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Current Conditions and Problems of Conservation and Inheritance of Identity Among Thai-Sikhs

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Abstract

This research is aimed at investigating the current conditions and problems of conservation and inheritance among Thai Sikhs in metropolitan Bangkok. Data was gathered by means of interview, observation, group discussion, and workshop. The study area was comprised of Pahurat, PraNakorn District, Gurdwara Sri Guru Singh Sabha, PraNakorn District, and Im-Amporn Village, Bangkok Yai District. The results show that the most important aspects of Thai-Sikh identity that must be conserved are the 5 sacred symbols, fundamental teachings, religious ceremonies, the Gurdwara Sri Guru Singh Sabha religious building, the Sri Guru Singh Sabha Association and the Punjabi language. Currently, Thai-Sikh identity is clear and well-maintained in Bangkok society. However, problems are caused by westernization and adoption of modern cultural practices from other societies. This leads to the neglect of traditional Thai Sikh lifestyle. The suggested solutions include raising awareness of identity conservation among Thai Sikhs, which requires the cooperation of the government and private sectors. Training and activities must also be arranged, which new Thai-Sikh generations can learn from and participate in.

Keywords: Thai-Sikh, identity, conservation, inheritance, Bangkok

1. Introduction

The word identity refers to the specific characteristics of an individual, object, concept, group or entity. It is the things for which people and groups are known, their defining traits. Each society has its own identity. Westernization and adoption of modern cultural practices from other societies have caused traditional Thai society to change, especially in human behavior and everyday activities. These include food, dress, occupations and entertainment. Identities are often molded to fit natural and constructed surroundings, which is how Thai-Sikhs migrating from India have conducted business, settled and adapted to life in predominantly Buddhist Bangkok society. This has been achieved with simultaneous maintenance of the important aspects of Sikh culture.

Sikhs come from Punjab, which is a region in Northern India. Sikh people first came to Thailand during the reign of King Rama IV. In the reign of King Rama V, they settled at Baan Mor, Pahurat, PraNakorn District, Bangkok. After acclimatizing, they began selling textiles to generate income. The Gurdwara was constructed as the main Sikh holy building in 1912. This was the case until the local Sikh community outgrew the existing Gurdwara and required an expanded religious facility, which was provided between Pahurat and Chakpetch Roads. Upon completion of the new Gurdwara, Sikh religious rites were relocated, where they have remained until the present day. Most Thai Sikhs live in the Bangkok area, since Bangkok is the center of politics, economy, society and culture. Nowadays there are over 70,000 Sikhs in Thailand and 18 officially recognized Sikh holy buildings (Siri Guru Singh Sabha Association, 2013).

Aside from the differences between Thai and Sikh cultures encountered by Thai-Sikhs living in Bangkok, there are also influences of modern global culture that threaten the traditional identity of Sikh people. The danger is that the modern culture being absorbed by young Thai-Sikhs will supersede their traditional heritage. In light of this, the researchers wanted to study ways of conservation and succession of Sikh identity to find an appropriate model of conservation and succession of the identities of other ethnic groups and communities.

2. Research Methodology

This investigation aims to study the history and identity of the Thai Sikhs in Metropolitan Bangkok. The goal of the research is to analyze the current situations and problems of Thai Sikh identity conservation and to study the

model for its succession to ensure peaceful assimilation and harmony of Sikhs in Thai society. A qualitative research technique was applied to this study. The study area was comprised of Pahurat, PraNakorn District, Gurdwara Sri Guru Singh Sabha, PraNakorn District, and Im-Amporn Village, Bangkok Yai District. The population of the investigation was comprised of people living and working in and around the study areas. The research sample was selected using a purposive sampling technique and was divided into three groups: key informants, casual informants and general informants. Data was gathered by means of interview, observation, group discussion, and workshop. All collected field data was validated using a triangulation technique according to time, place, method of collection and researcher. The data was organized according to the aims of the research and divided into sets or typologies to facilitate a typological analysis. Analytical induction was employed as a secondary analysis method. The research results are here presented using analytical description according to the obtained data.

3. Results

The results show that Thai resources draw immigrants to the country for the purpose of trade or settlement. Another factor is religious freedom. Most importantly, the Thai King is kind to refugees. Many ethnic groups have flown into Thailand, especially Indians. Apart from settling down in Thailand, Indians are also well-known for their trading activities and their strong sense of identity. According to a letter from Prince Nares Worarit to the King, Sikh people first came to Thailand during the reign of King Rama IV. However, interview results concluded the general acceptance that most Sikhs followed when King Rama V was on the throne. In the reign of King Rama V, they settled at Baan Mor, Pahurat, PraNakorn District, Bangkok. After acclimatizing, they began selling textiles to generate income. Indeed, they came to Thailand primarily from Punjab for the purpose of trade. The main trading center was around Pahurat Road. Some of the Sikhs were peddlers, travelling around to sell fabric. When the Sikh population had increased, the Gurdwara was established as the main Sikh holy building at a rented house on Pahurat Road in 1912. This was the case until the local Sikh community outgrew the existing Gurdwara and required an expanded religious facility, which was provided between Pahurat and Chakpetch Roads in 1932. Upon completion of the new Gurdwara, Sikh religious rites were relocated, where they have remained until the present day. Now, they earn their livings from all fields. Even though some Sikhs moved from Pahurat, they still return, for it is the center of their religious ceremonies and trading.

The most important aspects of Thai-Sikh identity that must be conserved are the 5 sacred symbols, fundamental teachings, religious ceremonies, the Gurdwara Sri Guru Singh Sabha religious building, the Sri Guru Singh Sabha Association and the Punjabi language. The five sacred symbols of Thai Sikhs are the five things that they must carry or observe from the time of their entry into the Sikh faith as a child. These are: 1) keeping their hair long under a turban; 2) a small-sized comb for maintaining their hair condition; 3) a metal bracelet for their wrist; 4) a miniature knife pendant hung onto a necklace; 5) a pair of shorts. Females must observe the same symbols, with the exception of the first. In its place, they must keep their hair neatly under a cloth scarf. Thai Sikh ceremonies are derived from the Guru Granth Sahib Holy Scripture. These are primarily based on self-control and personal conduct in society. The secondary and tertiary principles are leading a philosophical daily life and providing assistance to society. The ceremonies observed in the everyday life of a Thai Sikh are aimed at maintaining Sikh traditions and include both organized religious and secular events. All Sikh people come from far and wide to perform their acts of worship at the most sacred holy place for their faith in Thailand, the Gurdwara Sri Guru Singh Sabha religious building. The Sri Guru Singh Sabha Association was registered with the National Council of Cultural Affairs in 1963. The Thai government declared that holy establishments must be affiliated to the Department of Religious Affairs. The Association was accordingly signed up and Sikhism was thus considered a legitimate religion in Thailand. The headquarters of the Sri Guru Singh Sabha Association is situated on Pahurat Road, Bangkok. Their function is to preserve traditional Sikh customs, preach Sikh scripture and instruct young Thai Sikhs. Additionally, The Association helps organize the activities in the Gurdwara. The basic language of Sikh scripture is Punjabi, which is used for all written teachings and communication between Thai-Sikhs. For this reason, all Thai-Sikhs must learn the language in its written and spoken forms in order to be able to successfully worship and understand Sikhism. Moreover, the ability to understand Punjabi facilitates communication in the wider Sikh world.

Problems are caused by westernization and adoption of modern cultural practices from other societies. This leads to the neglect of traditional Thai Sikh lifestyle. Results show that the five Sikh symbols are: 1) keeping their hair long under a turban; 2) a small-sized comb for maintaining their hair condition; 3) a metal bracelet for their wrist; 4) a miniature knife pendant hung onto a necklace; 5) a pair of shorts. Interviews with key informants show that the biggest problems revolve around the first symbol. Many Sikh men are required by their employers to cut their hair short and shave facial hair, which causes conflict with the traditional Sikh practices. Further problems

are caused by the influence of Western fashion styles, notably haircuts and hair dyes. Modern culture also causes young Sikhs to neglect their religious instruction by smoking, drinking alcohol and not worshipping as often as they should. Organization and attendance of religious ceremonies are also not disciplined. Maintenance of the holy buildings is affected by a lack of public participation and insufficient budget, which is partially due to the insignificance of Sikhism for the non-Sikh Thai population. Given the small numbers of Thai-Sikh people in the country, there is a small field of resources to draw from to comprise the Siri Guru Singh Sabha Association, which means that council members are occasionally unqualified or unsuited for the roles they are chosen to fill. The preservation of Punjabi is also a very problematic undertaking given its minimal value in everyday Thai society, lack of basic understanding among Thai-Sikh youth and a declining population of qualified teachers.

4. Discussion

Thai resources draw immigrants to the country for the purpose of trade or settlement. Another factor is religious freedom. Most importantly, the Thai King is kind to refugees. Many ethnic groups have flown into Thailand, especially Indians. Apart from settling down in Thailand, Indians are also well-known for their trading activities and their strong sense of identity. These results correspond to the research of W.H. Mcleod (2004) in his study of *Sikhs and Sikhism*. Indeed, all historical findings concluded by this investigation corroborate the background of *Sikhs in Thailand* provided by Sidhu Manjet (1993).

The five sacred symbols of Thai Sikhs are the five things that they must carry or observe from the time of their entry into the Sikh faith as a child. These are: 1) keeping their hair long under a turban; 2) a small-sized comb for maintaining their hair condition; 3) a metal bracelet for their wrist; 4) a miniature knife pendant hung onto a necklace; 5) a pair of shorts. These symbols are identical to the symbols identified by J.D. Cunningham (1853) in his *History of the Sikhs*. This shows that the principles of Sikh identity have remained largely constant since scholarly research on the religion began.

