in the selected housing estates; the housing condition or quality in the study areas, the level of satisfaction among women with their housing in the selected estates.

Methods and Materials

The Study Area

Ibadan is located on longitude 30 54’E of the Greenwich Meridian and latitude 70 34’N of the equator. Ibadan is a product of Yoruba civil wars that raged between 1810 and 1893. It had served as the administrative headquarter of the defunct Western Region, while it is presently the capital city of Oyo State which is one of the 36 States of Federal Republic of Nigeria. The city is plaque with myriad of environmental problems such as overcrowding and shortage of housing both in quantity and quality (Ibam and Amole, 2012; Morakinyo, Okunola, Odewande, and Dada, 2014:48; Asiyanbola and Filani, 2007). These trends culminated in the government developing a model environment known as site and services scheme. There are twenty four of such public sites and services scheme in Ibadan metropolitan area.

Thus Bashorun and Alalubosa housing scheme were conceived as a site and service scheme where in a large parcel of land was divided into serviced plots was open up for residential development. The Oyo state housing corporation was the government body directly responsible for the scheme. The corporation was responsible for the plot applications, approval of design drawings, maintenance and services and the initial provision of services which included: roads, water supply, market, school, filling station, worship centers (churches and mosques), police station, refuse disposal and other infrastructures. The housing estate is directly managed by the Oyo State housing corporation and the housing corporation is in charge of general sanitation, refuse collection, security and future development coordination (Ibam and Amole, 2012; Morakinyo, Okunola, Odewande and Dada, 2014:48).

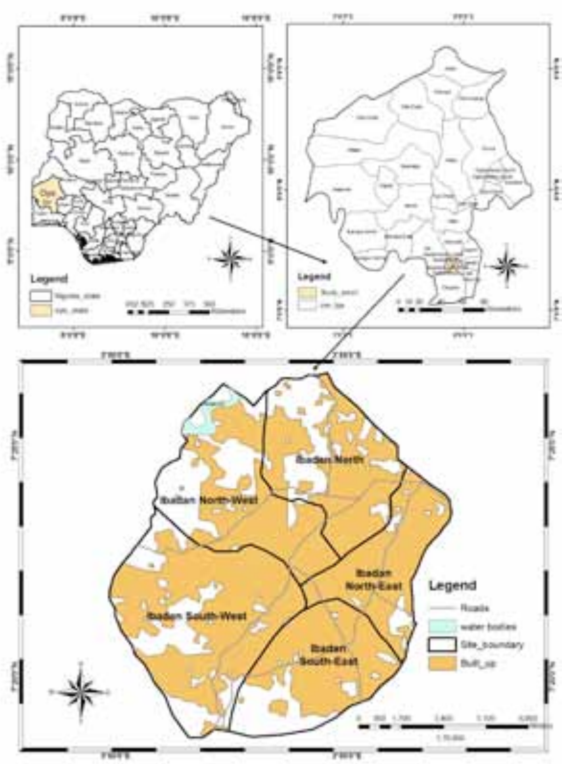

Figure 1. Map of the study area in the Nigerian context. Adapted from Olatunji, Yoade & Adeyemi (2021).

Data Analysis

This study was carried out in Ibadan, Oyo state, South-Western part of Nigeria. The study investigated the women living in Basorun and Alalubosa Estates that were provided by the Oyo State Government. Basorun housing estate contains 479 housing units while Alaluboa housing Estate has 201, making the total of 680 housing units (Morakinyo, Okunola, Odewande and Dada, 2014:48; Asiyanbola and Filani, 2007) (See appendix of housing images 1-8). The sample frame for this study is 680 (the total number of housing units), the sample size is calculated using the following formula. This is approximately 50% of the total sampling frame; therefore 340 housing units were sampled. The sample distribution was done based on the housing units. Purposive sampling approach was used to sample the respondents from each household unit in the study area. This is because this study is meant specifically for women inhabitants residing in the selected estates; therefore, questionnaires were distributed to the women in the study area. This resulted in the administration of 340 questionnaires, 319 of which were successfully retrieved.

Further, the Condition of Infrastructure Index (CII) and the Residents Satisfaction Index (RSI) were used to analyze residents' assessment of the condition of housing infrastructural facilities and residents' level of satisfaction with housing infrastructure, respectively. However, the underlying principle is essentially the same as what obtains in the more popular Relative Importance Index (RII). Consequently, the computation of CII and RSI follows a process similar to the CII's. Literature abounds with many other similar applications. Corroborating with the studies of (Yoade, 2018; Afon, 2000:120, 2006:149; Olojede, Yoade and Olufemi, 2017:329;) Olojede, Agbola and Samuel, 2019:348 Sambasivan, and Soon, 2007:524). The respondents were guided through the rating of the two variables of interest following the principle of the Likert-type scale (Vagias, 2006). In each case, the scale was from 5 through 1 in a descending order of significance (Excellent, Very Good, Good, Fair and Poor). The total weight value (TWV) for each variable was obtained through the summation of the product of the number of responses for each rating of the variable and the respective weight value. The mathematical expression for this is:

$$\text{TWV} = \sum_{i=1}^{5} N_i \times W_i \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

where N_i = the number of respondents rating the variable and W_i = the average weight value assigned to the variable by the respondents.

Thus, the CII was computed by dividing the summation of all the responses to each of the five ratings on it by the total number of respondents who rated the road infrastructure facility (N).
The mathematical expression is

$$\text{RSI} = \text{TWV}/N \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

The closer the RSI of a facility is to 5, the higher the residents' rating of it; the farther it is from 5, the weaker the rating of respondents of such a facility. The RSI was also measured and computed the same way.

Results

Socioeconomic Characteristics of the Respondents

The below table is an illustration of the socioeconomic characteristics of the female respondents in the survey. Findings reveal that majority (57.4%) of respondents were age range between 41 to 60 years while just 0.9% of the respondents were less than 20 years of age in the study area. Most of the respondents were married, 6.6% were widow, while 2.3% of the respondents were singles while 1.6% of the respondents were either divorced or separated in the study area. Findings show that majority (59.2%) of the respondents have tertiary education, 22.6% of the respondents have senior school certificate holders while just less than 1% were holders of primary leaving certificate. Findings show that majority (64.6%) of the respondents were public servant while 34.5% were private business owners in the study area.

Findings reveal that majority (57.4%) of the respondents earn more than #100,00 per month while just 3.4% of the respondent earns less than #50,000 in a month. Finding establish that majority (63.6%) of them had household size of more than six persons, suggesting that they have children and/or relations living with them while 45.2% of the women and their families had lived in their present residences for between four year and six years.

Indices	**Frequency**	**Percentage (%)**
Age		
Less than 20 years	3	0.9
20-40 years	117	36.7
41-60 years	183	57.4
61 years and above	16	5.0
Marital Status		
Single	9	2.8
Married	284	89.0
Divorced/separated	5	1.6
Widowed	21	6.6
Educational Level		
Primary school level	2	0.6
Secondary school level	72	22.6
Tertiary school level	189	59.2
Informal education	56	17.6
Employment Status		
Public	206	64.6
Private	113	35.4
Monthly Income		
Less than 50,000	11	3.4
50,001 – 100,000	125	39.2
Above 100,000	183	57.4
Household Size		
Less than 3	10	3.1
3-6	106	33.2
More than 7 persons	203	63.6
Length of stay		
1-3 years	107	33.5
4-6 years	144	45.2
7-9 years	50	15.7
10 years and above	18	5.6
Total	319	100.0

Figure 2. Table of respondents' socioeconomic characteristics.

Perceived Condition of Building Components and Facilities

Prior to assessing the residents' satisfaction with the housing facilities in the study area, the respondents were asked to assess the state or condition of housing infrastructure in the city with focus on sixteen distinct elements. The table in figure 3 gives the summary of their assessment of the state of these housing infrastructure elements. According to Figure 3, on the average, the condition of housing infrastructure elements provided by the governments in the study area is generally fair. Lightning and air circulations topped the assessment as the best housing infrastructure element. Bathrooms, size of the living room, ventilation, roofing, kitchen, aesthetic and landscape of the estates, parking and parking facilities ranked next with 3.4, 3.3, 3.1, 3.0, 2.9, 2.8, 2.7 2.6 and 2.5, respectively. The least element ranked is 1.7. Further, a mean score of 3.5 was obtained for all the elements taken together. This shows that the respondents rated the state of housing infrastructure in the city are fairly okay.

Ventilation is the movement of fresh air around a closed space, or the system that does this while ventilations is the act or process of ventilating; that is, circulation of air a room with (an installation in a building that provides a supply of fresh air)

Indices	**Condition/state of facilities**						
	Excellent	**Very Good**	**Good**	**Poor**	**Bad**	**CII**	**Rank**
Parking facility	25	63	112	29	92	2.7	8
Kitchen	56	78	72	16	87	2.9	6
Bathroom facilities	43	103	79	33	127	3.4	2
Toilet facilities	28	79	45	53	114	2.5	10
Ceiling	37	42	93	115	32	2.6	9
Electricity	38	33	31	98	119	2.3	12
Roofing	79	68	45	39	88	3.0	5
Water supply	13	76	30	105	95	2.4	11
Ventilation	17	15	85	101	101	1.9	15
Windows and doors	23	16	116	52	150	1.7	16
Plumbing work	-	64	48	106	101	2.2	13
Ventilations	91	56	47	50	75	3.1	4
Size of the living room	209	54	-	26	30	4.2	1
Size of the bedroom	27	49	45	18	180	2.1	14
Natural lightning and air circulation	83	89	56	50	41	3.3	3
Aesthetics and landscape of the estate	12	75	103	109	20	2.8	7

Figure 3. Table of perceived condition of building components and facilities.

Respondents' Satisfaction Level

Following the assessment of the state of housing infrastructure elements, the respondents were asked to assess level of satisfactions with housing infrastructure in the study area. Table 3 gives the summary of their level of their satisfaction with housing infrastructure. As presented in Table 3, respondents were moderately satisfied with the housing infrastructure and facilities in the city. Aesthetics and landscaping of the estates was rank first with an RSI score of 4.0 out of 5. Roofing, serenity of the estate and natural lightning and air circulation followed with 3.9, 3.8 and 3.7 respectively. A mean score of 3.6 out of 5 was obtained as the overall performance of the local governments in Ile-Ife on road infrastructure delivery. This is an indication that women in the study area moderately satisfied with housing infrastructure in the study area.

Indices	Level of satisfaction						
	Very Satisfied	Moderately Satisfied	Fairly Satisfied	Unsatisfied	Very Unsatisfied	RSI	Rank
Prices of goods and services	19	-	78	109	133	2.1	13
Accessibility	56	93	101	89	20	3.6	5
Transportation	13	16	121	86	83	2.3	12
Privacy	52	72	84	95	16	3.2	7
Noise level in the estate	102	135	34	30	18	3.9	2
Roofing	53	47	98	92	29	3.0	8
Recreational facilities	39	17	40	172	51	2.4	11
Serenity of the estate	126	84	61	19	29	3.8	3
General maintenance	7	6	64	99	143	1.9	14
Schools	115	45	59	92	8	3.5	6
Shopping mall	18	27	14	86	174	1.8	15
Reduced crime rate	32	42	72	119	26	2.5	10
Size of the living room	36	63	54	98	68	2.8	9
Size of the bedroom	19	34	-	177	89	1.6	16
Natural lightning and air circulation	103	91	61	41	23	3.7	4
Aesthetics and landscape of the estate	111	108	86	5	9	4.0	1

Figure 4. Table of Respondents' Satisfaction Index.

The below table in figure 5 shows the respondents' satisfaction level in the study area with socioeconomic characteristics using the Likert scale. It can be deduced from this table that the privacy of the respondents top ranked highest with average mean of 4.2. Also, noise level in the estate, shopping facilities rules in the estate and school around the estates with average mean of 3.4, 3.3, 3.1 and 3.1, respectively. While considering socioeconomic characteristics of the women in the estate, it has affects their satisfaction level with housing infrastructure.

INDICES	VERY SATISFIED	MODERATELY SATISFIED	FAIRLY SATISFIED	UNSATISFIED	VERY UNSATISFIED	SUMATION OF WEIGHT VALUE	MEAN OF WEIGHT VALUE
Privacy of respondents	74	104	96	22	23	319	4.2
Noise level in the estate	66	84	105	27	24	309	3.4
Rules of the estate managers	63	48	52	104	14	281	3.1
Crime rate in and around	39	43	105	62	70	319	2.7
Cleanliness of the estate	41	52	75	35	66	269	2.8
Shopping facilities	68	62	71	54	31	286	3.3
Schools around the estate	51	92	12	97	32	284	3.1

Figure 5. Table of respondents' satisfaction with socioeconomic characteristics.

Also, the result of correlation analysis that revealed a positively weak relationship between household size of respondents and respondents' satisfaction in and around the estate (n=319, r=0.18, p=0.01). This established that the higher the household size of respondents, the better the satisfaction in and around the estates; this may be because the women with larger household size had more motivation to increase their earning rate from opportunities around.