Problems with the maintenance of Sikh culture are caused by westernization and adoption of modern cultural practices from other societies. This has been well documented by the Siri Guru Singh Sabha Association (2003a; 2003b; 2007; 2008; 2013; n.d. a; n.d. b). Problems can be found in each of the major categories of Sikh identity: the 5 sacred symbols, fundamental teachings, religious ceremonies, the Gurdwara Sri Guru Singh Sabha religious building, the Sri Guru Singh Sabha Association and the Punjabi language. This leads to the neglect of traditional Thai Sikh lifestyle. The suggested solutions include raising awareness of identity conservation among Thai Sikhs, which requires the cooperation of the government and private sectors. Training and activities must also be arranged, which new Thai-Sikh generations can learn from and participate in.

5. Conclusion

The results show that the most important aspects of Thai-Sikh identity that must be conserved are the 5 sacred symbols, fundamental teachings, religious ceremonies, the Gurdwara Sri Guru Singh Sabha religious building, the Sri Guru Singh Sabha Association and the Punjabi language. Currently, Thai-Sikh identity is clear and well-maintained in Bangkok society. However, problems are caused by westernization and adoption of modern cultural practices from other societies. This leads to the neglect of traditional Thai Sikh lifestyle. The suggested solutions include raising awareness of identity conservation among Thai Sikhs, which requires the cooperation of the government and private sectors. Sikh families should apply traditional Sikh practices to their lives and the upbringing of their children, since family is the first place where knowledge about Sikhism, including teachings, ceremonies, practices and Punjabi language are educated. Training and activities must also be arranged, which new Thai-Sikh generations can learn from and participate in.

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The Culture of Sound: A Case Study of Birdsong Competition in Chana District, Thailand

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Abstract

Southeast Asian birdsong competitions are vital to the makeup of the Southern Thai economy. This is a qualitative research that uses observation, interview and document study to examine the zebra dove culture of Chana District in Songkhla Province. The research results show that vocal zebra dove competitions stimulate and drive the economy and society of Chana District. Zebra dove breeding is a large and lucrative occupation in the area that has spawned a number of supplementary professions, including birdcage production. The success of local breeding has given Chana an international reputation and has been used as a stimulus for political demonstrations. The original spirit of the songbird culture remains as part of a highly developed financial system.

Keywords: birdsong, competition, Southern Thailand, culture, society, zebra dove

1. Introduction

‘Wow...Ta...Ta...Ta...Kong.’ This is the call of the zebra dove, an economically, socially and politically valuable bird to the people of Southern Thailand. Dove-cooing contests are popular in Southeast Asian communities, such as those of Thailand, Malaysia, Singapore, Indonesia and Brunei (Anderson, 2005). The birds are taken to competition fields, raised high in cages on poles and judged on the quality of their singing voices (Wannaprasert, 1985). The champion birds and their trainers are awarded with ‘great prestige and unlimited bragging rights’ (Stephens, 2000). Yet, the birds have a higher value and deeper meaning for people in local communities.

Chana District is located in Songkhla Province (Rahimmula, 2010; Chana District Research Office, 1992; Songmueang, 1986). On a visit to Chana District, the research team could not help but hear the melodies of the zebra dove from almost every window of every household. Clearly zebra doves were an integral part of everyday life. This article is the culmination of a three-year investigation to discover how and why.

2. Literature Review

Vocal dove breeding and competing is relatively unknown outside Southeast Asia. As such, English-language scholarship on the subject is sparse. Wann Wibuswasdi Anderson (2005) wrote an insightful and revealing piece on the social meaning of dove-cooing contests in Southern Thailand. Anderson’s work builds on the foundations of Thai scholars, who have documented the history of dove-raising in Siam and beyond from as early as the twelfth century (Anderson, 2005; Sukpala, 1995; Wannaprasert, 1985). Competitions are a comparatively recent development of the last forty years (Anderson, 2005). Anderson identifies a deeper social significance to birdsong contests in Thailand and argues that there is a strong sense of identity, responsibility and passion among mostly male dove fanciers. This attitude makes dove breeding much more than a financial mechanism, despite the ability of prize-winning songbirds to sell for high prices in the domestic and international markets.

‘The de-emphasis on profit making and the emphasis on providing social benefits as an organizational structure of the contest are, perhaps due to the particular mindset of the men who are attracted to dove-raising...As a personality type, [dove fanciers] tend to be both ascetic and aesthetic. They find contentment and aesthetic pleasure in caring for their birds and listening to their songs.’ (Anderson, 2005: 87)

Anderson's paper is a comparison between Thai dove breeding and the coarser pastime of cockfighting. Clifford Geertz documented the cultural symbolism and meaning of the Balinese cockfight in his groundbreaking anthropological publication *The Interpretation of Cultures* (Geertz, 1973). Geertz showed how 'cocks are symbolic expressions of manifestations of their owners self, the narcissistic male ego writ out in Aesopian terms' (Geertz, 1993: 419). While Anderson states that there is something altogether more subtle and refined about the Thai dove fancier, the symbolism remains. So much so that the 'dove-cooing contest is a "deeper play"' (Anderson, 2005: 90). It must be noted is that neither Geertz nor Anderson examines the symbolism of their pastimes for women, leaving their analyses somewhat androcentric.

In fact, following the definition by The SportAccord Council (n. d.), cockfighting may not be directly compared to dove-cooing as a sport due to the harm it causes the fighting birds. Although there are many examples of animals used in human sport, perhaps only one shares its characteristics with Thai dove-cooing (Gillett & Gilbert, 2014). Vinkensport, *vinkenetting* or finch-sitting, is a Flemish finch singing competition that dates back to 1596 (Bilefsky, 2007). The mechanisms of the sport are less complex than the Thai dove-singing scoring system, yet competition is just as fierce, winners just as prepared and prizes just as prestigious (Anderson, 2005; Bilefsky, 2007). Birds can even be disqualified from competition for making the wrong sound or chirping in the wrong 'dialect' (Bilefsky, 2007; Liberman, 2007). Thomas Hardy wrote his poem 'The Blinded Bird' as a protest against the ruthless vinkenier tradition of blinding the finches with hot needles to remove distractions from their singing duties (Hardy, 1916). The blinding practice was banned in 1920 thanks to a campaign headed by blind World War One veterans (Cordon, 2013). More recently there has been a backlash by bird protection group Vogelbescherming Vlaanderen against the listing of vinkensport on the register of Flemish cultural heritage (Flanders Today, 2013). The Flemish sport has come under more scrutiny than its Southeast Asian cousin among animal rights groups, perhaps due to the limited implementation and scope of animal welfare laws in Asia (Rahman, Walker & Ricketts, 2005).

The opposition to vinkensport and the social significance of Anderson's dove-cooing and Geertz's cockfighting allude to greater value and meaning of birds in society. The relationship between birds and people over time has been well documented, most recently by Mark Cocker (2013; Zickefoose, 2013). Perhaps one of the strongest relationships, physically and mentally, is the human and the parrot. Parrot-raising is coincidentally identified by Anderson as a growing Southern Thai pastime (Anderson, 2005). There has been continuous use of birds by humans throughout history, from feather decoration in Papua New Guinean tribal headdresses to goldfinch depictions in Renaissance art (Collar, Long, Gil, & Rojo 2007; Diamond, 1986; Friedmann, 1946). This relationship, or possibly exploitation, continues in the realm of songbird sport.

3. Methodology

This is a qualitative anthropological investigation with three primary aims: 1) to summarize the zebra dove breeding culture in Chana District; 2) to analyse the meaning and value of zebra doves for the local community in Chana District; 3) to assess the influence of zebra dove birdsong in the local economy, society and politics. Field study was conducted in Chana District, Songkhla Province and at competition sites. Three communities in Chana District were purposively selected for the investigation: Surao, Ban Na and Ban Talingchan. These communities were selected based on the criteria that they were multicultural, all households raised zebra doves and there was a range of economic statuses. The research population was made up of Chana residents and visitors. Residents were key informants for the study and were divided into three groups: Thai-Buddhist, Thai-Muslim and Thai-Chinese. The key informant group was made up of breeders, farm owners, zebra dove club members, birdcage manufacturers, birdfeed manufacturers and politicians.

Three principal research methods were used for data collection: observation, interview and document study. Both non-participant and participant observation techniques were employed to assess the local geography and characteristics of the community, including the lifestyle of the three primary ethnic groups, zebra dove breeding, birdsong competitions, training and community activities. During observation, the research team was particularly interested in the relationship of the three ethnic groups and external visitors. For the participatory element of the investigation, the research team took part in family breeding activities including training, competition and sale of birds. Structured interviews and informal conversations enabled collection of primary data directly from key informants. Documentary research of literature related to the history and politics of the region and the culture of zebra dove breeding added weight and context to the primary evidence. Three tools were used for data collection: an interview form, an observation form and a form for recording audio-visual data. There were two types of interview, one for key informants and the other for external visitors, which differed in the depth of questioning. Key informants were asked for deeper meaning, opinions and facts than the external visitors. The interviews were conducted in four parts. The first part asked for respondent personal information. Parts two, three and four

were conducted in line with the three aims of the research: the zebra dove breeding culture in Chana District, the meaning and value of zebra doves for the local community and the influence of zebra dove birdsong in the local economy, society and politics. Data was analysed descriptively by categorising the findings into three groups, according to the aims of the research. This investigation was conducted from 2009 to 2012.

4. Results and Discussion

4.1 *The Zebra Doves of Chana District*

The sound of the zebra dove carries a special meaning in all corners of Chana society. The birds were first captured from the forest by trapping, beating and baiting (Figure 1). The birds were kept as pets to add to the ambience of the home with their call and as symbols of good luck and prosperity (Hassan Niyomdecha, personal communication, 2011). The birds were then used by local businesses, such as tea houses, to provide a pleasant atmosphere and background noise for their customers. Although there had been small local contests throughout history, the first organized birdsong competition in Chana was in 1977 (Kan Kongthong, a local villager, personal communication, 2011). From the humble beginnings of small village gatherings, the birdsong competitions are now staged at an international level. The development of competitions sparked the phenomenon of zebra dove breeding at homes and on farms, which significantly altered the local lifestyle, economy and the importance of the zebra dove to the community (Teerapong Donsri, personal communication, 2010). The zebra dove is important to Chana beliefs, economy and society.