Findings shows results on multivariate analysis showed that the socioeconomic predictors (independent variables) of housing satisfaction had a total contribution of 58.6%. This means that there are other factors responsible for the state of housing satisfaction in the study area. The ANOVA also revealed a significant variation between the predictors. Findings of this study corroborate (Mahamad, and Ramayah, 2006; Ibem, 2012; Lu, 2012:276; Ibem and Azhu, 2013) that housing satisfaction is determined by the characteristics of the individual, the housing unit and surrounding neighborhood (Jiboye, 2009:243; Leah and Park, 2010:45). Also, that housing satisfaction is related to housing attributes such as the function and physical adequacy of the dwelling, quality and adequacy of social and community facilities, living convenience, the nature and effectiveness of official policies and personnel attitudes, the condition and maintenance of the home environment, maintenance of the dwelling facilities, privacy, territoriality and neighborhood security among many others. It further emphasized (Ibem, Anosike and Azuh, 2011:429; Aalakinde and Olorunfemi, 2013; Oyedele and Oyesode, 2019:401; Onifade and Saibu, 2020:305) that housing satisfaction is positively associated with household income.

Conclusion

This paper examined housing satisfaction among urban women using Alalubosa and Bashorun Housing Estates Ibadan, Nigeria as a case study. This study corroborated the findings in most literature focusing on gender that inadequate housing tends to have a negative impact on women, who spend a majority of their time in the home and its immediate environment. The identified determinants calls for improvements to increase the level of satisfaction in the study areas. However, there is need to consider specific needs of women and their involvement at all stages of housing provision in Nigeria. Also, there is a need for improved knowledge of the specific housing needs of women among policy makers and housing developers as well as the involvement of women at all stages of housing provision in Nigeria. Lastly, there is need for policy makers and housing providers to recognize that the design and construction of housing units to specified standards are not enough, rather the maintenance of existing facilities, provision of housing services and social infrastructure in social housing schemes are also important in meeting the needs of women and enhancing their satisfaction levels with such schemes.

Appendix of Housing Images

Figure 1. Main Entrance of Bashorun Housing Estate, Ibadan, Oyo State, Nigeria.

Figure 2. Set of Buildings at Bashorun Housing Estate, Ibadan, Oyo State, Nigeria.

Figure 3. View of Bashorun Housing Estate, Oyo State, Nigeria.

Figure 4. Set of Buildings at Bashorun Housing Estate, Ibadan, Oyo State, Nigeria.

Figure 5. Main Entrance of Alalubosa Estate, Oyo State, Nigeria.

Figure 6. Set of Buildings at Alalubosa Estate, Oyo State, Nigeria.

Figure 7. Set of Buildings at Alalubosa Estate, Oyo State, Nigeria.

Figure 8. Set of Buildings at Alalubosa Estate, Oyo State, Nigeria.

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Plastic Sea: Art Exhibition on Marine Plastic Pollution

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Abstract

This paper presents the artistic research and creation of an artwork, exhibited under the title of *Plastic Sea*. The exhibition was held July 3-11, 2021 at the Art4C Gallery and Creative Learning Space in Bangkok. The name *Plastic Sea* comes from the idea that most people are aware of marine pollution, especially plastic pollution, yet the issue has normally been ignored because the effects are not immediately experienced in a direct way. To create awareness of the problem of plastic marine pollution, this project aims to show visually the growth of plastic waste in the sea. Research on plastic marine pollution was utilized by Thai new media artist, Witaya Junma, resulting in an artwork in the form of interactive data visualization. This installation communicates straightforwardly, as it engages participants and enables them to understand the environmental effects from what they saw from their interaction with the installation. Plastic Sea was well received when it was exhibited, and the work really touched participants, making them realize just how much they use plastic waste in their daily lives.

Keywords: *Art and Technology, Eco Art, Data Visualization, Interactive Installation Art, Contemporary Art, Pollution, Thailand*

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Introduction and Materials Review

This planet is facing various environmental issues and most of them are interlinked with one another. One of the most talked about environmental problems is, indeed, plastic waste. Although plastic has been with us for over a century and the issues involving plastic pollution have been flagged and explored since the late 1960s and early 1970s (Moore, 2021), they never get old. Recently, environmentalists have focused on plastic marine pollution in view of its huge effect on the ecosystem.[1] Having said that, some people tend to pay less attention to plastic waste issues due to convenience the plastic offers and the use of recycling technology. For that reason, this research explores this environmental concern of plastic marine pollution and find a method to create awareness using soft power,[2] in this case, a work of art.

Art and technology appear to be separate but looking back over the history of art to today, art and technology are inseparable. Artistic practice has been used as a tool for scientific experiments and science has always been a subject of fascination for artists. Contemporary art,[3] as we understand today, reflects contemporary concerns and situations; it is a powerful tool for communicating social issues to society.

Marine plastic pollution no doubt comes from anthropogenic[4] behavior, hence, the problem can be addressed by raising the consciousness of human consumers about the consequences of their actions. What artistic framework should be used to achieve this? The research methodology of this project resembles the curatorial process. Once the concept is initiated, the curator/researcher then studies artists and artistic practices with the aim of developing the artwork together; after this process, the results are exhibited, some related programmes are added and feedback is evaluated.

Plastic Sea is a creative, physical work resulting from the above research. It is an installation artwork in the form of interactive data visualization, shown as an exhibition under the same name and launched on the 3rd of July 2021, which was an 'International Plastic Bag Free Day.' On that day, the project also held a public panel discussion, and an artist and curatorial tour. Additionally, this project also included an exhibition catalogue and a video interview with the artist to further emphasize and explain the concept further. These details are discussed later in the article.

Plastic Marine Pollution in Thailand

Plastic is used in almost every part of our daily activities, and after being used plastic is discarded. Generally, public perceptions think that plastic waste either goes into the trash, then a dumpster or is recycled. Having said that, plastic waste is scattered all over the world, on all continents and usually washes down into water systems, then onwards to the ocean as the final destination. Choy (2021:120) stated that scientific research comparing plastic production to plastic from the ocean surface, shows that most plastic waste is unaccounted for, calling it 'missing plastic.' Some of this missing plastic is eaten by marine creatures or broken down into microplastic[5] and nanoplastic,[6] which then potentially resurface in the food chain or in the water we consume.

In 2017, Thailand was the 6th ranked country in the world for plastic marine pollution and the 5th ranked country in terms of creating plastic waste per person. Consequently, the Thai Government, led by the Ministry of Natural Resources and Environment, initiated a road map to deal with problems on plastic waste management.. This 12-year strategic plan began in 2018 and is due to be completed in 2030. The road map is divided into two phases and the first phase covers 2020 - 2022. The first phase has 2 targets: 1) to reduce and possibly remove single use plastic; and 2) to promote a circular economy of recyclable plastic (ThaiPost, 2021). Even though this policy began later than other countries, Thailand somehow successfully removed free of charge single use plastic bags from department stores, supermarkets, and convenience stores by early 2020 and planned to reduce plastic waste by 30% by the end of the year (Buakamsri, 2020). However, the coronavirus emerged in 2019, followed by global pandemic and lockdown which unavoidably has increased the use of plastic.

Be that as it may, marine plastic pollution does not only come from the excessive consumption of plastic, but also from improper waste management systems leading to mismanaged plastic waste. Greenpeace Thailand (2021) criticized the above road map as follows:

- The government took action on this issue as a result of the ranking, not from their own survey; and
- The road map is only one of rhetorical symbols government wants to show to international organizations
- The road map does not include environmental-friendly ways on how to get rid of plastic waste i.e. government incinerates plastic waste which creates CO_2.
- Producer responsibility is not discussed in detail in the road map.
- This road map should include tax incentives or some benefits for involvement in the project.
- There is not much research on overall plastic waste in Thailand even though ‘Material Flow of Plastic’ was researched.

All in all, it can be agreed that the problem of plastic waste in Thailand remains serious in 2020 and 2021 as everyone is unintentionally using more plastic, especially for food deliveries, medical supplies and everyday life. The issue is not only about plastic consumption but also about how the government handles waste systems.

Contemporary Ecological Art in Thailand

Environmental art[7] was established in the 1960s in association with environmental activist movements. Presently, people are more familiar with the term ‘eco’ or ‘ecological’ in creative practice contexts. Eco art, short for ecological art, is an off-shoot of environmental art. Eco art, as we understand the term today, seems to have developed together with digital awareness in society.

> Today, this impressive list of functions is being extended to attend to the current and future conditions of the planet’s waters, soils, atmosphere, and living populations. Some of the creators of these works of art follow the scrupulous scientific methods

> of ecology; others who behave as advocates, critics, and protestors are proponents of environmentalism. Both explore the fundamental relationships that form the basis of eco art. (Weintraub, 2012:19)

Kumjim (2018:78) noted in his writing that Thai contemporary art contexts in the twenty-first century is shifted through "consumer technology, global politics and transnational trade." Concerning eco-creative practices in Thailand, eco-designs are more realized than eco-art (although they sometimes overlap). With international trends and a general upsurge in environmental awareness, eco-design has been utilized for good causes. Into the bargain, since eco-design has become 'trendy,' value has been added in terms of price and brand reputation. As for Thai eco-art, it seems to be more project-based rather than based on artistic practices.

Baan Noorg Collaborative Art and Culture was founded by two artists: Jiradej & Pornpilai Meemalai (or their collaborative name 'jinandyin'). The project is based in Ratchaburi province which is a two-hour drive from Bangkok. Since 2011, jiandyin has been operating this non-profit artist-run initiative in collaboration with local communities and internationally. Their projects promote community development, environmental awareness and connect cultural communities. *Baan Noorg Collaborative Art and Culture* also provides residency programmes, internship programmes, and a research publication from time to time (Baan Noorg Collaborative Art and Culture).

In Northern Thailand, in Chiang Mai Province, *Land Foundation* was initiated in 1998 and established in 2001 by two internationally known artists: Rirkrit Tiranvanija and Kamin Lertchaiprasert. Although the project has been run by artists and focused on their artistic activities, the *Land Foundation* is also involved with the local community. The project studies and supports local farmers on sustainable agricultural development. "The land was to be cultivated as an open space, though with certain intentions towards community, towards discussions and towards experimentation in other fields of thoughts" (The Land Foundation). Also in Chiang Mai, in February 2020, an exhibition called *Art for Air* was organized in collaboration between the Breath Council and the Chiang Mai Arts and Cultural Center. It was an exhibition that brought up recent environmental issues, such as air pollution. PM 2.5 air pollution has been major issue in Thailand every winter over the past few years, especially in the North of Thailand. Art for Air included over sixty artists and art collectives, which exhibited all over the city at art and cultural facilities, well as in other public spaces. The main ambition of this exhibition was to use creativity and artistic practices to raise awareness on the issue, and to find ways to solve this problem.

Still, there are few artists whose practices are grounded on environmental issues. For instance, Ruangsak Anuwatwimon, whose works focus on environmental matters or how human behavior affects the ecosystem. In 2011, there was widespread flooding in Thailand. Anuwatwimon collected flood water, and exhibited it in tubes in his exhibition, *Did we learn something from this yet?* (2011). On top of that, One of this most well-known works is *The Ash Heart Project* (2010) in which the artist collected 270 different specimens that died by humans actions. He cremated and molded them into shape of human's hearts. His works are poetically and conceptually fabricated to convey environmental messages in sophisticated ways. Another artist who calls herself as 'social activist artist,' Wishulada Panthanuvong or WISHULADA (her proprietary brand name) is an upcoming artist whose principle is: 'from trash to treasure.' Her artistic medium is based on recycled and upcycled materials. She works range from small merchandise to massive site-specific installations, all made from different types of waste. The basic concept of her work is based on environmental concerns.

It can be said that eco-art is not practiced much in Thailand, or that Thai environmental art or eco-art fits into a different context from Western art history. Organizations and movements based on environmental awareness in Thailand have been operating for decades but they unknown until recently. Possibly, in a few years, Thai contemporary art on ecology might grow and develop a clearer direction.

Data Visualization in Artistic Practice

Generally, data visualization is used in the context of computational statistics to illustrate data and information in graphic form instead of just using a statistical table (Unwin, Chun-houh and Wolfgang K., 2008:6). It is a new term but in practice, data visualization is an old practice that goes back to ancient Egypt (Friendly, 2008:18). In our digital age, data visualization is used more and more, especially in social media and digital news.

While data visualization appears in reference to graphic, design and computer science, there are some artists who employ data visualization in their artistic practices. Artists who bring data visualization into their artworks usually involve technology, interdisciplinary and digital media. Here are samples of artistic projects which have relevance to data visualization:

- The *Room of Change* by Giorgia Lupi was a part of the XXII Triennale di Milano, *Broken Nature: Design Takes on Human Survival*, March 1 – September 1, 2019. The exhibition notes on "restorative design and studies the state of the threads that connect humans to their natural environments - some frayed, others altogether severed." As for this artwork, *The Room of Change*, presents how the world has changed over past centuries, the present, and likely the future. Data in this work comes from different sources, perspectives and areas, some seem not relatable, but they actually do. This data visualization was installed as a wallpaper with materials of "long hand-crafted data-tapestry" (Lupi), perceivable through colors and shapes. Giorgia Lupi called herself an "information designer" which is an interesting term and quite straightforward. She started out designing data and information as illustrations which later morphed into various forms, including installations and exhibitions. Her works are very structural, well-planned, and beautifully crafted.

- The *Weather Score Project* by Nathalie Miebach takes on weather data and works with composers to make "sculptural musical score." Basically, Meibach underlines the weather data of the storms which she collects herself, then she compares the data collected to an online database. Her translation process is creative and unusual, she interprets her data as weaving a basket to create a basket form. She also translates some data for colorful beads and numbers and assembles them together as a sculpture. Additionally, she uses weather data to compose a music score, then collaborates with other musicians and composers. With the *Weather Score Project* she made weather which was invisible to become tactile and audible (Miebach, 2011). It is an ongoing project, started in 2009; since then, she has also created new pieces, collaborating and performing in many contexts. Apart from this project, Meibach also does 2D-framed artwork from data translation, braiding colorful wickers. Her works put forward scientific facts in an emotional way.

- *Tele-present Wind* by David Bowen was first installed at Laboratoria Art & Science, Moscow in 2010, and again in 2018 at Azkuna Zentroa, Bilbao. The actual work was presented in a white cube gallery and connected with a data monitor and collected from distant locations. The gallery space was filled with dried plant stalks fitted with electronic devices, with no strong wind inside the exhibition space, the plant stalks rustled as if they were moved by the wind. The movement of the dried plant stalks in fact came from real-time data, based on the wind outside (Bowen). The synchronisation of this work was pretty intense to the viewers, as they experienced plant stalks swaying at the same pace with a little bit of noise to enjoy as well.

- *Flight Patterns* by Aaron Koblin was developed from an experimental project *Celestial Mechanics* with Koblin's colleagues; Scott Hessels and Gabriel Dunne in 2005 - 2009. For this work, he created an animated film from the data of flight patterns, collected from air traffic over 24-hour time period in North America; some 140,000 airplanes routes were collected. He transmutes and visualized in color and form. He uses different colors to insinuate 573 different airplanes types. Apart from animation, *Flight Patterns* was made in affiliation with Google Maps and produce in limited edition prints. Koblin stated in a TED talk in 2011 that "data can actually make us more human." Human activities are connected to data all the time, without anyone realizing it.

- *Death Data* by Witaya Junma was created in 2016 and was his first experimental project using data visualization. It was quite new for the art scene in Thailand at that time because artists were not using digital and technology in artistic practice then. This work takes the real-time data of people who were killed in traffic accidents from the Accident Data Center for Road Safety Culture (Thai RSC)[www.thairsc.com]. On the website, data shows the number of daily traffic accident reports; injuries and deaths. For this work, Junma used on mortality data from the website in his artwork - a match was lit every time the death data rose. The visuals of this work are very powerful, when data is shown purely as a number, viewers do not feel as sympathetic but when they see a match that represents a life burned, then they know that there is no resurrection.

To conclude, data visualization as artwork has really only been practiced for less than two decades. All data visualization artworks mentioned above interact with other disciplines, especially science. What's more, these works are collaborative, some artists work with engineers, some work with musicians, some work with textile workers and so on.

Research Methodology and Making of *Plastic Sea*

Plastic Sea is an artistic research project, which has its physical outcome as an artwork presented in an art exhibition. For this research, a researcher is not creating an artwork or being an artist, instead, the researcher plays the role of a curator. Hence, research methodology is equivalent to the curatorial process. In the curatorial practice of this interdisciplinary project, Plastic Sea involved a small team made up of environmental researchers as advisors, the artist creating the artwork in collaboration with a designer and an engineer. Other staff from FAAMAI and Art4C teams assisted with administration, management, publications and publicity.

Method of Curatorial Practice

Merriam-Webster Online Dictionary defines a curator as "one who has the care and superintendence of something especially; one in charge of a museum, zoo, or other place of exhibit." The term has its root in Latin, curare (to take care of) and cura (care, heed, attention, anxiety, grief). Originally from around 15 - 16th centuries, curators were first established as custodians of collections. Since then, the context of art and culture has evolved, so has curatorial practice. Curators in contemporary artwork with the content of artworks, usually to select and interpret works of art, most of the time to put artworks into an art exhibition or as we call 'to curate.' For this exhibition, a curator did not select an artwork; instead, the curator worked as a researcher to select the artistic practice, then curated from an initial concept. The curator developed the idea with the artist, commissioned him to produce work, which was later exhibited.

As with research, there is no single way to curate. The curatorial process can start from any point – from artworks, to historical context, to current issues and so on.

There are two objectives of *Plastic Sea* exhibition:
1) to promote environmental awareness through art and technology; and
2) to create an interdisciplinary contemporary artwork reflecting social issues.

Plastic Sea commenced with material reviews in two parts:

1. Research on environmental issues was initially conducted from meetings and discussions with researchers from the Environmental Research Institute, Chulalongkorn University. They worked as project advisors, and the resulting collaboration focused on the issue of marine plastic pollution. Frankly, at first, plastic was not the first priority, possibly because these issues have been surveyed and voiced so often, people have tended to pay less and less attention. Some may believe plastic is no longer problematic because it is recyclable. Whereas, in fact, the recycling process produces other types of pollution and not all types of plastic can be recycled. Moreover, plastic is in almost everything we touch, in every part of our everyday life. For instance, every time we do laundry, we wash away thousands of nano and micro plastic particles into the water system. Micro and nano plas-

tic eventually affect the whole ecosystem. Environmental issues cannot be fixed completely, but if everyone helps bit by bit, then the world would not be so bad. Consequently, the research was directed towards the issue of plastic in a way that would be concrete, seeable, and that people experienced directly - which is plastic marine pollution. Materials reviews included news, journals, books, websites and extensive discussions with advisors.

2. Research on contemporary art practices considered two subtexts: 1) eco-art; and 2) art and technology. The research or curatorial process at this point surveyed which Thai artists and their artistic practices would be suitable for the project. The research carried on with revising notes from previous exhibitions; artists' studios were visited, and research conducted through exhibition catalogues and online archives. The research was analyzed to determine which artistic practices would work best with the issue and satisfy the funding objectives: interdisciplinary and innovation. Another aspect to consider was that the research would try to reduce the amount of plastic used during the creation of the artwork. A short-list of artistic practices was made and Junma was selected on account of the interactiveness of his works and his experience with data visualization. Data visualization was also explored further to verify if his artistic practice would be befitting of the artistic research's objectives.

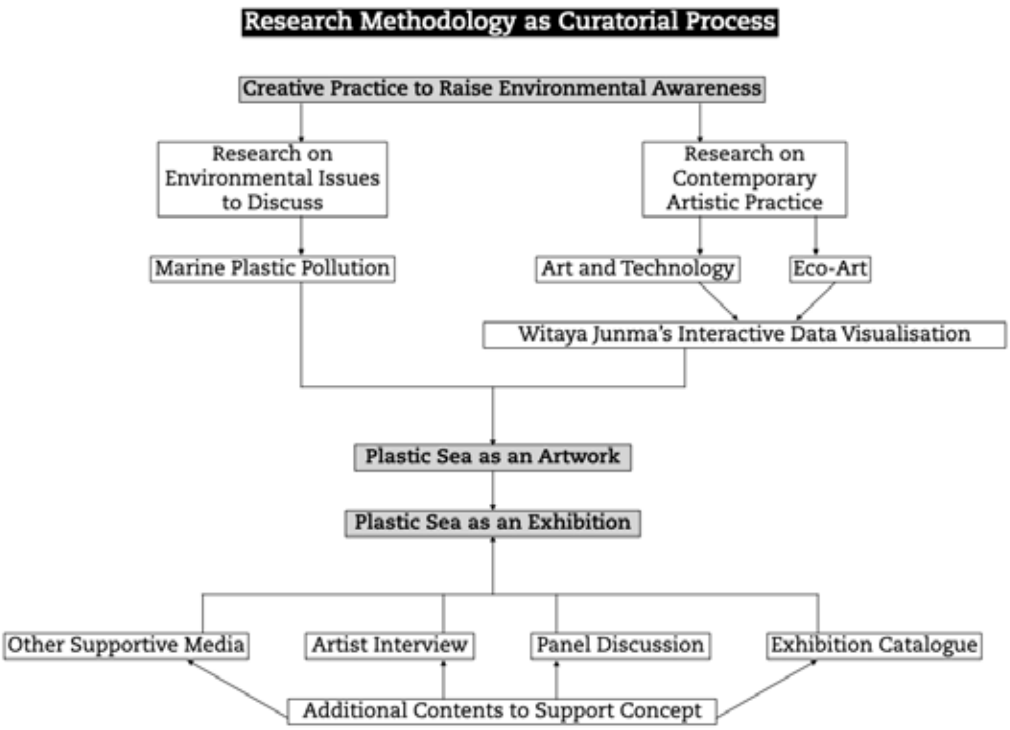

Figure 1. Diagram of research methodology as curatorial process.

After finalizing the content framework and the artistic practice, the next task was the creation of the artwork. At this stage, the curatorial process was about brainstorming ideas with the artist on what the artwork would be. Creative procedure was mostly up to the artist with the curator advising on how the work would interact with audiences, content presentation, and what aspects of the artwork should be highlighted and so on.

Making an Artwork and an Art Exhibition

Devolving research into practice, the team posited a question: How to make the artwork powerful and impactful? Firstly, further artistic research made on the data that would be used as the main content of the artwork, led to a decision to use available data rather than collect new data sets. Then the research team came across a website operated by the Department of Marine and Coastal Resources that showed data on marine pollution. It was like hitting a jackpot, as the data was what this research had set out to find. Data on the website[8] included top ten types of waste found in the sea during 2006 – 2015. The advisors then gathered the data, updated and translated it, ready to be put into the artwork. This research studied only six types of wastes, each of which was made from plastic.

Following procedure is designing the artwork. This part was primary an artistic practice that curator took a role to support and advice. The original intention (which was not a research objective) was to create zero waste from the making this artwork and exhibition but that part was not successful. Nonetheless, the artwork was made ready-to-exhibit; therefore, showing it again would not produce any more waste and everything in the exhibition was designed to be reusable.

For *Plastic Sea,* the artist worked on sketches with the curator and came up the idea of a vortex machine filled with water. The water would swirl strongly or weakly according to the data. Developing ideas and sketches into a concrete artwork, the artist and curator collaborated with a company called MakerStation, which helped with the design, programming, and engineering. The name *Plastic Sea* also came naturally during the artwork fabrication process; it was agreed that the title was straightforward and communicated the idea of plastic marine pollution well.

Figure 2. Inside the Vortex Machine of Plastic Sea, Production by MakerStation, Image Courtesy of MakerStation.

The image in figure 2 shows part of the process of creating Plastic Sea. Wood was used instead of plastic or other toxic materials wherever possible. The main part of the artwork that enabled participants to interact is the vortex machine, into which capsules filled with six types of plastic waste, one type per capsule, were launched. At the top of vortex machine, is a sensor which 'reads' the information. Imagine a tollway pass through; the artwork operates in a similar fashion. Once the capsule is launched into the machine, the water swirls around, forming a whirlpool, according to the data and the percentage of that type of plastic waste in specific year (the year is singled out randomly).

Figure 3. Two sequential close-ups of capsules containing a plastic straw and cigarette butts as the machine operates, Image Courtesy of Witaya Junma.

The initial sketch included six types of plastic waste from the data: plastic bags, plastic caps, plastic straws, plastic food containers, cigarette butts, and Styrofoam food containers (Styrofoam contains plastic) attached to the sensor and launched directly into the vortex machine. However, for technical reasons we had to develop capsules, which contain six types of plastic collected from the artist and his friends' daily plastic usage - the same plastic waste found in the sea.

Figure 4. Interaction with Plastic Sea, Image Courtesy of FAAMAI Digital Arts Hub.

Plastic Sea's system operates the following processes:

1. Data designated to be put in the artwork showed the percentage of a particular plastic in the capsule and the year the data was collected. The image above shows the interaction of participants with the artwork. To conclude, here is how Plastic Sea works as an interactive data visualization artwork.
2. The participant picks one out of 6 plastic capsules from the stand;
3. He/she then launches that capsule it on the vortex machine, and repeats one capsule at a time;
4. The water starts swirling, and the intensity of the whirlpool is synchronised with the percentage of that type of plastic in the designated year. The year data shown is programmed to appear at random; and
5. Once the whirlpool stops, the participant can interact with the same capsule, and another year will appear at random; or the participant can interact with another capsule.

Interaction with *Plastic Sea* is simple but what is communicated to the participant operates at a deeper level. Launching a capsule into the vortex machine signifies the act of trashing the water; the participant may have never thrown trash directly into the sea, but producing waste unintentionally creates marine pollution as some of the waste ends up in the sea anyway because of poor waste management.

Figure 5. Close-up of cabinet components, Image Courtesy of Witaya Junma.

Apart for the main component of the work, *Plastic Sea* employs another part of the installation to make the content even stronger, creating a more compelling visual effect i.e. the two cabinets contained plastic waste and sea water. Junma collected plastic waste that was produced not deliberately but rather from everyday activities, such as toothbrushes, bubble wrap, plastic cutlery, hairbands and so on. He put them another type of capsule with sea water. When those capsules are displayed in the cabinets; the context of plastic waste has shifted to be decorated objects.

Plastic Sea: Art Exhibition on Plastic Marine Pollution

Plastic Sea is an interactive data visualization artwork that is not site-specific, but it needs to be exhibited in a dark room. The exhibition was at the CU Art4C Gallery and Creative Learning Space, which is the faculty's project space, and is situated in an old community in central Bangkok. Below is an installation photograph of the exhibition. There is a vortex machine in the middle, and a capsule stand next to it as well as cabinets displaying plastic waste on the left and right of the installation. Not shown here, but additional information was provided via wall-texts and a short video clip about this work shown at the other side of the room.

Figure 6. Installation shot of Plastic Sea, exhibited on the 2nd Floor of CU Art4C Gallery, Image Courtesy of Witaya Junma.

Putting the work up for an exhibition went through the usual routine, and as mentioned earlier, attempts were made to create as little waste as possible. All publicity materials were sent out online. Teasers were produced and launched prior to the exhibition.

Figure 7. Publicity poster of Plastic Sea Exhibition, Image Courtesy of FAAMAI Digital Arts Hub.