Figure 1. A wild zebra dove

In order to better understand the mechanics of the birdsong competitions, the research team observed the vocal zebra dove contest for the Prince Vajiralongkorn Cup on 27th February 2011. The competition was organised and sponsored by local institutions and held at Wungdee Field, Talingchan Sub-district, Chana District. The key elements of the competition and its preparation are described in table 1 (Table 1).

Table 1. Field notes from observation of the Prince Vajiralongkorn Vocal Zebra Dove Contest on 27th February 2011 and its preparation

Event preparation	A meeting was held by the competition committee to plan all aspects of the event. The main point of the meeting was allocation of duties and responsibilities. Public relations were made the job of the Songkhla Provincial Administrative Organization. As, Arun Bunreuang, the assistant director of Anuban Songkhla School observed, 'the involvement of the Provincial Administrative Organisation has generated increased interest from the local community this year because they have used many different advertisement methods, including leaflets, vinyl posters, radio, television and internet' (personal communication, 2010).
The venue	The competition committee selected Wungdee Field, Talingchan Sub-district, Chana District as its venue. The area of Wungdee Field is approximately 40 <i>rai</i> (16 acres), which was deemed suitable for the competition, parking space, exhibitions and stalls. Despite its logistic suitability, concerns were raised because the area is home to a large population of local sandpiper birds, which could scare the zebra doves (Pairot Likitkoston, personal communication, 2010). Nevertheless, after the initial meeting, the venue was prepared by erecting shelters, creating and improving roads (Thanat Intornsri, organisation committee member, personal communication, 2010). Posts were arranged in 50 rows of 16 for hoisting the birdcages during the competition. The posts were four-five metres high and were arranged three metres apart in their rows. Each row was 2.5 metres apart. The competition area was at the southern end of the site and included the winners' stage, trophy display and convenience area for the committee and judges.
Bird selection	Although the birds are raised for the purpose of competing, there are extra preparations made in the run up to a contest. Birds will be chosen from the age of three months for the quality of their three sounds 'Wow', 'Ta' and 'Kong'. Aside from the rhythm of their calls, breeders will also select birds based on their physical characteristics. 'Birds can be chosen by their appearance from 5 or 6 months onwards. The birds with the best calls have the best feathers. Also we look for birds with a short, thick, high beak and a large, expanded throat. Birds with these characteristics are the most popular because they will make a loud, booming call, which is preferable to a subtle chirp. They're also more expensive!' (Hassan Niyomdech, personal communication, 2010).
Training	'The birds must be trained, just as a boxer trains for a fight' (Direk Dodasair, personal communication, 2010). There are community practice grounds for breeders to train their birds. Direk Dodasair uses his practice ground in Ban Tawle to 'post' his birds every Tuesday. He, along with other breeders, will test the sounds of his birds and create a scenario to familiarise the birds with competition. It is particularly important to give the birds experience in the sun and in proximity to older birds. Breeders will also practice transporting the birds so that they are not overwhelmed on contest day. There are 3 steps in bird training: 1) opening and closing the cage cover; 2) transporting the birds; 3) practice hoisting the birds (Figure 2).
Competition day	One day before: The organising committee make final preparations and checks. 6am: Traders set up their stalls around the competition grounds (Figure 3). 7am: Bird breeders begin to arrive at the grounds and congregate around their respective zones (according to bird sound category). 8am: Entrance fees are paid in return for a competition ticket and breeders set up at their posts (Figure 4). 8.30am: The chairman of the event officially opens the competition at the opening ceremony. 9am: Judges walk around the site assessing the birds and awarding points. 10am: People begin to head for shelter from the sun and refreshments. 10.30am: The car park is full with over three-hundred vehicles. 10.45am: The heat of the sun is intense and the bird calls have quietened, so judges meet to decide the winners. Bird breeders hurry to cover their cages and protect their birds from the sun. 1pm: The results of the competition are announced After the awards ceremony: Winners and officials are interviewed by the media and photographs are taken. Contestants then make their way home, or to individual celebrations at winners' houses. The grounds are cleared by officials.
The prizes	'The winners' trophies have a really important role in raising social status' (Terdchai Jintana, personal communication, 2010). Particularly important is the reputation of bird breeding ability gained by trophy holders. Trophies are an excellent form of publicity for farms and breeders regarding the quality of their birds. The prizes have extra significance and prestige given their association with Prince Vajiralongkorn. The budget for prizes came from sponsorship by the Chana Power Plant, Trans-Thai-Malaysia (TTM) and Isuzu Chana. This sponsorship was supplemented by funds from bird registration fees. Each entrant was required to pay a fee of 300 baht. There were 922 entrants (Chaiyawut Ledet, personal communication, 2011). Aside from the cups and trophies, there were other prizes, the largest of which was an Isuzu Spark Ex.



Figure 2. Birds being hoisted into position on their competition posts



Figure 3. A bird breeding accessory trader selling goods at the dove-cooing competition



Figure 4. The field of competitors during the dove cooing competition

4.2 Economies and Philosophies: The Meaning and Value of Zebra Dove Birdsong

The *Chawawong* are the people responsible for the birds. This name derives from the Thai name *nok-kao-chawa*, meaning Java or zebra dove. The culture of the *Chawawong* revolves around the ‘zebra dove economy’. In fact, the trade of competing zebra doves is a lucrative business, with the most melodious doves commanding as much as one-million Thai baht. The highest price paid for a zebra dove was 1,500,000 baht paid for the bird *Phetsalatan* in 2002. ‘The birds are just like singers and are judged on their sound. Just as the most popular singers make the most money, the most melodious birds fetch the highest prices’ (Abdulraman Senair, personal communication, 2010). This price is based on the human notion of aesthetics (Singyabut, 2004). The perceived aural beauty of its call and the visual beauty of its cages have increased the aesthetic value of the zebra dove. There are a host of awards for the birds deemed to have the best sound, the most prestigious of which is conferred by the monarchy and entitles the bird to command the highest price in the marketplace. These factors have added to the complexity of the zebra dove culture in Songkhla Province.

The high value of zebra doves in the community has led to the creation of many jobs in Chana, including bird breeding and birdcage production (Hassan Niyomdecha, personal communication, 2010). Modern zebra dove breeding in Chana District is considered a major occupation. There is a dove market, dove funding and analysis of domestic and international dove customers. ‘Unlike before, zebra doves are not only sold within the country but also to many of the ASEAN nations, especially Malaysia, Indonesia, Singapore and Brunei’ (Direk Dodasair, personal communication, 2011). Mr. Dodasair’s comments highlight the transformation of the zebra dove culture to a zebra dove economy since the introduction of competitions.

There are three types zebra dove sales: sale of parent stock, sale of hatchlings, sale of famed prize-winners. Rammalee Sa-A (personal communication, 2011), a local dove breeder, told us that she purchased a male and female couple in October 1994. She paid 50,000 baht for the cock and 40,000 baht for the hen. The two birds have proved a sound investment for Mrs Sa-A, producing over 1,000 offspring and providing a steady income. The hatchlings are sold in one of two categories. *Nok-Lo* are birds with a nondescript sound that are sold cheaply and often in clutches. *Nok-Mee-Radab* are graded birds with a distinctive character to their voice, pitch and call. The sale of these birds starts at 1,000 baht. The final type of sale is the sale of famed prize winners. The price of these birds is high and increases with every competitive success because they have already been examined under the scrutiny of a judging committee. One example is the bird *Petnarai*, owned by Chukiert Tonjaroen. Prior to winning the 1993 Prince’s Cup in Songkhla, the bird was valued at 100,000 baht. After the win, the bird was subjected to an unsolicited offer of 300,000 baht, which the owner rejected. Prize winners can be sold for huge sums of money, such as *Nokbaeng*, owned by Samak Intornsiri, which is valued at 1,000,000 baht, having won the Princess Sirindhorn Cup in 1993-4 and a host of local competitions since. ‘The prize birds are either bought by rich enthusiasts who want to listen to them and increase their own prestige and reputation or breeders who want to create the perfect bloodline’ (Kan Kongthong, personal communication, 2011).

There are mixed motives in the world of bird breeding and trading. While some wealthy fanciers are prepared to pay large sums of money to secure the perfect songbird, others see only folly. Owner of L.K.M.O. Farm, Mr. Abdulraman Senair said ‘I always ask them [the buyers who intend to keep the birds at home] what they’re doing. Why buy a prize-bird for a million baht? It makes no sense. If the bird dies, your money dies with it. You’d be better off buying a rubber farm; at least then you’d see a return.’ (Abdulraman Senair, personal communication, 2010). For many people in Chana, zebra doves are ‘economy animals’ that provide both primary and secondary sources of income (Paisin Kaewmahakan, local school director, personal communication, 2011). The additional occupations driven by the popularity of the zebra dove primarily include food processing and cage making but there are a number of supplementary industries that have emerged from the popularity of zebra dove breeding and competition:

- There are businesses that make bird cage accessories, such as feeding trays, cage heads and perches.
- *Meua Peuan* are carers for hire. These ‘bird-sitters’ are usually experts in bird care and handling with no prize-birds of their own. The *Muea Peuan* offer their services to inexperienced prize-bird owners, who need specialists to prepare and train their songbirds for competition.
- The bird trade has become so big that agents are employed to broker sales.
- The bird cage manufacturers require regular supplies of bamboo, which boosts the local bamboo industry.
- Excess bamboo from cage construction is used to make accessories, such as mobiles.
- The bird breeding and particularly the competitions attract tourists to the region.

Cage production and sale is a large part of the zebra dove economy. ‘For zebra doves to be in good condition and have a high price, they must be kept in beautiful cages’ (Roman Kreeda-o, personal communication, 2011). ‘The best birds should be in the most expensive cages. They can earn up to 10 million baht for their owners so they should live in high quality cages made from the choicest materials (Figure 5)’ (Prasit Saeng-nikoon, personal communication, 2011). Given the importance of the cages, a production group has been established with Roman Kreeda-o as its chairman ‘to inherit and transmit the traditional knowledge of cage production and ensure the value of zebra dove cages is maintained and developed to the same extent as the birds’ (Roman Kreeda-o, personal communication, 2011). The price of the cage is determined by the appeal of the design, the quality of the handiwork and the rarity of the materials, which include precious stones (Paisin Kaewmahakan, personal communication, 2011). Cage prices range from a few hundred baht to over a million baht. The breeders pay close attention to every aspect of the zebra dove environment; even the cage cover is woven from imported fabric from Malaysia and Singapore (Wilaiwan Chotsair, personal communication, 2011). Yet, as the following quote reveals, there is a fine line between the zebra dove economy and the zebra dove philosophy.



Figure 5. A cage made by Prasit Saeng-nikoon

This particular cage is made from rare and valuable *dalbergia oliveri* wood, gold, silver, pearls, ivory and jewels. This cage was commissioned by a wealthy zebra dove trainer and is valued at 1.5 million baht.

'I make my bird cages out of love for the birds and love for my art. Each cage is made by my own hands and I'm always reluctant to sell, even if each one is worth a million baht. I'd rather keep the cages and put them on show. But the people buying my products, whether they're from Thailand, Malaysia, Indonesia, Singapore or Brunei, all love their zebra doves. For this reason, I agree to sell' (Prasit Saeng-nikoon, personal communication, 2010).

According to respondents, there are four reasons for the success of the Chana dove economy: 1) breeders are dedicated to their birds; raising birds is an integral part of life, not just an occupation; 2) it is a breeding community, where mutual assistance and advice is shared; 3) there is a vibrant tea-drinking culture that promotes the exchange of breeding knowledge and conversation; 4) the breeders have high levels of honesty and integrity. Not only do the *Chawawong* pursue their passion and livelihood, they have also built the reputation of Chana District and Thailand in the international community, which attracts tourism to Songkhla Province (Direk Dodasair, personal communication, 2012). Such is the esteem of the *Chawawong* that the head of 'the Indonesian Department of Livestock Development visited Songkhla to observe the practices of the local breeders' (Arun Bunreuang, personal communication, 2012). The Indonesian delegation visited in August 2012 (Direk Dodasair, personal communication, 2012).

4.3 The Politics of Sound

The politics of sound is the use of birdsong as a legitimate factor and tool in combating physical crises. The call of the zebra dove has an influence beyond the competition grounds because it is used in garnering support and momentum for politically motivated demonstrations among the electorate.

The seventh national development plan for Thai economy and society highlighted the importance of international economic cooperation (Office of the National Economic and Social Development Board, 1992). With a policy of developing domestic industry through international collaboration, the Indonesia–Malaysia–Thailand Growth Triangle (IMT-GT) was established in 1993. This was heralded as 'a subregional cooperation initiative formed...by the governments of Indonesia, Malaysia, and Thailand to accelerate economic transformation in less developed provinces' (Centre for IMT-GT Subregional Cooperation, n.d.). The southern tip of Thailand was made a focal point of the economic triangle, which led to the construction of a gas separation plant in the region, the Thai-Malaysia gas line and increased electrical capacity in Southern Thailand. The aim of these developments was to boost the economy in the five southern provinces of Satun, Pattani, Yala, Narathiwat and Songkhla (Banjong Chuaichoo, Chana Chief District Officer, personal communication, 2010). However, the policy altered the physical environment of Chana due to the construction of the Chana Power Plant (Figure 6).



Figure 6. Chana power plant

‘The government policy caused grave problems for the people and environment of Chana District. The two plants contributed to increased pollution in Chana, rising local temperatures, destruction of wildlife and disruption to local communities, especially the public space of the Muslim community. Moreover, the pollution generated from the plants affected the health of the zebra doves and led the quality of their calls and coos to decrease.’ (Sommai Kwantongyim, a senior member of the *Chawawong* community opposing the Chana Electrical Power Plant and Gas Separation Plant, personal communication, 2010).

Local people believe that the IMT-GT caused widespread environmental changes in and around Chana. This local market trader (Figure 7) said that the big sea fish and shrimp had disappeared since the power plants had been constructed (Anonymous, personal communication, 2010). This observation was confirmed by Kan Kongthong: ‘marine and freshwater animals, such as shrimps, shellfish, crabs and fish, all died. There was also noise pollution and the temperature was unusually warm’ (personal communication, 2010). Abdulraman Senair (personal communication, 2010), who lives close to the gas separation plant in Ban Talingchan, told how residents were reluctant to eat locally cultivated produce, which grew deformed and diseased. The construction and operation of the two plants had, at the very least, a perceived affect on the people, their environment and their birds.



Figure 7. A local market trader commenting on the effects of the Chana Power Plant

‘The call of the zebra dove is a fragile thing. The quality of their sound is affected by chillies and mosquito spray, so just imagine how much it deteriorates with factory smoke, fumes and construction waste. The temperature, water quality and noise levels all influence the bird calls. If their sound quality is low, their value depreciates. We’re left with birds worth no more than 100 baht. This is why we added our voices to the protests’ (Adun Jema, personal communication, 2010)

The conflict that these issues caused (Figure 8) between the local people of all ethnic backgrounds and the government institutions and power plants was a social crisis (Euwattananukul, 2006). Given the high concentration of bird breeders in the community, the *Chawawong* were a large part of the protest movement and were considered as their own entity during the negotiations for compromise. A solution to the crisis was only found when the power plants considered birdsong as an element of their negotiation with locals. The plants pledged sponsorship of 1.5 million baht per year to the *Chawawong*, which they used to launch an international zebra dove festival. The inaugural festival was held from the 30th to the 31st August 2008 and has been annually repeated until today.



Figure 8. Confrontation between local protestors and police regarding the development of Chana Power Plant and its effect on the environment

5. Conclusion

The birdsong of zebra doves is a natural phenomenon that has been transformed into a social pleasure through use as an artistic component of everyday life (Singyabut, 2004). The culture of bird breeding in Chana District grew from the practice of capturing zebra doves as pets. Over time this has evolved into the competition culture and bird economy of the *Chawawong* of Songkhla. Although dove-cooing sport is not monetized through gambling in the same way as other sports, it is such a vital part of the local economy that it must be considered a financial operation. In 2005, Anderson made the following observation:

‘It appears that the increasing temptation of profit-making through economic transnationalism, the high-price trading of champion dove across national borders, has become a new challenge and threat to the spirit of dove-raising and dove-cooing contests as originally conceived and nourished by dove fanciers.’ (Anderson, 2005: 90)

Although Geertz’s ‘deep play’ (Geertz, 1973) and Anderson’s (2005) ‘deeper play’ for the dove fancier remain, the Chana dove economy has evolved. The specific appearance of dove agents, birdcage accessories and dove-sitters indicate a highly developed financial system. Moreover, Chana’s international reputation in the dove-breeding community indicates the success of its domestic market. The events of the power plant crisis show that ‘the spirit of dove-raising’ remains, but it would seem that the spirit now has a price.

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Wat Phra Tat: Space and Environment Management of Buddhist Temples and Relics in the Esan Region

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Abstract

This qualitative investigation assesses the problems and conditions of space and environment management in nineteen temples of North-eastern Thailand. The results found that the current problems with management in the area are the ineffective division of space within the temple complex, the lack of systems to accommodate large influxes of people and the harm that overcrowding causes the temple environment. The research team outlined a method to combat these problems that consisted of temple space restructuring to make the grounds more suitable for large numbers of visitors, thus reducing strain on the environment. This was achieved by redistributing the land allocation and making the Phra Tat the most important feature of the temple, from which all other areas may be accessed. By ensuring that all visitors to the temple come into contact with the Phra Tat, this model will maximize the promotion of precious architectural and Buddhist heritage in Esan.

Keywords: management, Buddhism, temple, Esan, space

1. Introduction

In North-eastern Thailand, known colloquially as Esan, temples have held great importance as centres of the society and the community since their inheritance from Sri Lankan culture (Diskul, 1979). They are places that have grown with religion through the ages and facilitated its transmission from generation to generation. However, this is not the full extent of their historical role. In the past, temples were institutions for the implementation of religious duties and places of education. Temples provided help where it was needed, encouraged the development of art and represented stability in the area. The first temples contained *wihan* halls for meetings and worship. As time progressed, so accommodation was incorporated for the monks (Nakwatchara, 1982). The architecture of the temples can be classified into areas according to its role and importance for Buddhism. These classifications are the worship area (*ked puttawat*), the monastic area (*ked sangkawat*) and common area (*ked brok*). Most temples in Esan have loose restrictions for the division of these areas, with the exception of large city temples. Technically, the worship area contains the buildings used to practice religious rites and ceremonies, including the *ubosot*, the *wihan*, the bibliotheca for Buddhist scriptures, the bell tower, the drum tower, the *bong* tower and chedi housing sarira (Buddhist relics) and remains of descendants, monks and prominent people. The monastic area of the temple is designated for the living quarters of the monk and usually contains the monk cells and multipurpose halls. The common area is open space outside of the worship and monastic zones that is used for a variety of purposes, most commonly community ceremonies and festivals. This area contains the preceptor administration hall, cremation tower, pavilion for resting the coffin, commercial buildings, temple gates and temple walls (Noiwangklang, 2005). The temples are constructed in the vicinity of the community as they are believed to bring prosperity and fortune to the area.

The importance of the temples is clear in the Esan customs of the twelve months and worship ceremonies to pay respect to the *Phra Tat*. *Phra Tat* relic-housing chedis and temples containing these structures carry greater importance (Wongthes, 2006). In the past, the temple was maintained under the authority of the community but as time passed, the government and state took over responsibility for the maintenance of the temples, so that they were considered government institutions. This had a negative influence on the use of space, relationships, temple patrons and care of religion. The ultimate consequence of these problems was the collapse of Wat Phra Tat Phanom on 11th

August 1975. This event led to a government policy change regarding the temples and the introduction of a protected registry for ancient monuments. With this policy, Phra Tat Phanom was also moved under the authority of the Provincial Governor so that no further damage could be done to the dignity and surrounding environment of the temple. These problems were not limited to Phra Tat Phanom. Increased government participation in the running of Phra Tat Si Song Rak in Loei Province alienated the local people and caused difficulties with temple status, land administration, asset management, principles and methods of organizing ceremonies. Common people have a right to the treasures of the temples, as stipulated by the laws of the council of monks. For this right to be realised there must be effective management of the temple space to create a cultural heritage centre for the communities that have developed alongside the temple over time. The community has a right to use the temple space for their religious beliefs, mystical beliefs, commercial activities and, importantly, for tourism. There is an annual event to worship Phra Tat Phanom, which involves the participation of the government and private sector to boost the local economy through tourism. The difficulty is managing the temple space so that the activities held within are consistent and appropriate with the principles of Buddhism.