The exhibition was launched on the 3rd of July 2021 which was an International Plastic Bag Free Day, to underline the concept. Typically, the opening reception would be filled with people, public panel discussions would be held, curator and artist tours offered and so on. However, due to the COVID-19 pandemic and semi-lockdown in Thailand, the opening reception was cancelled, and guests were invited to make a viewing booking (a limited number of participants were allowed per showing). Therefore, the curatorial process extended to other elements and activities that could support the idea of the main exhibition, as follows:

- Exhibition catalogue[9] was made to accompany the exhibition. The catalogue included a forward by the Dean, comments from the environmental advisors, a curatorial statement, artist's statement, artist's bio, curator's bio, credits and some images of the artwork. Limited numbers were printed on eco-friendly materials.
- On the opening date, the exhibition held a curatorial tour but it was not recorded; however, an interview[10] with the artist was produced and is now part of the exhibition's digital archive.
- Panel discussion[11] was carefully arranged. It was broadcasted live on Facebook without an on-site audience. The discussion topic was 'What can data on plastic pollution in the ocean tell us? Speakers included Pornsri Suthanaruk, (Deputy General Director of Department of Marine and Coastal Resources), Wannasingh Prasertkul (Environmental Activist and Influencer) and the artist, Witaya Junma. The discussion was moderated by Chanat Wutwikaikan (Environmental MC and Influencer).

Figure 8. Panel discussion on plastic marine pollution in Thailand, Image Courtesy of Pornrak Chowvanayotin.

The Plastic Sea exhibition was held for nine days, on 3 - 11 July 2021. The reception was well received despite the adverse circumstances of yet another wave the COVID virus pandemic, which hit Bangkok very hard just a few days prior to the exhibition opening. Apart from environmental advisors, artist, and MakerStation, this artistic research and exhibition received great support from the FAAMAI and Art4C teams. The project is scheduled to be shown on Google Art and Culture by the end of this year.

Findings and Conclusion

From questionnaire collected, positive feedback from participants indicated that the Plastic Sea exhibition was considered successful. All of the participants were satisfied with the artwork and they agreed this work showed interesting facts about plastic marine pollution they had not been not aware of. On top of that, after experiencing the exhibition, the participants felt the need minimize their use of plastic in their daily lives. Furthermore, the exhibition showed how perception, in this case, perception of data, can be changed or altered by colors and shapes:

> Human mind is very visual; data visualization is an ancient need… Data visualization is a field that has input from many disciplines. Psychology studies data perception, or the impact of some elements on perception, such as colors and shapes. (Aparicio and Carlos, 2014:7)

Some comments apparently show that participants were left with a sense of 'awe' from their interaction with the artwork. Yes, from a curatorial and artistic practice perspective, this work aimed to create awareness using visual impact of a whirlpool and the interaction of trashing the ocean but the 'awe' audiences experienced was unexpected but welcome nonetheless as an additional positive outcome for this research project. Kosara (2007) pointed out that data-based visualizations can range from pragmatic visualization, which is the most utilitarian but least sublime, to artistic visualization which is the most sublime but least utilitarian. Artistic research such as Plastic Sea shows that interactive data visualization like Plastic Sea can be sublime in relation to the 'awe' effect and informative as well.

In conclusion, this artistic research, *Plastic Sea,* an exhibition on plastic marine pollution fulfilled its research objectives. It raised awareness of the environmental issue of plastic marine pollution for those who interacted with the artwork and created an interdisciplinary link between art and technology. This artwork also shows that dealing with contemporary social issues through art may start out small but be elevated and disseminated quickly. Comments from people who experienced the Plastic Sea exhibition indicated that they would make the effort to create a better living environment.

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Endnotes

1 A community of organisms interacting with each other and their physical environment.

2 A term coined by Joseph S. Nye, Jr. referring to the ability of a country to persuade others to do what it wants without force or coercion.

3 Art of the present day and of the relatively recent past, of an innovatory or avant-garde nature. (Tate Term).

4 An human activity that causes damage to the environment.

5 A fragment of any type of plastic polluting the environment, measuring less than 5mm in length.

6 Tiny particles resulting from the degradation of plastics, ranging in size from 1 to 1,000 nanometres.

7 Environmental art is art that addresses social and political issues relating to the natural and urban environment.

8 http://tcc.dmcr.go.th/thaicoastalcleanup/report.

9 https://www.faa.chula.ac.th/uploads/tiny_uploads/Plastic_Sea_Catalogue.pdf

10 https://youtu.be/qE03wx-lA64.

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Markets & the City: Planning Interventions & Markets in Guwahati City, India

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Abstract

Older cities pre-existing the founding of modern Guwahati city were important trade centers in the Indian eastern region. From the nineteenth century, the colonial regime began reorganizing the spaces in Indian urban centers through town planning schemes. The article investigates how town planning schemes and modern urban planning in Guwahati city changed the forms and locations of the public markets with the city's outwards expansion. An exploratory approach was taken to review the archival and documentary material available on Guwahati's public markets, including the publicly available historical maps and master plans to understand the public rationale for the changes. Although ideas of change and development were inducted into the city land-use plans, the article yields an answer to the problem of why successive master plans have failed to get the natural development of the city public markets to follow the urban planning goals for the city.

Keywords: *Town Planning, Public Markets, Colonialism in Assam, Urban Space, Municipalities in Assam, India*

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Introduction

Urban planning and its implementation in cities in modern India have created diverse urbanization paths due to India's immense size and diversity. Divergent urban planning policies for different states in India and shortcomings of personnel, methods, and funding led to unique problems and opportunities for urban planners. Population expansion in the cities, especially in the new cities that developed in the post-independence period, did not always follow limitations defined by city master plans. City market centers were affected by the implementation of the master plans. Large unplanned, congested settlements emerged on land around market centers, creating concerns about hygiene and traffic around the market areas. In some newly developed cities in post-independence India, retail markets were planned. However, the absence of planning for the natural growth of city areas for wholesale warehousing and truck terminals around the municipal public markets caused the older public markets in cities to emerge as problem city areas for planners (Jagannathan, 1987).

Urban public markets in India, including markets recognized by city administrators or municipal public markets, have been affected by significant political and economic challenges. The sociologist N. Jayaram, for example, writes how changes in the international economic and political order since the 1990s impacted the local and milieu dimensions of cities. After the Indian economy began to liberalize in the 1990s and the country's economy developed rapidly, planning and re-planning the cities has been transformational (Jayaram, 2010).

Public markets in Guwahati city in the northeastern state of Assam have been subject to both of these mega changes. The forms and locations of some of the public markets have survived from the eighteenth and nineteenth centuries. The transition of the city spaces from their location in the erstwhile towns and colonial stations of Guwahati in the nineteenth century to the modern and enlarging megacity of Guwahati in the eastern region stressed the market's outer forms. The land-use arrangements in fast-growing megacities across the Asian region from Mumbai to Jakarta have shown that the economic relations of the society, the differences in modes of income of the rich and the poor, and their growing inequality affect the ways urban lands gets used for different public purposes (Alwi, 2016). The cities' public spaces develop in response to the reconfiguring of the economic relations. Urban planning has been crucial in this. This article studies the irregular and disordered spill out of public markets in Guwahati in ways the city master plans had not designed and observes some of the reasons for this phenomenon.

Public Markets and the Imprint of the Colonial in the Post-Colonial Town Planning Practices

The British colonial government in India, from its earliest days after its arrival on the subcontinent, treated the indigenous markets, the *'bazaar'* areas, with contempt (Beattie, 2003). The *bazaars* were often the centres of the habitations of the indigenous population. In Kolkata, where the British first marked their foothold and which later became the political centre of British India, the colonizers were careful to establish the European settlement away from "Barabazaar," the main *bazaar* of Kolkata. The local public market areas were places of squalor, diseases, and a source of concern for public health (Beattie, 2003). Other academics of colonial public architecture and urban planning, such as Sen (2010) and Omolo-Okalebo et al. (2010), agree that the international political economy in the nineteenth and early twentieth century and the internal political equations in the colonies determined the physical patterns of the European settlements in the colonies. As Beattie (2003:18) writes, "the ideals of health and hygiene are intimately connected to a dominant "Western" narrative of modernity."

Town planning in colonial stations across India, Africa, and Southeast Asia benefitted from modern town planning and urban development ideas in Europe. The urban planning theories generated resources and the processes for reorienting the urban areas to serve the needs of economic production, trade, and colonial administration (Home, 2013). The arrival of these ideas prompted, for example, in Singapore, major urban reforms designed to correct its “scandalous” “insanitary” conditions (Chang, 2013:37). In far-off Kampala in Africa, the local marketplaces were also separated from the European station for awarding the white population a hygienic and comfortable living condition (Omolo-Okalebo et al., 2010).

Despite the inadequacies of the modernistic colonial town planning approaches, postcolonial planning practices sustained its faith in the objective function of town planning of putting into order the chaotic urban space of the colonial natives (Sharan, 2014; Omolo-Okalebo et al., 2010). For understanding the application of the postcolonial planning theories in our local context, the transfer of ideas from the colonial to the postcolonial becomes necessary. In post-independence India, Sharan (2014) writes that town planners and land use economists assumed greater powers than even the sanitarians and public health engineers in the colonial period. The elected representatives reserved some democratic say in the master plans the town planners prepared, but they let the planners deal with the greater part of preparing and implementing the plans (Kalia, 2006). The master plans were raised to a new centre stage. The urban space of public markets was squeezed from two ends: master plans intending to improve the living and hygiene conditions of the nation's citizens; and creating zones for separation of residential, commercial, and public markets and other specific urban spaces. Thus, while public markets were seen only as areas of disease and unhygienic conditions in the colonial frame, the chaos and disorder of the existing public markets in cities became part of the common discourse of citizen-centric town planning focusing on local convenience and accessibility.

Methodology

There are very scant direct documentary resources on the old public markets of Guwahati. For the purposes of this article, the documentary evidence available at the Assam State Archives was reviewed. An exploratory approach was taken to review the other archival material and literature available on Guwahati’s public markets, including the publicly available historical maps and master plans. A systematic rereading of this collected resource allowed for the development of this history of the growth and unsystematic spill out of the public markets from the nature of growth intended in the master plans.

Fort Towns to Colonial Station: History of Public Markets in Guwahati

History of Planning for Public Markets

The historical emergence of physical and spatial forms of urban markets across India has convergence with the general history of the emergence of public markets across the world. In the busy river and seaports, the arrival and dispatch of commodities on merchant ships from abroad and on inland vessels for exports facilitated local trade at the city, and the shaping up of markets for this trade led port cities to become thriving economic centers. The city of New Orleans, for example, began as an outpost of the French regime in North America in 1718, but the growth of public markets along the river later led New Orleans to become an important economic hub for trade with Cuba, Haiti, and Mexico (Sauder, 1981). However, in interior cities as well, such as in Quito, from the time of the city's foundation in the fifteenth century, expansion and increase of urban markets have accompanied the expansion and growth of the city (Bromley, 1974).

In Guwahati city, there are historical references to the existence of forms of markets in the ancient cities and medieval fort towns that preceded the foundation of modern Guwahati by the British in the early nineteenth century. The introduction of modern engineering, architectural practices, and colonial public works distorted the everyday existences of the precolonial public markets. The gradual formalization of public spaces of the markets and its reconstruction according to colonial methods displaced the markets from their original spaces in the old city for various public purposes such as to make the traditionally existing public markets or autonomous markets conform to approved hygiene conditions and implementation of town public work schemes.

The planning of the public markets in Guwahati in the colonial period ushered in the markets as space for public service provisioning rather than as autonomous economic spaces. Town planning in the medieval and ancient historical periods designed the Assam towns as garrisons and forts (Baruah, 2007; Konwar, 2014). Although the Ahom rulers in Assam encouraged the development of markets, public markets in the floodplain terrains and social relations of Assam were events rather than spaces. This was so because markets were autonomously organized on specific weekdays in temporary locations that shifted whenever annual floods occurred (Saikia, 2019). In contrast, the colonial period marked a departure in the ways the locations of market establishments were decided and the markets were administered.

Town planning in postcolonial India treaded a trajectory away from the colonial to adopt modern ideals of change and development while retaining a sense of national and even local identity in the town plans (Shaw, 2009). Urban land-uses, their tenures, and the laws and taxations governing them were amended gradually to reflect independent India's welfare and modernist ideals. Town planning laws across the states empowered municipalities to prepare master plans for planned growth and development. Municipalities were also empowered to purchase lands, levy property and betterment taxes, and draw up schemes and implement them to operationalize the master plans. It allowed the municipalities to secure proper sanitary conditions, amenities, and convenience for urban areas. The urban markets were reconstructed, new markets were constructed, and lands were reserved for this purpose in municipality areas.

In Guwahati, land-use planning for expanding urban economic spaces for retail and wholesale goods markets merged with urban space planning for public markets. The Municipal administration regulated, ordered, and reordered the public market spaces to conform them to overall town development schemes. After independence, the existing town municipal authority was replaced with a municipal corporation to give it appropriate legal powers for the effective administration of a growing city. A parallel city planning authority was also set up for systematic and orderly growth of the urban areas. The two city authorities were instituted to ensure land-use modifications adapted to "changing circumstances." The planning authority was to prepare master plans to enable "the future development of the city and its suburbs in a planned way for coming years."[1] After this time, the planning systems for ordering and reordering municipal public markets in the city's space have become governed by the city master plans.