2. Literature Review

Buddhist temples are a valuable part of world heritage because their architecture reflects religious beliefs and their relationship with society (Snodgrass, 1985). This is a relationship that has changed over the course of time. Although the purpose of temple construction in Thailand has changed little over the course of two-hundred years, there has been a marked change in social perceptions of the temple due to a decline in people entering the monkhood and a decrease in central budget (Nakwatchara, 1982). Also cited as causing transformation of the temple from the centre of society to an ordinary member have been Western lifestyle influences, decrease in agricultural occupations, increased communication with external communities, increased external control and less dependence on nature (Nakwatchara, 1982; Prommart&Tassanariporn, 2005; Wanlipodom, 1990). Despite this shift, no new spaces have been created to accommodate for modern communal interests (Iamsriwong, 2005) and the temple grounds that traditionally consist of the *ubosot*, the *chedi*, the *wihan* and habitation for monks (Jeeratassanakoon, 1994) have suffered (Nakwatchara, 1982).

Local Thai scholarship has focused on the structural and functional concepts of American theorist Talcott Parsons to explain the management of the temple as part of a social system (Parsons, 1961; Wannsiri, 1997). However, this outlook does not take into account the nature of the grounds as public space, which means that use of the temple is determined by ever-changing everyday lifestyle that must be examined in terms of the society it is in (Lefebvre, 1974; MacCannell, 1973; Madanipour, 1996; Pritchard & Morgan, 2006). There have been a number of attempts to define space, which have resulted in three (Lefebvre, 2004) and four (Correa, 1989) categories being defined. Indeed, the space of Esan has a set of subcategories all to itself (Prommart&Tassanariporn, 2005). Studies in the past have been aimed at determining and classifying the constituent parts of temple architecture (Kamwansa, 1999; Noiwangklang, 2005; Panin, 1995) or public space (Dumm, 2002; Foucault, 1967) separately. Cave (2005) also described a conceptual framework applying otherness as a management structure for tourism interactions, transactions and encounters. There have been a number of recent studies discussing the role of social and cultural space in holy places, its relationship with the community, the people and the use of local resources (Fuentes, 2010; Nesbitt, 2006; Waitt, 2003). However there has been little focus on the direct use of that space within the temple boundaries of Esan. In light of this, the research team was interested in studying the heritage management of temples containing Phra Tat, so to ensure that the use of space and resources was maximized to benefit the temples whilst remaining true to Buddhist principles.

3. Methodology

This was a qualitative research that employed in-depth study, document analysis and field research to gather data relating to space and environment management of Buddhist temples and relics in the Esan region of Thailand. The temples selected to be investigated as part of the research were chosen for their historical, cultural and religious significance to the people of North-eastern Thailand. A total of nineteen temples with Phra Tat were chosen for the field research, in accordance with five stipulations: a) the temple was located in the Esan region; b) the temple had correct allocation of *wisungkhamasima*. This means that the land for the central hall was provided by the King. They were also required to contain Phra Tat; c) the temple held historical significance for the local area or community; d) the temple was created or renovated in the artistic style of the Thai-Laos cultures; e) the temple was worshipped by the communities and local people. The research team is aware that this type of purposive non-probability sampling has been considered lacking by some scholars, such as Emily Stier Adler and Roger Clark, for generating samples that are 'unrepresentative of the population from which they have been drawn' (2010, 104). However, as Stier Adler and Clark go on to concede, purposive sampling is the most appropriate practice given such a specific population as Phra Tat temples in North-eastern Thailand. Indeed, purposive sampling is the best

available technique because the research intentions are not to promote the samples at a representative level but rather to apply research theories and conclusions to the management of this specific group of temples (Potisitta, 2009). The following are the temples chosen for this investigation: Wat Ponechai, Loei Province; Wat Mahatat, Loei Province; Wat Phra Tat Bangpuan, Nong Khai Province; Wat Mahatat Chedi (Phra Tat Don Kaew), Udon Thani Province; Wat Phra Tat Choeng Chum, Sakon Nakhon Province; Wat Phra Tat Renu, Nakhon Phanom Province; Wat Phra Tat Phanom, Nakhon Phanom Province; Wat Phra Tat Nong Sam Meun, Chaiyaphum Province; Wat Chediaphum (Phra Tat Kam Kaen), Khon Kaen Province; Wat Umangkala Nariang, Kalasin Province; Wat Neua (Tat Bu), Roi-Et Province; Wat Mahatat (Phra Tat Anon), Yasothon Province; Wat Gujan (Tat Gujan), Yasothon Province; Wat Na Phra Tat (Wat Daku), Nakhon Ratchasima; Wat Potsritat, Surin Province; Wat Phra Tat Rueang Rong (Wat Srang Rueang), Sri-Saket Province; Wat Ba Bueng Kao Luang, Ubon Ratchatani Province; Wat Tat Suantan, Ubon Ratchatani Province; Wat Phra Tat Nong Bua, Ubon Ratchatani Province. The temples selected for the study and their locations are illustrated in Figure 1 (Figure 1).

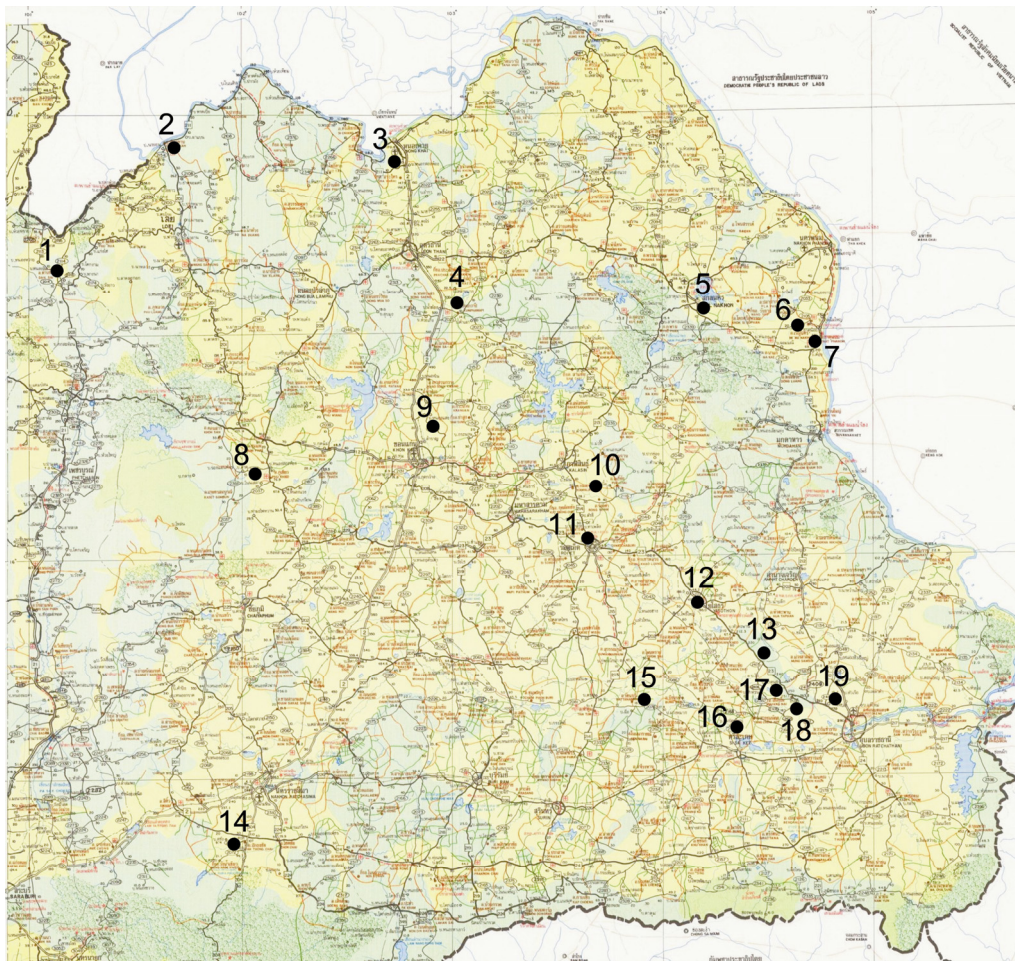


Figure 1. The locations of North-eastern Thai temples selected for this research

Key

- | | | | |
|----|--|----|---|
| 1 | Wat Ponechai, Loei Province | 2 | Wat Mahatat, Loei Province |
| 3 | Wat Phra Tat Bangpuan, Nong Khai Province | 4 | Wat Mahatat Chedi (Phra Tat Don Kaew), Udon Thani Province |
| 5 | Wat Phra Tat Choeng Chum, Sakon Nakhon Province | 6 | Wat Phra Tat Renu, Nakhon Phanom Province |
| 7 | Wat Phra Tat Phanom, Nakhon Phanom Province | 8 | Wat Phra Tat Nong Sam Meun, Chaiyaphum Province |
| 9 | Wat Chediaphum (Phra Tat Kam Kaen), Khon Kaen Province | 10 | Wat Umangkala Nariang, Kalasin Province |
| 11 | Wat Neua (Tat Bu), Roi-Et Province | 12 | Wat Mahatat (Phra Tat Anon), Yasothon Province |
| 13 | Wat Gujan (Tat Gujan), Yasothon Province | 14 | Wat Na Phra Tat (Wat Daku), Nakhon Ratchasima |
| 15 | Wat Potsritat, Surin Province | 16 | Wat Phra Tat Rueang Rong (Wat Srang Rueang), Sri-Saket Province |
| 17 | Wat Ba Bueng Kao Luang, Ubon Ratchatani Province | 18 | Wat Tat Suantan, Ubon Ratchatani Province |
| 19 | Wat Phra Tat Nong Bua, Ubon Ratchatani Province | | |