The Oldest Public Markets of Guwahati

The geography of Guwahati –its location at a small bend of the river Brahmaputra and the topography of hills on both sides of it sheltering its ecologically unsteady narrow floodplains; has supported the sustenance of trade and commerce through courses of history (Saikia, 2019). The ancient Hindu epic, the Ramayana, and other texts such as the Kalika Purana, described the geography around Guwahati as water-logged and low-lying areas (Baruah, 1933). The old towns of Guwahati, which were called Pragjyotishpur in the ancient age, Kamrupnagara in the early medieval age and came to be known by its present name of Guwahati; or Gauhati as the British called it, was situated across river islands formed out of the river, its channels and its hill tributaries. The channels on the south bank gradually dried up to form a contiguous landmass as the several narrow rivulets on the south bank and small and large lakes, locally called *Beels,* became separated from the main channel. The successive medieval fort towns and present-day Guwahati city have expanded across the narrow strip of the Brahmaputra floodplain (Hemani and Das, 2016).

According to one interpretation of the name Guwahati, it was derived from "guvahatta," which meant the market for areca-nuts (Raichoudhary, 2017). An important economic center developed in Guwahati when the earliest of Guwahati's cities was established. Trade took place in its markets for grains, betel leaves, areca nuts and coconuts, pepper, cardamom, and black aloe trees. An east-to-west arterial road was constructed in the fifth century CE that connected the market center with the temples at the hillocks of the town. Riverside markets were located at the east and the west ends of the town. These served as the principal trade markets for the surplus rural agricultural production. These east and west end public markets, located respectively at Kachari-ghat and Pandu-ghat, also became the prominent ports for the arrival and dispatch of the riverine trade of the city and the kingdoms in Assam (Hemani and Das, 2016).

In the late medieval age, the four most important public markets were located in four directions of the fort of Guwahati by the side of dug-out canals, a small tributary of the Brahmaputra called the Bharalu, and by the river itself. This description of these markets in old Guwahati has been provided by a literary source left behind by an aristocrat of the Ahom monarchy, the last independent rulers of Assam before the arrival of the British. The eastern market was close to the old port market at Kachari and was called first the Chowk Bazaar and later became known as Uzan Bazaar. The location of the Kachari market possibly shifted sometime in the medieval period due to the Brahmaputra riverbank's erosion and deposition.

The western market of the town was called the Dolong Bazaar (bridge market, in Assamese) and was located by a timber bridge near the mouth of the Bharalu (Raichoudhary, 2017). This point was located about six kilometers east of the erstwhile river port of Pandu. The reason the market at Pandu ghat became separated from the markets of Guwahati in the late medieval age was that the Mughals were expanding eastwards from Bengal from the end of the 16th century, and by the year 1615CE, the strategic port of Pandu came under Mughal control. The two other markets within Guwahati were Paltan Bazaar towards the south and Faasi Bazaar (now known as Fancy Bazaar) by the river in the town center. The public market at Faasi Bazaar became the commercial center of the town, where 200-300 people came every day to trade (Raichoudhary, 2017).

The second order of public markets in Guwahati was outside the fort boundaries and was therefore not directly governed by Ahom administrators. The establishment of the Ahom state in the Brahmaputra valley fostered a trade relationship between the hill population and the plains settlers. There were eighteen small principalities in the foothills along the Brahmaputra river valley and one such principality was Beltola, the territories of which began right from the southern edge of the Ahom held territories in Guwahati. Trade exchange between the tribal inhabitants in Guwahati's neighboring hills and the city's plains inhabitants took place at a principal public market at Beltola, located about fifteen kilometers south of the town center (Choudhury, 2017).

The third order of markets in the neighborhoods of Guwahati was the autonomous markets that came up wherever there was a societal need for the establishment of regular commerce between traders and local peasants. These markets called *haat* were set up every week and were a hallmark of the floodplain terrain of the Brahmaputra. Since the sandbars and the islands where the peasants grew their produce were shifting all the time, the location of these public markets was never permanent (Saikia, 2019). Some of these “internal markets” in Assam that became stationary over time were formalized and, at some places, were subjected to toll taxation by the Ahom administration, but only a small proportion of the revenue was got from market taxes (Barpujari, 2007a).

The Public Markets of Guwahati in the Colonial Era

The British annexation of Assam in the nineteenth century led to the arrival of its officials in Guwahati. The British recognized the strategic importance of the former Ahom station at Guwahati, and after taking control of it, established their center of government of Assam here. The change of political control of Guwahati to the British started a new period in the spatial reorganization of Guwahati (Hemani and Das, 2016). It remained the center of the colonial power in Assam province until 1873 when the office of the Chief Commissioner of Assam was shifted to the newly established station at Shillong in the hills located to the south of Guwahati. However, Guwahati continued to be headquarters for the Commissioner and Judge of the British territories in the Brahmaputra valley and an important military station for the region (Barpujari, 2007a). Its location by the river and the active commerce at the Guwahati markets between merchants and the ordinary populations at the *haats* in the neighborhoods grew the town's commercial importance. The colonial government extended the telegraph line to Guwahati and improved other means of communications with Bengal.

The colonial administrators were unimpressed with the habitability of Guwahati, however, and they wanted to change the spatial structure of the town. The government established a modern bureaucratic municipality for the town's development and gave it the authority to raise taxes from homesteads and the markets. It empowered it to implement schemes to maintain sanitary conditions and other urban services in the town. Francis Hamilton, an employee of the East India Company, who was tasked with reporting on the topography and history of Assam, called the town “a very poor place” (Hamilton, 1940). According to some of the first colonial visitors, it was full of jungles, marshes, and tanks choked up with weeds. The colonial government altered the town by cutting down the jungles, clearing the tanks, removing the sloughs, and encouraging cultivation in the neighboring fields from funds raised through a hearth-tax imposed on its residents (Barpujari, 2007b). For maintaining sanitation and hygiene standards in the public markets, the municipal authority started schemes to improve its approaches, lighting and drainages near markets.

The medieval era public market at Kachari ghat was relocated again by the colonial municipal authority to construct the civil lines at Uzan Bazaar while Dolong Bazaar, Paltan Bazaar, and Faasi Bazaar public markets were improved. At present, there are three markets at Uzan Bazaar that can lay claim to the heritage of the medieval public market near Kachari. The establishment of the municipality for the town's governance in the colonial period introduced a new concept of the market in the universe of regional commerce. The wet markets for the commerce of vegetables, fruits, and meats came to be known by the administrative term markets; these were more precisely called the 'municipal markets' because of the municipality's regulatory role in ensuring sanitation and hygiene standards. The other markets were the more general market areas of the town where shops and establishments were collected together and later developed to become the central business localities of the town. This distinction was foreign to the indigenous ideas of markets. Such a new market, now known as the Pan Bazaar, the colonial government established north of the cantonment near the Paltan Bazaar public market for supplies to the town's European residents, but it also came to be known by the indigenous term of the bazaar (Hazarika, 2002).

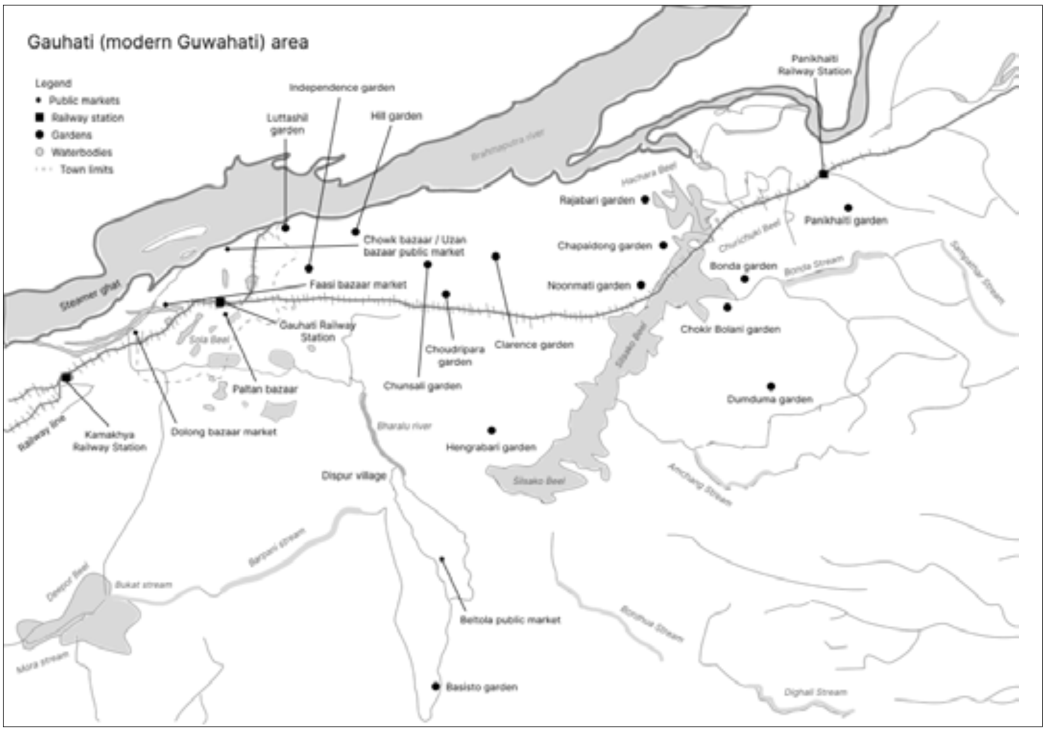

Figure 1. Guwahati Town in 1911, Assam State Archives (map prepared by Subhankar Das).

The spatial planning of the colonial government in this early period of its rule was limited to sanitation inspections of the existing native public markets while public constructions of streets, bridges, embankments and the civil lines at Uzan Bazaar for making the town habitable for the Europeans restrained natural expansions of the native public markets. The setting up of the municipality as an independent level of government for improving the town through development schemes set out Guwahati's municipal public markets from the internal markets distributed across rural surroundings of the town. This was another departure from the practice in the Ahom rule, which had a uniform administration system for rural and urban public markets. The colonial administration encouraged cultivations at the edge of the town so that the hills along the riverside at the town limits soon became covered with tea gardens (Barpujari, 2007b).

The establishment of Guwahati as a modern municipal town made the availability of space for the emergence of newer temporary public markets limited. Whereas the floodplain terrains had supported the free emergence of shifting farmers' markets, municipal spatial planning pushed the continuation of the traditional market-event practices outside the town boundaries. The tribal subsistent farmers cultivating and inhabiting the surrounding hills would only sell their excess productions to merchants outside the town. The Beltola public market and similar barter markets for commercial exchange between communities of the Guwahati valley continued to exist along the southern foothills (Choudhury, 2017).

With an increase in trade, the merchants' market area at Faasi Bazaar expanded in space. The improvement of communications to Assam, the establishment of the European colony in Guwahati, and the material changes colonial rule in India introduced to society generated demand for machine products. The increase of trade opportunities led to the opening of a newer and increasing number of shops and establishments around the European market at Pan Bazaar and the civil lines at Uzan bazaar.

Until the 1940s, there were only a few trades and shops at the business center, such as a newspaper agency, bakery, optical shops, book shops, clothes stores, departmental stores, and liquor stores. The trade at these shops supplied to the urban consumption demands of the European and native upper classes in other towns of Assam as well apart from Guwahati (Raichoudhary, 2017). For example, a bakery named the Shaikh Brothers, which continues to exist now by the same name was started in 1885 by a family of merchants from Bengal who began by supplying uniform accessories to British soldiers in Assam and later moved to the bakery and then expanded it to general consumer goods business. The shop served the colonial officers and European planters across Assam. It had a regular supply line to Shillong for its bakery products, and by the year 1905, it became the official supplier to the Assam Chief Commissioner's residence at Shillong (Banerjee, 2004). With population increase in Guwahati town and growth of business in Assam, the town commercial area expanded southwards and westwards from Pan Bazaar and Uzan Bazaar towards the old public markets of Paltan Bazaar in the south and Dolong Bazaar in the west.

Master-Planning the City Markets

After India's independence from British rule in 1947, Guwahati remained the center of commerce in Assam. Mass migration from Bengal and interior parts of Assam due to the partition of British India increased the town's population. It increased from just 44,000 in 1951 to more than 100,000 in 1961 (Hemani and Das, 2016). The town limits were extended to the narrow valleys west of the public markets in Dolong Bazaar and east and south of Uzan Bazaar and Pan Bazaar to include new settlements in the town. The independent provincial government in Assam adopted the colonial model for town governance and urban municipal planning but followed the emerging new vision for town planning across India that combined acceptance of the colonial burdens on town planning science with the necessity of integrating the indigenous Indian culture and tradition of public spaces use with it (Shaw, 2009). The government further improved rail and road connectivity to the town by constructing a bridge across the Brahmaputra in the 1960s. It established public sector industries and encouraged the growth of private trade and small industries.

The next stage in the evolution of municipal governance in Guwahati came when the capital was shifted here from the hill town of Shillong in 1972. The need for planned development of the enlarging city got the government to reconstitute the municipality into the Guwahati Municipal Corporation (GMC). This step was joined by the constitution of another office, the Guwahati Metropolitan Development Authority (GMDA), in 1985. It was given the authority to draw up master plans for its planned development. The authority was also given powers to formulate and execute schemes for enforcement and execution of the master plan. The GMC retained the ordinary municipal powers to tax, inspect and regulate the municipal public markets and other commercial areas and the trade carried out in its market stalls, shops, sheds, pens, and building quarters (Choudhury, 2012). The GMC had powers to lease or acquire lands to construct and maintain new infrastructures for the municipal public markets and slaughterhouses. It also had powers of supervision and licensing over public markets the municipality did not directly own or control; these markets have become known in GMC regulations as "private markets" (Choudhury, 2012).