The research tools used for data collection were surveys, participatory and non-participatory observations and structured and non-structured interviews (Nontabatmadoon, 2003). The initial basic survey was used to gather general data relating to how each area, building and natural resource of the temple is used at different times. Observations and structured interviews were divided into three categories of questioning: general data, space usage and problems and surrounding environment and problems (Chuto, 2005). The aims of the interviews were to ascertain the thoughts of the population according to three research aims, which were to examine the background of space and environment of temples Phra Tat in Esan, to study the current conditions and problems of space and environment of temples Phra Tat in Esan and to investigate the management of space and environment of temples with Phra Tat in Esan. Members of the research population were divided into three groups for the collection of data. Group one was composed of selected experts in the field of Phra Tat and temple management from three areas, the government, the private sector and the community. The government experts were provincial governors from each province containing temples selected for research, municipal mayors from each temple area, leaders of community administration organizations in each temple area and the leaders of each temple. Private sector representatives were selected from tourism management groups, local businesses and religious instructors in areas containing the temples selected for research. The remainder of group one was made up by senior members of the communities surrounding the temples studied. Group two was composed of temple monks and people living around the areas of the temples studied. Group three was composed of people practicing religion at the temples, worshippers and tourists. The total number of informants used throughout this research was thirty-nine individuals. Data validation was conducted using four methods of triangulation: data triangulation validated the data by location, time and source; investigator triangulation validated the data according to researchers; theory triangulation validated the data against existing theories of temple management and space; methodological triangulation validated the data by research tool used for collection. The research period began in October 2010 and lasted a period of two years until October 2012.

4. The use of Space and the Environment in Esan Phra Tat temples

From observation of the research sites, there were three apparent trends of Phra Tat placement in the temple complexes. Five Phra Tat had been constructed at the front centre of the *ubosot*. These were at Wat Ponechai, Wat Phra Tat Bangpuan, Wat Umangkala Nariang, Wat Ba Bueng Kao Luang and Wat Phra Tat Nong Bua. Seven Phra Tat had been erected at the rear centre of the *ubosot*. These seven temples were Wat Mahatat Chedi (Phra Tat Don Kaew), Wat Phra Tat Choeng Chum, Wat Phra Tat Phanom, Wat Neua (Tat Bu), Wat Mahatat (Phra Tat Anon), Wat Gujan (Tat Gujan) and Wat Potsritat. Seven temples had constructed their Phra Tat to the side of the *ubosot*. These temples were Wat Mahatat, Wat Phra Tat Renu, Wat Phra Tat Nong Sam Meun, Wat Chediaphum (Phra Tat Kam Kaen), Wat Na Phra Tat (Wat Daku), Wat Phra Tat Rueang Rong (Wat Srang Rueang), and Wat Tat Suantan. The current division of space in the temples is clearly defined into three zones, *ked puttawat*, *kedsangkawat* and *kedbrok*. In the first zone, *ked puttawat*, the space is used for religious activities, worship and rites. The zone contains the Phra Tat, *ubosot* and *wihan*. Around the Phra Tat is a wide area for the purpose of circling the structure during times of worship. The area is connected to the community in many directions and these entrances to the temple grounds depend on the layout of the surrounding environment. The main entrance to the temple is invariably the most convenient access for vehicles. The multipurpose hall is the location of general religious and community activities. On important days in the calendar, the temple grounds are central to the different activities held, causing the temple committees to consider expansion.

The Fine Arts Department has created a registry of ancient monuments and protected areas to conduct renovations and restoration projects under the care of the department. The temple areas themselves are kept clean by combined efforts from the temples and local communities. A big problem in some temples is the construction of structures that have not been given prior approval from the Fine Arts Department. This construction has had a negative effect on the ancient monument and the surrounding environment. Of the temples studied, a number have completed successful restoration programs that enhanced the beauty and environment of the ancient monuments, most notably Wat Phra Tat Nong Sam Meun, Wat Gujan (Tat Gujan), and Wat Chediaphum (Phra Tat Kam Kaen).

The head of the monastery is responsible for delegating maintenance work and everyday tasks to monks and management of their participation with members of the temple committee. Regarding events and activities that are to be held on the temple grounds, the temple council will hold a meeting to prepare and delegate individual responsibilities. In the case of large festivals or important events, the private sector and government will also send representatives to oversee and control the distribution of benefits. As members of the Fine Arts Department registry, the temples have the additional assistance of department representatives to supervise maintenance and care of the temple.

Interviews with informants made it clear that that the *ked puttawat* and *ked sangkawat* are the most important parts of the temple, with the former providing the foundation for the use of the latter. From analysis of the survey results, the research team was able to conclude four distinct groups of temples that are differentiated by the spatial relationship between the *ked puttawat* and *kedsangkawat*. The first group of seven temples was found to have its monastic area to one (any) side of the worship area. These temples were Wat Phra Tat Renu, Wat Chediaphum, Wat Umangkala Nariang, Wat Neua, Wat Potsritat, Wat Tat Suantan and Wat Phra Tat Nong Bua. The second group of three temples located its living quarters on both sides of the worship area. The temples in this group were Wat Mahatat (Phra Tat Anon), Wat Gujan and Wat Na Phra Tat. The third group of four temples had monastic accommodation on two continuous sides of the worship zone. These four temples were Wat Ponechai, Wat Mahatat Chedi, Wat Phra Tat Choeng Chum and Wat Phra Tat Rueang Rong. In the final group of five temples, the *ked sangkawat* surrounded the *ked puttawat* on three consecutive sides. These temples were Wat Mahatat, Wat Phra Tat Bangpuan, Wat Phra Tat Phanom, Wat Phra Tat Nong Sam Meun and Wat Ba Bueng Kao Luang. The survey results found that temples with their monastic area located on just one side of the worship area (group one) had the clearest and simplest division of grounds. This led to easy maintenance of the site and gave an overall impression of order (Phrakhru Kasem Punyapiram, personal communication, 2011). The smallest group of temples (group 2) had living quarters scattered on two different sides of the worship area. This method of space management was found to be the least effective and least suitable. 'The primary reason is the lack of clarity over which side of the monastic zone should be used for what purpose' (Phrakhru Banpotworakit, personal communication, 2011). Moreover, any contact between sides requires traversing the holy worship zone, which is not appropriate. Overall, the lack of continuously similar space provides a disorderly atmosphere.

From the current use of space in the temples, a number of general problems could be discerned. The vast majority of problems with the temples only occur at times of festivals and on important days in the calendar. On occasions such as the Songkran Festival in April, many visitors will come to the temples at the same time. This influx of people puts considerable strain on resources and facilities because the temples become overcrowded. 'The biggest source of problems is traffic' (PhramahaTonwicha, personal communication, 2011). The large numbers of people means large numbers of vehicles, which cause air pollution, sound pollution and traffic congestion. By parking in the temple grounds, the transportation also spoils the local scenery and prevents visitors from appreciating the full majesty of the temple architecture. A further problem is the heat in the uncovered temple grounds, although this is a year-round concern (Phrakhru Sriratanalangkorn, personal communication, 2011). The situation is not helped by the decision of some temple committees to pave the area around the Phra Tat with concrete, which retains the sun's heat.

5. Space Management Design for Phra Tat Temples

The research team considered the results obtained from observations, surveys and interviews and designed an appropriate method of space and environment management for temples containing Phra Tat in the Esan Region of Thailand. The temple space should be arranged in the clearest, simplest manner that allows continuous zones. The recommendation from this investigation is to designate three areas: public, semi-public and private. The public space is the area in which all visitors to the temple are welcome, with no restrictions. The semi-public space is the area in which all people may enter but rules and regulations must be obeyed. The private space is the area that visitors to the temple may not enter without prior permission. Trees must be planted throughout the temple complexes in order to create shade and combat the problem of excessive heat in the daytime. Open spaces must be covered with natural materials that do not retain heat. There are two suggested possibilities for the layout of the temple buildings. The first is a linear model that will allow the visitors to appreciate the importance of each structure. The visitor must pass each building to reach the next, which will enhance the sense of holiness generated by the temple grounds and architecture. The second model is bi-linear. The disadvantage here is that the visitor may bypass certain areas of the temple; however this is countered by the added sense of width and space in the temple.

The worship area should be considered the most significant part of the temple and is the zone that houses the Phra Tat, *wihan* and *ubosot*. This is supported by Somkid Jeeratassanakoon (1994), whose studies of Thai temples showed that the *ked puttawat* and *ked sangkawat* have had a mutual relationship in temple designs since the Sukhothai Kingdom in the thirteenth century. Importantly, Jeeratassanakoon's analysis of temple blueprints revealed that there were no cases where the *ked sangkawat* obstructed the entrance to the *ked puttawat*. Accordingly, this study places importance on the *ked puttawat*. In this model, the Phra Tat is surrounded by grounds for worshippers to circle the chedi during their rituals and ceremonies. These grounds are the link to other areas of the temple. In this way, all visitors to the temple must pass the Phra Tat. The entrance to the temple is the best link for vehicles to reach the *ked puttawat*. This research recommends two preferred models of

management for the space relationship between the Phra Tat and the *ubosot*, linear and bilinear. This preference is shared by Ornsiri Panin (1995), whose study of building management in temples of Thailand drew the conclusion that the Phra Tat and *ubosot* should either be built one behind the other or next to one another. The first is a linear setup in which the Phra Tat and *ubosot* are located on the same plane (Figure 2). The second choice is bilinear, with the Phra Tat and *ubosot* side-by-side (Figure 3). Although the research identified three current space relationships between the *ubosot* and Phra Tat in each temple, it must be noted that the first and second group are both linear. The first group of temples placed the Phra Tat in front of the *ubosot*, while the second had the Phra Tat to the rear. In the recommended model defined here, the order of buildings is considered flexible as any changes to this order would be impractical. Parking space should be allocated at the front of the temple outside the three temple zones in order to combat the problems created by excessive traffic.