Traders in private markets paid rents to their property owners rather than the government. These markets started as irregular clusters of vendors in newer urban settlements as the town expanded outwards from the old town center around Uzan Bazaar and Pan Bazaar areas. One such private market was recognized in 1967 in Silpukhuri, three kilometers east of Uzan Bazaar. Vendors in these markets would form associations for common dues and regulate themselves.[2] The recognition and indirect administration of private markets have become an established practice in the Guwahati municipality. There are currently four such markets under the GMC, and no new municipal public markets were established until the most recent decades.

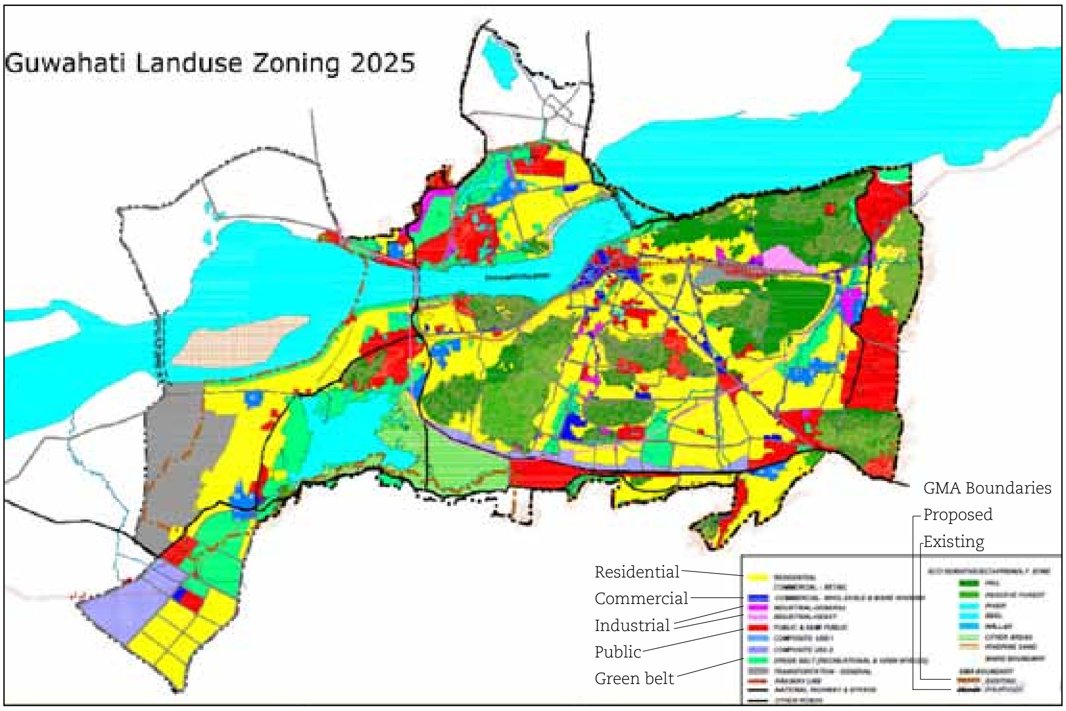

Figure 2. Guwahati Landuse Zoning 2025. Extracted from Guwahati City Land-Use Master Plan 2025.[6]

The general old commercial areas of the city have evolved to reorganize spatially into clusters of shops and establishments that trade in similar articles or the same sector, mimicking the general pattern of urbanization for many global cities (Colson, 2016). The commercial areas spreading out from Pan Bazaar and the Faasi

Bazaar public market have expanded south and west to integrate the residential and semi-residential areas of Machkhowa, Athgaon, and Lakhtokia to form the major retail and wholesale commercial areas of the city. The Athgaon area, close to the Paltan Bazaar area on the old trunk road of Assam, has become known for automobile spare parts, electrical equipment, construction materials, and hardware. The Pan Bazaar area has publishing houses, book stores, newspaper agencies, and some retention of shops and establishments from the colonial period, such as the Shaikh Brothers bakery. The Faasi Bazaar area also has establishments dating to the late 1800s that trade in grains, Assam tea, fruits and vegetables, cut flowers, aluminum, steel and iron implements, and household items. It also has the city's older clothes, silk, and cotton traders. There is a municipal wholesale public market for fresh fish on the riverbank along the Uzan Bazaar area. The Lakhtokia commercial area, situated between Pan Bazaar and Faasi Bazaar areas, has the old electronics establishments of the city and hundreds of small shops doing trade in electronic spare parts and repair services.

The distinction of the city's business areas as retail, commercial areas, and wholesale commercial areas has been a relatively new development. This distinction began to come in the 1960s when the state government adopted the first master plan for the planned development of Guwahati. The master plan regulations have had separate guidelines for building constructions in retail and wholesale commercial areas, but enforcement of regulations has always been an unending challenge for the city's municipal and development administrators (Hemani and Das, 2016). Because of this, the central commercial areas have remained mixed land-use spaces where residences, public offices, and retail and wholesale establishments now huddle together.

As one might observe by comparing older city maps with successive city master plans, spatial expansions of the city have got newer commercial areas, municipal public markets, and other municipality-recognized markets to distribute across the south bank areas. The municipality-recognized markets came up as irregular markets in newer residential zones of the city, and municipal administrators extracted only periodic lease and toll charges from their traders. The municipality did not own or directly run these markets. These markets have multiplied with time, even in the older residential areas. At present, amongst the cluster of public markets in Uzan Bazaar area, a public market at the GMC office building at Uzan Bazaar the municipality directly administers while the Uzan Bazaar fish market, the Kachari ghat market, and its hawkers are administered through leases and toll collections; the role of the municipality is limited to sanitation inspections.[3] There also comes to the Uzan Bazaar GMC public market, especially on Sundays, the weekly and occasional farm producer who does not have the usual trade license and the stall allotment at the market to trade her produce regularly but pays a toll for setting up temporary shops on the pavements.

The approach for developing planned city markets recognized a need to remove ugly, unorganized, and dirty public market spaces and replace them with modern remodeled urban structures. After the transfer of the capital to Dispur, the adjacent Ganeshguri area, then an important intersection on the Guwahati-Shillong road, was redeveloped to make its space fit the requirements for developing the capital area. There was a public market adjacent to a government-run school called the Gopal Boro School before the Dispur areas came under municipality control. GMC market inspectors found the old Ganeshguri public market a chaotic and untidy place, and it was a source of disturbance for the school.[4] The municipality realized a need for having a planned commercial area, including public markets in the capital area. Towards 1979, it drew up a scheme to redevelop the commercial area by constructing permanent structures for the old public market. The construction block was divided into sections for categories of vendors for the sale of vegetables, fish, and meat separately. There were to be neatly spaced corridors for walking between the sections. The plan provided adequate public toilets and a separate porters' lobby in the market. Perimeters of the market were changed to comply with the construction regulations under the city master plan.[5]

The implementation of the master plans has altered the structures of older public markets. The space around the medieval-era public market at Kacharighat, which now exists as a toll collection municipal market, was changed through a city improvement scheme started in 1989. The scheme designed the riverfront running along the main road by the market to open up tourism opportunities in the city. Its riverfront project in Uzan Bazaar and Kachari removed the market from its former more prominent location and pushed it to a corner at a turn of the road before the road approached an incline to the Assam Governor and other state residences. The succession of the scheme by other similar improvement schemes in the future, the opening of a riverfront jogger's park, establishment of retail shops in the area, and improvement of the river ghat have wholly hidden the Kachari public market from the curve of the main road. The approach to the market has narrowed to a thin stairs corridor running downwards by the ghat. From there, the market extends along the riverbank behind towering government offices that cover the market from the city's viewers located farther from the riverbank. The other end of the market is very near to the High Court of Assam and remains separated from its buildings by perimeter walls.

In some places, especially the older city areas, the city master plans have made the public markets enclaves in otherwise residential zones. In Uzan Bazaar area, the plans disfavor the future expansions of the public market located here because the area is a residential zone; the public markets have been permitted to stay as they exist, if only for the time being. The city's larger commercial areas have also been made to follow the same principle: new constructions or redevelopments in wholesale or retail commercial zones have been required to follow specified guidelines for such constructions in each zone. New constructions have not been allowed to relocate outside zone limits.[6] In this way, despite the constraints of the city planning authorities in implementing municipal bye-laws and ensuring its compliance, the phase of administration of the city space through master plans has inaugurated an era of systematizing control on how commercial areas would expand.

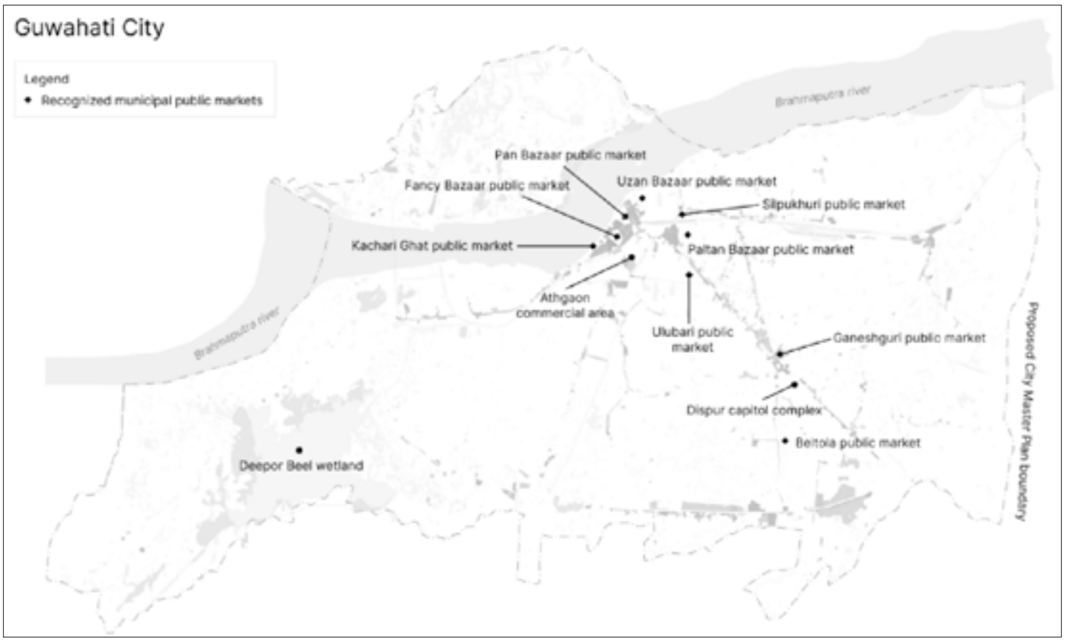

Figure 3. Extracted from Guwahati City Proposed Land-Use Master Plan 2025 (map prepared by Subhankar Das).

The municipality's limited land and financial resources for establishing new municipal public markets across the city and costs involved in traders using the municipal market infrastructures lead individual farm producers and small traders to vend articles at makeshift locations and some traders to sell door to door (The Sentinel, 2019). The hawkers source their articles from the wholesale markets in Guwahati or the peripheral villages producing the vegetables, fruits, chicken, or fish. The city wholesale vegetable and meat markets have expanded from its delimited public market in Faasi Bazaar. Vendors evicted from the wholesale market's peripheries due to violations of space regulations competed for allotments at an alternative wholesale market that the state government constructed for the use of wholesale vegetable traders in 2012 near the city bypass on the southern edge. The overspill of traders in municipal public markets and the consequent scattering of roadside vegetable vendors and door-to-door vendors make a contrasting image to the relative unrestricted license for traders to occupy space and conduct business in the pre-modern city.

The discipline and control inclinations of municipal public markets here replace the relative wildness and freedom in the unregulated agrarian and traditional public market spaces. For example, the traditional marketing practice at the Beltola market for exchanges between communities has changed to a bi-weekly public market during which subsistent farm producers from neighboring rural areas and small traders arranging to bring these farm products to the market meet to trade with interested city residents. The market gets organized on stretches along a main city road in the Beltola-Dispur area, two kilometers from the capitol complex, rather than in any open field or evacuated site. Since the expansion of Guwahati city to the new capitol complex at Dispur and development of the surrounding areas, especially since the 2000s, the Beltola weekly public markets have been eyesores for many city residents who feel the Beltola market has become now known more for its wilderness and causing traffic disruptions than for traditions or culture. The regulated municipal public markets are preferred, and markets like the Beltola weekly markets are seen as aberrations defying the city's spatial order. The marketing becomes "harassment" to city commuters (Barman, 2018).

City residents also complain of the same harassment for the random temporary public markets that have come up in the newer residential areas. For residents, these smaller street markets decrease commuting time to municipal public markets, but like in the Beltola weekly markets, random clusters of meat and vegetable vendors near the streets obstruct the residential areas. When these traders have operated without licenses, the municipality's enforcement officers have evicted their stalls from residential areas of the city, especially when street markets have obstructed traffic on major city roads.

Operation of the private markets, like the disaggregated street vendors and hawkers, municipal authorities have understood to be the markets of disorder and chaos instead of organization and discipline in the functioning of municipal public markets. Vendors have been vulnerable to being forced by the property owner or the rent collector she appoints to pay arbitrary taxes in goods or terms of money. In one of the private markets near the Beltola area, I was told that if it suits the municipal rent collector, she takes away from the vendor, in place of rents, a duck, some fish, or a similar amount of vegetable. There are also no proper sanitation inspections of this category of markets. Organic wastes, including animal body parts, are dumped on the sides of the roads and streets.

Conclusion

The old public markets are now some of the more renowned areas of present-day Guwahati city. The markets lent their names to the general residential and commercial areas where these markets are now located. Its traditions and histories have created a significance of their own for the local culture and local tourism of Assam. This article helped collate the literature and documents on the public markets of Guwahati and thereby write a history of the evolution of its public markets. The role of town planning and the master plans was analysed in marking out the paths for the evolution of the physical forms of the public markets. It has brought forth some observations that may help future urban planning policies.

Although the old public markets remain rooted in their original locations or neighborhoods, the random springing up of unmanaged markets across the city may indicate preservation of the culture of mobility of public markets in the Brahmaputra valley. The city master plans designed the spatial planning for commercial areas in the expanded city areas. However, the lack of dedicated planning for the public markets, making them convenient spaces and developing access for the city's residents, continues to make the management of the public markets a troublesome urban problem for the municipal administration and the residents. Implementation of the master plans needs to ensure that the public markets have an independent spatial existence distinguished from the existence of the general commercial areas in the city.

Endnotes

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2 File no. MA 19/67, *Fixation of License Fee on Private Markets,* Assam State Archives.

3 (document), Office of the Guwahati Municipal Corporation, Market Branch, Lakhtokia, Guwahati.

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The Creation of Single-Use Packaging from Leaves

to Reduce Plastic Waste in Thailand

Wilai Asawadechsakdi+ & Yada Chavalkul++ (Thailand)

Abstract

This research aims to analyze design criteria for creating single-use packaging from leaves to reduce plastic bag waste generated by street food and T-shirt purchases along with evaluating tools for producing these biodegradeable packages. *Design Thinking* was utilized as a conceptual research framework. The research covered consumers, street food vendors and packaging producers. Observations and interview forms were used to collect data on the characteristics of different leaf varieties and street food, plus related user behaviors and needs. After data analysis, prototype packages were created: hard structure packaging made from fresh Noni leaves and bamboo strips and soft structure packaging made from dried leaves from the Purple Orchid tree and Banana tree derived cords. These multipurpose containers address the design criteria: supporting the food's weight, carrying both dry finger food and moist food and being held with one hand. Evaluation of the tools producing the packaging suggested development gaps related to simplicity were recognized.

Keywords: *Package Design, Single-Use Packaging, Leaf Packaging, Street Food, Plastic Waste, Pollution, Design Thinking Framework, Thailand*

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Introduction

Most countries around the world have faced a tremendous plastic waste crisis as the demand for plastic containers surges. Thus, world attention for a substitutes using other materials has been increasing. Thailand (Chanthamas and Israngkura, 2021; Faulder, 2021) and other Asian countries (Faulder, 2021) have been ranked as the world's biggest dumpers of plastic waste into the sea. Since plastic possesses a long lifetime but short service life, it is being dumped in greater proportions than it was in the past. At 2.33 million tons the single-use plastic packaging, hot and cold food bags, plastic straws and T-shirt bags, are the greatest proportions of discarded materials. The plastic waste after consumption was approximately 1.93 million tons. However, that plastic waste has been reused around 0.39 million tons (20.21%). The rest has remained as waste leading to environmental troubles of around 1.51 million tons (78.24%). Some of the waste gases have leaked into the environment at 0.03 million tons (1.55%) (Ministry of Natural Resources and Environment, Pollution Control Department, 2018:1-3). Plastic waste has contaminated habitation and food sources thus causing the extinction of both marine and land species and human health problems. (International Union for Conservation of Nature (IUCN), 2021)

This severe problem has raised public awareness, so the Thai government has issued a decree ordering all offices to develop a concrete plan to solve this problem. In 2018, the Pollution Control Department, Ministry of Natural Resource and Environment generated a national roadmap to tackle plastic waste between 2018 and 2030. The use of three plastic types: plastic bottle cap seal, oxo-mixed plastic, and microbead plastic was terminated in 2019. Additionally, the use of four plastic types: T-shirt plastic bags with less than 36-micron thickness, foam food containers, thin plastic glasses, and plastic straws will be revoked in 2022. The first goal of this plan is to reduce and stop using targeted plastic by replacing it with environmentally friendly material.

Recently, the plastic waste crisis is a result of packaging waste, so the Pollution Control Department developed packaging eco-design strategies to reduce unwanted waste. This eco-design package must be safe to dispose of and must not lead to waste problems and pollution. The disposal processes utilize three methods: biodegradation, landfilling, and incineration. Nonetheless, the inappropriate landfill can cause an environmental problem because of the lack of humidity and oxygen. The incineration can cause air pollution in a large area. Thus, biodegradation can be the best solution as it can turn the waste into a bio-fertilizer. A combination of organic substances is, therefore, recommended. The Ministry of Natural Resources and Environment, Pollution Control Department (2017) has recommended using degradable or natural-made packaging for the food vendors as their waste can be beneficial to nature.

Currently, a countless number of natural containers has been made through 1) the manual process such as Banana Stalk and leaf containers by C-sense Co. (Urban Creature, 2021), and 2) semi-automation techniques, the combination of machinery and manual processes such as Betel Palm trays by Veerasa Co. (Phinyovanich, 2021), Bastard Teak leaf dishes researched by Naresuan University (Chongchitwatthanakun, 2021), Water Hyacinth containers invented by Phachi Department of

Non-Formal Education (MGR Online, 2021), and leaf dishes by Leaf Republic Co. (Embassy of the Federal Republic of Germany, 2021).). Craft containers can be positioned in high-class markets, whereas machine-related procurement can be costly and limited to those who have funding or access to government support. Therefore, the cost per item of the containers referenced above is too expensive for single use. To fill this gap, the packaging in this research will be manually produced by a simple tool, which producers can make by themselves.

Hence, this research aims to 1) analyze design criteria for developing plant-based single-use packaging in response to government policy in plastic waste management, 2) create the packaging, and 3) evaluate tools for producing the packaging. This is to raise awareness in environmental preservation for those involved in research, both the participants and research users.

In this research, the term 'packaging' involves materials studied in the roles of containing, carrying, and communicating. Nonetheless, Kongcharoenkiat and Kongcharoenkiat (1998) have separated food packaging from food containers because their functions are different. The food container does not need to extend the food shelf life, to have a closed lid, and to present complete informed labels as inscribed in the law like the food packaging functions.

Methodology

Design Thinking has been applied as a conceptual framework of this research as can be seen in figure 1. Design thinking is the process to creatively achieve a solution through a human-centered approach consisting of three components: human desirability, business viability, and technological feasibility. Curedale (2016) has generated the design thinking processes into four elements; problem identification, understanding consumer's needs, creativity, and creating a model for further development. Meanwhile, IDEO U (2019) has explained three main design thinking steps: empathy, ideation through brainstorming, and experimentation.

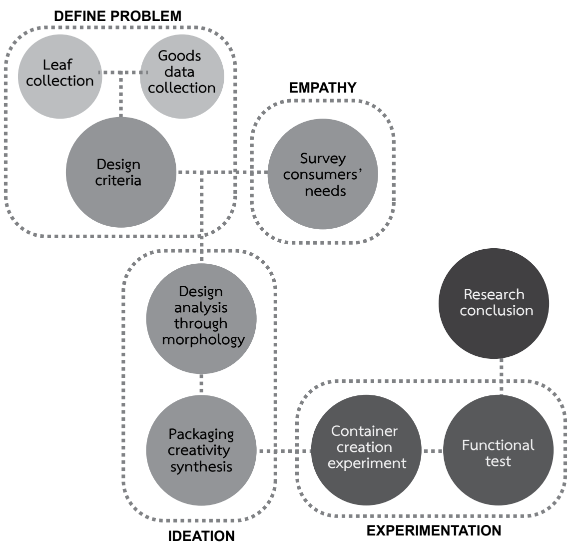


Figure 1. Research Design Thinking Procedure (Adapted from Hasso Plattner Institute of Design at Stanford University (2019)).

This research adopted pragmatic approaches where both qualitative and quantitative data were utilized to meet the research aims (Creswell, 2014). The numerical data of leave size, purchase frequency of popular street food items, and the dimensions of plastic containers available in the market were collected and analyzed to define problems (figure 1). The verbal data derived from observations and interviews with vendors and consumers were analyzed to identify their needs. The numerical and verbal data was used to clarify design criteria.

There are four components to be analyzed: leaves, street food menus, container types, and users (figure 2). The data obtained will be analyzed to list of the design criteria (figure 3).

	Methodology	Analysis Results
Leaves	**Literature review:** Research to gain information of leaves, whose sizes are larger than 10 cm. x 10 cm., was taken from the Encyclopedia of Plants in Thailand (concise ver. 2020) **Expert interview:** A botanist, who has ten years of experience, was interviewed in regard to alternative, novel designs for food containers and her knowledge of unsuitable leaves	see table A
Street Food Menus	**Brainstorming & internet research:** The initial list of popular street foods was derived from 1) individual brainstorming of 39 university students and 2) internet research. The students were from different universities and program levels, undergraduate and postgraduate, to ensure a variety of opinions. All results were tabulated, classified, and prioritized by the frequency of purchase and the foods' attributes. The attributes were used to identify suitable containers. The street foods represent samples found in targeted street markets	see table B
Containers	**Internet research & field study:** Collect the data of standard shapes and sizes of containers for popular menus from the internet and from street markets to form and classify the container types for the design.	see table C

Table A (Leaves – Analysis Results)

Factors to be considered		Result
Economic Factor	Easy to find, to grow, and propagate	Edible large-size leaves which are easy to find.
Physical Factor	Large size, tough leave, easy to form	
Biological Factor	Toxic-Free	

Table B (Street Food Menus – Analysis Results)

Food features	Sub-features	Menus	Add-on Container
Dry	crisp	Fried insect	
		Roti	
		Crêpe	
	non-crisp	Deep-fried rice flour with pandan flavor	
		Fried fish patty	side dish
		Waffle	
		Soy sauce stirred fried noodles	
		Takoyaki	
		E-Sarn Sausages	side dish
		Grilled meatballs	
Moist	mixed food	Thai spicy fermented pork salad	
	non-mixed food	Green mango with Sweet fish sauce	watery dip
		Chopped fruit	dried dip
Watery food	with solid food	Boiled Chinese square pasta	
	without solid food	Coconut smoothie	

Remarks: Owing to the limitation of leaf physical features, liquids are omitted.

Table C (Containers – Analysis Results)

Types of Containers		Width (cm)	Length (cm)	Dia. (cm)	Height (cm)
Flat	Small	11.5	17		2.5
	Large	16	17		2.5
Shallow	Small			11.5	4.5
	Large			14.5	4.5
Deep-dish	Small			11.5	7.5
	Large			14.5	7.5
Add-on	Small			6	3
	Large			7.5	5.5

Figure 2. Methodology and analysis to deliver the design criteria. Continued on the next page.

<table>
<tr><th></th><th>Methodology</th><th>Analysis Results</th></tr>
<tr><td>End Users</td><td>Observations & interviews: Information concerning the functional use of street food containers was gathered from field observations. The users' need data was obtained from interviews with the 15 vendors and 15 consumers: five vendors and five consumers from each market. The information was gathered from three different styles of street markets: Laan Pho Market for the state authority officers, Rod Fai Ratchada Market for the new generation and Bang Bor Market for the general public. The data generated an insight into their packaging needs which could not be acquired from quantitative tools such as questionnaires. Denscombe (2017) suggested that the in-depth individual data reflect the general.</td><td>
<table>
<tr><th colspan="2">Opinions from the Users</th></tr>
<tr><td>Desired packaging</td><td>- Must be strong and can support stacked up weight.
- Able to contain food for one hour without deformation.
- Heat resistant material.
- Cold and moist resistant material.
- Container with cover to protect from dust while traveling.
- Able to handle without a plastic bag.
- Able to hold with one hand
- Able to accommodate utensils
- Able to accommodate, holding with one hand, add-ons of side dish/ sauce</td></tr>
<tr><td>Problems from packaging usage</td><td>- Packaging toughness
- Non-porous packaging is unable to maintain the food's crispness.
- Thin paper package cannot protect the hand from heat.
- Food can be contaminated by dust.
- It is difficult to open the package as some vendors tie the rubber band tightly.</td></tr>
<tr><td>Concepts for Bio-Containers</td><td>- The containers must be differently formed.
- One design must be suitable for most menus.
- The cost must be as low as the paper or plastic containers.</td></tr>
<tr><td>The necessity for the logo</td><td>A logo can enhance the image, imprinting on consumers' minds, but having a logo on the containers can raise the cost of the package.</td></tr>
</table>
</td></tr>
</table>

Figure 2 Cont. Methodology and analysis to deliver the design criteria.

Observation and Interview Procedure

The vendors and consumers were contacted in advance to ascertain if they were willing to participate in the research. Each was informed of the aim of the data collection and related ethical issues. The vendor observations included the space needed and methods used in preparing and handling food containers. The consumer observations centered on their behaviors related to carrying and opening food containers, and their methods of eating food from the containers. The interviews involved the vendors' and consumers' desired packaging. The vendors and consumers were also asked about the necessity for including a logo on the packaging.

Design Criteria		
To contain	□	Able to maintain the form
	□	Able to support the food weight
	□	Able to hold the soggy food
	□	Able to put the variety of food in one container; multipurpose
To protect	□	Accompany with cover to protect the dust
Convenience	□	Able to form within one minute
	□	Able to stack
	□	Able to hold with one hand
	□	Accommodate add-on utensils
	□	Accommodate add-on small bowl for sauce
Identity	□	Display necessary information

Figure 3. Design Criteria.