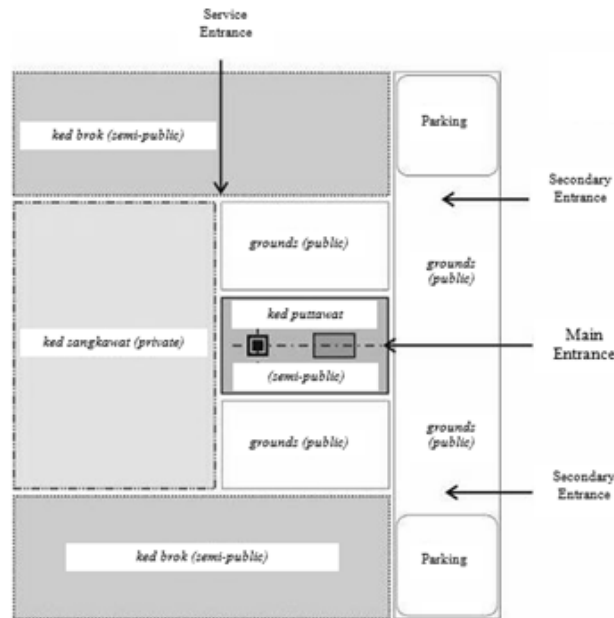


Figure 2. Suggested model of space management in Phra Tat temple complexes with the Phra Tat and the *ubosot* in a linear position

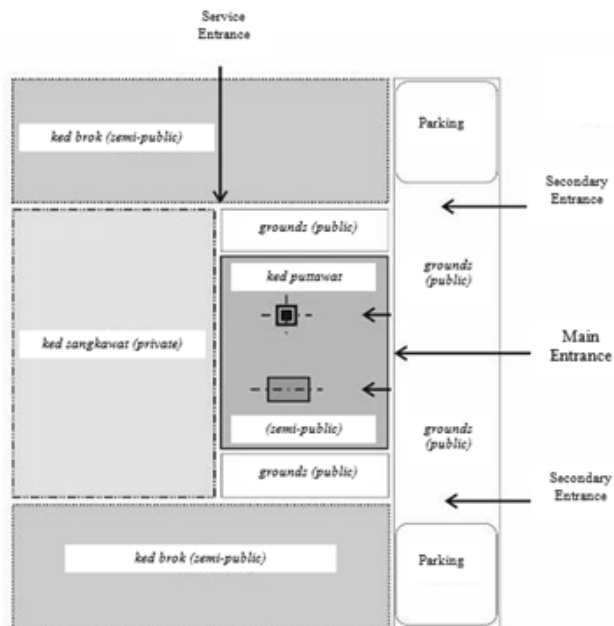


Figure 3. Suggested model of space management in Phra Tat temple complex with the Phra Tat and the *ubosot* in a bilinear position

As the temple grounds are used for a variety of activities, the management of the grounds should be considered in terms of both positive and negative space (Lefebvre, 1974; Madanipour, 1996). The positive space is the area that is consistently used throughout the year and should be covered with permanent shelter. The negative space is for unspecified activities that take place at certain times throughout the year, notably the busy festival periods. In the negative spaces, roofing is not necessary, although temporary structures may be considered. The positive space is primarily the *ked puttawat*, which contains the Phra Tat and *ubosot*.

The management committee designated to oversee cleaning, maintenance and general administration should consist of monks, community representatives and local administration organizations. This committee will have four responsibilities: define objectives and procedures to achieve those objectives, adapt, integrate different agencies and manage tensions. For the model outlined in this research, the composition of the temple management committee must include the three aforementioned members at a minimum. The committee must be presided over by the chief monk at the temple, as is currently the case. At times of festival, the committee may be expanded to accommodate extra tasks.

6. Conclusion

This research of space and environment management of Buddhist temples and relics in the Esan Region was a qualitative research that studied nineteen temples in North-eastern Thailand. Data was collected by document analysis, field research, interviews and observation and showed that monks take care of the buildings and inside the temple. A management committee was set to regulate the use of space and the environment. During ceremonies, the committee participates with the community to manage temple activities to benefit the temple, visitors and the local community. During major festivals the temple spaces are crowded, polluted and hot. Problems arise from the large number of people and quantity of cars entering the temple. In general, the environmental and building conditions were good with shady trees throughout the grounds, although some temple areas covered by concrete were hot during day time. The current division of space is into three areas for worship, living and common grounds. The divisions are often unclear and inappropriate.

The model outlined by this research suggests restructuring of the temple complex so that the ground is divided into public, semi-public and private spaces. The worship area is the most important part of the temple and the main entrance to the complex should provide the best access to that zone. All other areas of the temple should be accessible from the worship area. Inside the worship area, the Phra Tat (chedi) and *ubosot* (ordination hall) must be positioned either side by side or one in front of the other. This is to maximize the visitor impression of the temple architecture and sense of holiness and heritage. Parking space should be allocated at the front of the temples, trees must be planted in areas with no shade and concrete paving should be replaced with cooler, natural substances. With the implementation of this model by local authorities as a management policy for the Phra Tat temples it is hoped that this cultural heritage of North-eastern Thailand may continue to be appreciated by locals and tourists alike.

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Boon Phawet: A Comparative Study of a Phu Tai, Tai-Lao and Kaleung Religious Ceremony in North-eastern Thailand

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Abstract

This is a qualitative investigation utilizing survey, observation, interview and focus group discussion as research tools. The aims of the paper are to assess the current state of the *Boon Phawet* ceremony, compare the customs between Phu Tai, Tai-Lao and Kaleung ethnic groups and analyse what they reveal about culture and society. The results show that the principles of *Boon Phawet* in all three groups are similar. The ceremony is held in the fourth month according to the traditional North-eastern social code of *heet 12 kong 14*. It is a religious ceremony to pay respect to *Phra Malai*, an arhat who descended to hell to ease suffering. The main components of the ceremony are a *Phawet* fabric parade, the *Tet Mahachat* sermon and a *Kan Lon* parade. There are a number of group-specific particularities, including the use of elephants in the parade of the Kaleung group. Problems with *Boon Phawet* revolve around a lack of active inheritance and care from the younger generations. For the continuation of *Boon Phawet* traditions, a conservation model must be determined that appeals to modern society.

Keywords: *Boon Phawet*, Isan, Phu Tai, Tai-Lao, Kaleung, inheritance

1. Introduction

All humans possess instinct, a sense of fear and survival that allows them to avoid danger. When humans are confronted by a threat that is beyond their power to stop, their instinct tells them to seek aid and shelter. Mental suffering is difficult threat to shelter from and in its face humans need comfort and reassurance. This psychological support comes from belief and faith, the evolution of which leads to religion, a moral code, values, law and customs that control society and nations by promoting peace and cooperation. In this way religions become important social and national institutions (Channarong, 1999).

The people of North-eastern Thailand (Isan) are predominantly Buddhist and have a set of unique traditions. The distinctive heritage of Isan is an ancient tool that has given the region and its people a collective identity. There are three general categories of ceremonial customs found in Isan: 1) Life-cycle ceremonies, 2) occasional ceremonies and 3) seasonal ceremonies. Aside from these, there are routine customs derived from traditional belief that are practiced in everyday life (Tanta-ariya, 2005).

Boon Phawet, or *Boon Tet Mahachat* is a ceremony with a history dating back to the era of the lifetime of the Lord Buddha and is mentioned in the legend of *Phra Malai*, an arhat who descended to hell to ease suffering. For Isan people, *Boon Phawet* is more significant than everyday merit-making (Peetawatchai, 1973). It has been inherited as part of the *heet 14 kong 14* social code, which states that, at the arrival of the fourth month, people must help to collect *dok jan* (*Butea monosperma*), weave bamboo and attach *dok jik* (*Barringtonia acutangula* (L.) *Garetn*). In Isan, the saying goes that '*Duean sam koy jao hua koi pan kao jee, duean see koy jua noy tet matree*' ['in the third month, you and I shall laugh and wait to mould barbecued rice. In the fourth month, the monk will give a *Matree* sermon']. The *dok jik* and *matree* sermon are related to the *Vessantara Jataka*, which is celebrated at the *Boon Phawet* festival annually in the fourth month of the Thai lunar calendar, which is the Thai version of the Buddhist lunisolar calendar. The ceremonies last for three days: Communal Day, Event Day and *Tet Mahachat* Day (Payomyong, 1976).

Modern management of the *Boon Phawet* ceremony must use the original traditions as its model and include invitation of local monks, a *Phawet* fabric parade, the *Tet Mahachat* sermon and a *Kan Lon* parade. *Boon Phawet* is important to communal life in Thailand because it is a precious local identity that cannot be found anywhere else and reveals the intelligence and creativity of ancient Isan people and the inheritance of religion, legends, beliefs and lifestyle. Aside from this, the ceremonies help to conserve the values and morals of Thai people and encourage communal strength and togetherness. The beauty of the *Boon Phawet* lies in the promotion of social relationships, which drive the community.

The most prevalent conviction visible in the *Boon Phawet* ceremony is faith in *Phra Upakhut* and the belief that people will achieve the highest level of virtue if they listen to each of the 13 chapters of the *Tet Mahachat*. *Phawet* fabric is created and woven into finely detailed flags to decorate the ceremonial area. This subtle artwork depicts the culture of the *Boon Phawet* ceremony in Tai-Lao, Phu Tai and Kaleung ethnic cultures. *Boon Phawet* is thus an artistic and spiritual ceremony with religion at its heart (Rueangsuwan, 2003).