Creative Process

Part 1: Ideation

Through the brainstorming process, Morphological Analysis was applied to reveal new concepts by separating the components of attributes or functions of the product (Figure 4) (Zwicky, 1969). After selecting the designated components, a new form of relationship was created to inspire different concepts. This research focused on molding the leaf into a container and the stability of the leaf container (figure 5). Using Purple Orchid tree leaves in this research the findings lend themselves to two patterns: molding and stabilizing the container by leaving until it is dried; and molding the fresh Noni leaf with some techniques and equipment.

Functions	Procedures
To form	cut / mortise / thread / pile up / splice / fold / hold all the leaf / roll / pleat / fold with different axis/ overlap/ wrap / spiral roll / make a hold with a leaf stalk
To stabilize	splice the leaf edge / mortise and polish/ tie / clasp / fasten / tack / adhere with flour glue / leave until it's strengthened / put a logo sticker on to hold the package together/ perforate and overlap

Figure 4. Brainstorm for package formation and stability.

Step1: Survey the physical features of leaves and brainstorm the molding processes and stabilizing techniques.

Step 2: Try out molding and stabilizing techniques.

Step 3: Develop molding and stabilizing techniques according to the requirements of street foods' physical aspects.

Figure 5. Brainstorm the ideas based on morphological analysis.

Part 2: Design

According to the design thinking framework a container design has been obtained. There are two designs to produce the container: the use of fresh leaves with hard frame structures and the use of dried leaves with soft frame structures. The processes can be listed as follows:

1. Design and select the handle material according to the criteria: biodegradability, low cost, and availability in the market
2. Set the street food and develop packaging according to its dimension
3. Check the lists whether it meets the design criteria or not
4. Arrange the load test by wooden dice
5. Try out the container by putting the street food inside.

Fresh Noni leaves (figure 6) and Dried Purple Orchid tree leaves (figure 7) have been used as the prototype because their size is large enough to carry the food and the leaves are free from toxins.

Containers created from fresh leaves and hard frame structures *(Samples: Noni leaves and bamboo stripes)*			
Container Structures			
	Fresh leaves	Bamboo Stripes	
Container Design			
	A small flat container	A large flat container	A small shallow container
			
	A large shallow container	A large shallow container with a small add-on	A large shallow container with a large add-on

Figure 6. Containers created from fresh leaves and hard structures. Continued on the next page.

			
	A small deep-dish container	A large deep-dish container	A large deep-dish container with a small add-on

Figure 6 Cont. Containers created from fresh leaves and hard structures.

Containers created from dried leaves and soft frame structures *(Sample: Purple orchid tree leaves and dried banana cords)*			
Container Structures			
	Heat pressing the leaves into a mold	Dried banana cords	
Container Design			
	A small flat container	A large flat container	A small shallow container
			
	A large shallow container	A large shallow container with a small add-on	A large shallow container with a large add-on

Figure 7. Containers created from dried leaves and soft structure. Continued on the next page.

			
	A small deep-dish container	A large deep-dish container	A large deep-dish container with a small add-on

Figure 7. Containers created from dried leaves and soft structure.

Part 3: Tools

Tools have been developed based on business feasibility and the technical possibility to reduce the time of molding and stabilizing the container forms and sizes according to standards. This must not be varied according to the sizes of the leaves and the skills of the producers. There are three criteria of creating tools: easy to produce with simple technology, easy to find the materials, and low cost. Hence, the outcomes have been generated as follows: the models to control the size, microwavable plastic containers to mold the dried leaves, and nailed boards to model banana cords and bamboo stripes (figure 8).

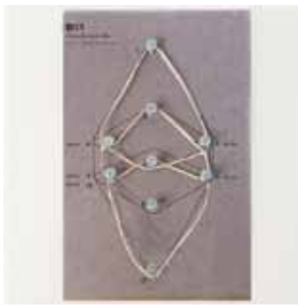
	Tools for producing the packaging	Tools for producing the handle
A container made from Noni leaves and bamboo strips		
	A model to frame the sizes of the fresh leaf packaging	A nailed board for modeling bamboo strips
A container made from Purple Orchid tree leaves and a banana cord		
	A microwavable model (800 watts: 1.5 minutes). This will take a longer time if left in the sun depending on leaf humidity and weather.	A nailed board for modeling a banana cord

Figure 8. Tools for producing the packaging.

Part 4: Identity

Showing the vendor's identity on the packaging is one of the marketing strategies as customers will recognize it and will lead to repurchasing opportunities in the future. The tools to show the identity must be easily obtained in the market and the message or logo must be toxic-free. Research indicates that the most important information inscribed on the packaging is the name and telephone number of the vendor followed by social media contact. It is found that there are three methods of showing vendor's signs or logos on the container: cold stamp, hot stamp, and pigment stamp (figure 9). The use of stamping tools depends on the physical features of the leaf and the position of pressing the logo.

The pigment stamp on the bamboo strips is suitable for fresh leaf packaging and the hot stamp is suitable for dried leaf packaging.

Cold stamp
A metal stamp and a hammer

Hot stamp
A solder bar and a metal stamp

Pigment stamp
A rubber stamp and pigment

A pigment stamp on the bamboo strips

A hot stamp on the dried leaf container

Figure 9. Logo stamping on fresh and dried leaf containers.

Evaluation of the Package Production Tools

The tools created for producing packaging were evaluated by 6 producers, 3 participants per packaging design. The volunteers aged 15 - 60 years old of both genders.

(Figure 8), The evaluated materials and packaging were made from Noni leaves and bamboo strips, and from Purple Orchid tree leaves and a banana cord. Due to the public social distancing policy during the COVID-19 pandemic, the participant number was minimized for health reasons. The participants were family or friends of the research assistants to diminish the risk of the virus infection. The assistants introduced the data collection objectives and the ethical issues. The participants were allowed to watch the video clip of using the tools and materials as many times as needed before producing the packaging.

The observations concentrated on 1) the preparation of the production space and 2) the steps involved in producing the packaging.

The interviews concerned 1) the difficulty or ease of producing the packaging with the tools, 2) suggestions on streamlining production and 3) the cost per packaging unit and the time for completing each unit.

Topics	A container made from Noni leaves and bamboo stripes	A container made from Purple Orchid tree leaves and banana cords
Overall production	- It was difficult for novices, but it will be easier for a trained person. - Allow producers to apply their own strategies.	- Leave containers were easy, but making the banana cord handles were difficult. - Confusion ensued concerning the method and tying positions. - One participant required an extra 20 minutes to understand the construction procedures. - Older participants had more patience in learning the production techniques than the younger participants.
Tools	- The bamboo strips can be simply measured by a tape or a ruler instead of the nail board. - A tool needs to be developed for tying the banana cords. - Decrease the size of the tool to save production space.	- The nailed board for producing the banana cord handles was difficult to understand. - The numbers on the board did not clearly indicate; where to tie the rope, which cord asw on the top or underneath, or the up or down direction required while tying the cords.
Suggestion	- Show the video clip at a slower speed. - Add a voice explanation to the clip. - Add more details concerning production steps. - Specify using dry or fresh leaves for production. - Reduce the production steps by providing finished bamboo structures. - Modify the packaging handles, so that the packaging is stackable.	- The production was practical for the older participants, but it was time-consuming for the younger ones. - Natural materials were cost-saving.
Completion time	- Producing packaging while selling food should not be longer than 1 minute. - Three minutes are acceptable for pre-production.	Not more than 5-10 minutes per packaging unit.
Cost	- Materials costs should not be more expensive than polystyrene containers. - It could be 3-5 times more expensive than single-use plastic packages for green consumers.	Approximately 5-10 baht per packaging unit.

Figure 10. Evaluation of the packaging production tools.

Discussion

The discussion below relates to the aims of this research

Design Criteria

Plant-based containers are already utilized in business and education. Betel Palm (Phinyovanich, 2021), Bastard Teak leaf (Chongchitwatthanakun, 2021), Water Hyacinth (MGR Online, 2021), and Banana Stalk and Leaf (Urban Creature, 2021) are researched examples of eco-friendly materials. These materials have strong fibers providing durability for multiple uses. In contrast, the purpose of plant-based packaging in this research focused on single-use containers for street food. The fibers of Noni leaves and Purple Orchid tree leaves have less strength than the above plant-based materials, which also allow them to decompose in a short time. This generates alternative new sources of leaves for street food containers.

Creation

This research found that the two types of packaging, fresh leaves with a hard frame structure and dried leaves with a soft frame structure, can serve three functional uses. First, the fresh and dried leaf containers can serve as primary packaging that contains food, whereas the hard and soft structures can serve as secondary packaging that carries food. The packing that holds the containers can also be substituted for plastic used to enclose T-shirts, thus resulting in fewer T-shirt plastic bags. This uniqueness is not found in other plant-based containers. Second, the tools have been created to combine industrial and manual functions, resulting in an affordable tool at a low cost. Finally, the two types of packaging with lids have met the consumers' need as they can protect the food from contamination. Additionally, it is found that dried leaves can be formed under heat and is comparable to other main containers available in the market.

Evaluation

This research aimed to fill the gap between the packaging made by a semi-machine process (Phinyovanich, 2021, Chongchitwatthanakun, 2021, MGR Online, 2021, Embassy of the Federal Republic of Germany, 2021) and packaging made by hand (Urban Creature, 2021). The research found means to reduce the cost of machinery procurement or manual molding time due to the leaves being shaped by simple molds available in markets. However, the research participants commented that 1) the production for Noni leaves packaging required the tools that tended to be handcrafted and 2) training was needed to acquire the skills to use them. Another concern was the lids from Purple Orchid tree; leaves needed to comply with the guidelines of appropriate leave sizes and how to properly install the lids on the packaging. Finally, the instructions on the nailed board for constructing the banana cord needed to be more informative in guiding position and direction.

Conclusion

Recently, environmental protection has become a global megatrend, so natural containers have been continuously employed. Nonetheless, it is expected that those containers must be as durable as the plastic ones in order to be used more than once. Therefore, this research has fulfilled the missing gap of the need for natural containers made from organic matter, leaves whose physical features are suitable for short-term use or single-use in the hope that they can be substituted for plastic containers, which is the majority proportion of packaging waste.

This research has been conducted during the COVID-19 pandemic. The number of participants involved in the evaluation stage was small to secure the health of both the research assistants and participants. This factor may weaken the reliability of the evaluation results, but helpfully it reflects that simplicity is the key direction for further development.

Suggestions

There may be copious, toxic-free large leaves available that are suitable for food packaging. A large number of natural alternatives that can be utilized in the packaging process according to the research result. Environmental economics studies related to the life cycle and location of plants should be conducted to manage the availability of the leaves to the market without resulting in ecosystem impact. This research targets individuals and small enterprises who establish themselves as packaging producers and makes contributions to affordable tools and learnable production methods. Nonetheless, the disadvantage of leaf packaging is the natural leaf odor which can distract from the palatable smell of the food. This is especially noticeable of the dried leaf which possesses more unwanted smell than the fresh ones. Therefore, it is recommended that odor elimination research should be conducted for further study.

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Journal Policies

Journal Policies

About JUCR

The Journal of Urban Culture Research is an international, online, double-blind, peer-reviewed journal published biannually in June & December by the Faculty of Fine and Applied Arts of Thailand's Chulalongkorn University in conjunction with the Urban Research Plaza of Osaka City University, Japan. JUCR offers its readers two categories of content. One is a window into the latest international conferences and reviews of related sources – books etc. along with guest articles, special features and case studies. Secondly, its main core is a range of peer-reviewed articles from researchers in the international community. No fees are charged.

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This journal on urban culture aims at establishing a broad interdisciplinary platform for studies of cultural creativity and the arts that brings together researchers and cultural practitioners to identify and share innovative and creative experiences in establishing sustainable and vibrant, livable communities while fostering cultural continuity. The journal embraces broad cultural discussions regarding communities of any size as it recognizes the urban community's rural roots. JUCR encourages researchers and the full range of artists in visual art, design, music, the creative arts, performance studies, dance, cultural studies, ethnomusicology, and related disciplines such as creative arts therapies and urban planning. Articles related to either the academic or wide vernacular interpretation of urban culture and the arts as a tool promoting community and individual well-being, health, and diversity are welcome.

JUCR has the objective of stimulating research on both the theory and practice of fine and applied arts in response to social challenges and environmental issues as well as calling for solutions across the creative realms. Moreover, JUCR supports advocacy processes, improvements in practices, and encourages supportive public policy-making related to cultural resources. JUCR intends to offer readers relevant theoretical discussions and act as a catalyst for expanding the knowledge-base of creative expression related to urban culture.

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1. JUCR promotes and encourages the exchange of knowledge in the field of fine and applied arts among scholars worldwide. Contributions may be research articles, reports of empirical studies, reviews of films, concerts, dances, and art exhibitions. Academic papers and book reviews are also acceptable. Articles are typically only considered for publication in JUCR with the mutual understanding that they have not been published in English elsewhere and are not currently under consideration by any other English language journal(s). Occasionally, noteworthy articles worthy of a broader audience that JUCR provides, will be reprinted. Main articles are assessed and peer reviewed by specialists in their relevant fields. Furthermore to be accepted for publication, they must also receive the approval of the editorial board.

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3. All articles published in the journal will have been fully peer-reviewed by two, and in some cases, three reviewers. Submissions that are out of the scope of the journal or are of an unacceptably low standard of presentation will not be reviewed. Submitted articles will generally be reviewed by two experts with the aim of reaching an initial decision within a two-month time frame.

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