Boon Phawet ceremonies can still be found in almost all provinces of North-eastern Thailand. Although the size of the ceremony and its importance have diminished in some provinces, for most Tai-Lao, Phu Tai and Kaleung communities, *Boon Phawet* is a valuable part of the calendar year, as stipulated by the *heet 12 kong 14* code. The ceremony has three valuable outcomes. Firstly it generates communal cooperation and unifies society. Secondly, it gives young people a reason to return to their family home and visit their relatives. Thirdly it encourages people to make sacrifices by offering their time to help community leaders, build the community reputation and conserve local heritage (Payomyong, 1976).

Given the importance of the *Boon Phawet* ceremony, the research team embarked upon this investigation to assess its current state with the aim of comparing the customs between different social groups and analyzing what they reveal about culture and society.

2. Methodology

This is a qualitative investigation. The research combined documentary analysis and field research, which were conducted according to the stated aims. Tools for field research were survey, observation, interview and focus group discussion. Locations were purposively selected for the investigation based on the criteria that they were Tai-Lao, Phu Tai or Kaleung communities, they conserved and developed management of the *Boon Phawet* customs and they held an annual *Boon Phawet* ceremony. The communities chosen for the investigation were:

- Ban Nong Nong, I Nong Sub-district, Chaturaphak Phiman District, Roi Et Province.
- Ban Nong Du, Thong Thani Sub-district, Thawat Buri District, Roi Et Province.
- Ban Kut Wa, Kut Wa Sub-district, Kuchinarai District, Kalasin Province.
- Ban Kokkong, Kut Wa Sub-district, Kuchinarai District, Kalasin Province.
- Ban Bua, Kut Bak Sub-District, Kut Bak District, Sakon Nakhon Province.
- Ban Kut Haed, Kut Bak Sub-District, Kut Bak District, Sakon Nakhon Province.

All results were validated using a triangulation method. The research team then analysed all collected data according to the aims of the investigation and results are here presented as a descriptive analysis.

3. Results

The *Boon Phawet* ceremony has been held in local Tai-Lao communities for as long as current residents can remember. It is an important ceremony traditionally held annually after the rice harvest season in the third or fourth month. The residents of Ban Nong Nong and Ban Nong Du currently follow the *heet 12 kong 14* calendar but the *Boon Phawet* ceremony will be held on convenient, rather than specific days. The customs usually last for two or three days. Traditions among the Phu Tai people of Kalasin Province are very similar. In Ban Kut Wa and Ban Kokkong, the ceremony will be held annually for three years. Once the three year cycle is complete, there may be a break from holding the ceremony for one year. In Kalasin, the ceremony is organised in either the fourth or fifth month and there is the addition of *Liang Pi* customs, where a banquet is held for the spirits. The Kaleung people of Sakon Nakhon arrange the *Boon Phawet* ceremony in the fourth or fifth month annually for three years. Once the three year cycle is complete, there may be a break from holding the ceremony for one year.

The *Boon Phawet* ceremony of all ethnic groups has suffered due to technological innovation, the convenience of modern transport and family choice to send their children to study abroad. These three developments have caused a greater awareness and prevalence of Western culture among Thai people and led to the neglect of traditional Thai practices. Social changes such as increased consumerism have altered the *Boon Phawet* customs

from their original form, although the beliefs and ceremony are still the same. The three ethnic groups hold ceremonies in the same way, with slight differences in the number of attendees and equipment used (Koonkam, 2011).

For the ceremony of the Phu Tai and Kaleung people, monks will use a generic Buddha idol to worship, while the ceremony of the Tai-Lao people specifically requires a figure of *Phra Upakhut* and uses a slightly different style to invite *Phra Upakhut* to the parade. The parades themselves are similar between ethnic groups, although the distinctive characteristic of the Kaleung parade is to incorporate elephants. The Phu Tai and Tai-Lao communities will listen to a complete 13 chapter sermon. The only difference is the use of local vocabulary and dialect, although this is minimal. The Kaleung sermon is in a 'triple-pulpit' style. The Phu Tai and Tai-Lao sermons require a community host to hold specific ceremonial dialogue with the monk during the service. For the Kaleung version, the listeners act as a communal host. Although the differences between the three ceremonies are minor, they show the adaptation of the *Boon Phawet* ceremony in different groups and different geographic locations. If these traditions are not followed from year to year, the people believe that spiritual sanctions will follow, such as drought or rice price inflation.

The problems with the *Boon Phawet* customs are similar among the Tai-Lao, Phu Tai and Kaleung ethnic groups. The equipment used to weave *Phawet* fabric for the ceremony is old and dilapidated. It is difficult to find people with the required expertise to make repairs. Newer versions of the traditional equipment and materials are made from plastic because the local environment no longer provides the materials required to use traditional methods. The equipment used in the ceremony changes according to occasion, belief, ceremony, social status, economic status, education and technology in the locality. The members of society adapt their versions of the ceremony to suit their surrounding environment. The *Phawet* fabric parade is disorganized and there is a lack of traditional knowledge inheritance to encourage the necessary continuation of *Boon Phawet* among young people in the community, particularly local variations. This is because the young people do not have time given their hectic working lives. The importance of the ceremony declines in the face of economic hardship because people cannot dedicate their time or money. Regarding the sermons, monks do not adapt their delivery style for new generations, causing many to ignore their teaching, particularly the young. Monks with the required expertise to give the sermon accurately and effectively may not live in the local area, which means travel is inconvenient.

4. Discussion

According to Wimonpan Peetawatchai (1973), *Boon Phawet* naturally occurred from the belief in *Phra Malai*. There is a potential hyperdiffusionist argument that could attribute all subsequent cultural developments, such as *Boon Phawet*, to a single origin in Buddhism (Elliot Smith, 1911). Indeed, this is an idea used by Pornpen Hantrakul and Atcharaporn Kamutpisamai (1984) in their analysis of *Phra Sri Ariya*. However, such a stance does not give adequate importance to the subtle differences in ceremony styles between the three ethnic groups. More appropriate is the Kulturkreis or culture circle phenomenon proposed by Fritz Graebner (1911) and Wilhelm Schmidt (1912-1955), which suggests that culture originates at a number of different points and spreads outwards. This better explains how three ethnic groups in three different provinces of Thailand with different dialects, histories and cultures all choose to hold their *Boon Phawet* ceremonies during or near the fourth month (Wannasiri, 1997). Their 'culture circles' grew and overlapped. This conclusion was also drawn by Supita Chaiysawat (1999), who examined the mutual relationship and cultural influence between the Phu Tai and Tai-Lao ethnic groups. Chaiysawat found that the Tai-Lao people have the largest representation in the Isan region and their culture has influenced the food, housing, clothing and medicine of Phu Tai people in the area. However, the Phu Tai have also made their own cultural imprint. The adaptation of both groups allows social harmony, exemplified here by the similarities and differences in *Boon Phawet* customs, which are perhaps more indicative of Julian Steward's cultural ecology than any diffusionist paradigm (Steward, 1955). Regardless, cultural diffusion must be acknowledged as a factor of cultural adaptation (Srisantisuk, 2001).

While studying the *Boon Phawet* ceremony of the Phu Tai people in Mukdahan Province, Anek Atwichai (2008) found similar components to the Phu Tai ceremonies observed in this investigation. Atwichai noted that the initial planning of the ceremony, such as date, time and place was led by local monks. In the days leading up to the ceremony, the community participated in preparation and organized the creation of *Phawet* fabric. This participation is a form of local education that constitutes the inheritance process. *Boon Phawet* has been passed on from generation to generation in this manner but is now threatened by young people choosing to leave their family home after marriage. After relocating, their ties to the local community are weaker and they are less inclined to become involved in traditional ceremonies and activities (Srisantisuk, 1989). This was a trend first noticed by Klausner (1972) during his case study of Buddhism in Ban Nong Kone and shows no sign of abating.

The problems identified by this research were consistent with those found by Phramaha Wichien Wichiro (2010) in his analysis of Roi Et Province. Specifically, the equipment and organization of *Boon Phawet* in Roi Et suffered from a lack of care and active inheritance. Although the management of the ceremony has been affected by cultural change, the original beliefs remain. If management methods are identified that can relate to these younger generations, general interest in *Boon Phawet* may increase. Yothin Jantawee (2005) found that cultural tourism is more popular if it is effectively managed in line with modern social trends. This is not only true for tourists and can be applied as a theory for the conservation of the *Boon Phawet* ceremony. Jantawee's method (2005) suggests compartmentalized micro management in four categories: man, machinery, money and materials. To determine whether this model is applicable to the conservation of *Boon Phawet*, further research is required.

5. Conclusions and Suggestions

Boon Phawet is a religious ceremony that can be traced back to the era of the lifetime of the Buddha and is an important ceremony for Isan people that constitutes part of the *heet 12 kong 14* social code. The customs of *Boon Phawet*, which include creating *Phawet* fabric, listening to sermons and joining a local parade, all serve to strengthen community relationships and encourage participation. There are problems with the management of the *Boon Phawet* ceremony and the disrepair of equipment used in the creation of *Phawet* fabric. The biggest problem is inheritance of the ceremony because the current model of inheritance through participation is not compatible with modern society. Future research should be conducted to analyse community participation in the *Boon Phawet* ceremony and determine methods to modernise the management and inheritance of this valuable tradition. An additional consideration is the promotion of *Boon Phawet* as a cultural tourist attraction, using *Phawet* fabric and the history of its creation to attract interest from foreign visitors and, importantly, modern domestic society. It is this last group, the new generations of Phu Tai, Tai-Lao and Kaleung people, who will determine whether *Boon Phawet* develops with society or stagnates.

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Mon Dance: Creating Standards to Continue the Performing Arts of Thai-Raman

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Abstract

This investigation, Mon dance: Creating standards to continue the performing arts of Thai-Raman, has the following objectives: 1) To understand the history, current conditions of and problems with Mon dance of the Thai-Raman; 2) To examine the standards of Mon dance; 3) To create standards to continue the performing arts of the Thai-Raman. This qualitative research was conducted in three central Thai provinces: Pathum Thani, Nonthaburi and Samut Prakan. Data was collected from documentary study and field data by means of observation, interview and group discussion. Workshops were also held with a total of 100 attendees, comprised of 20 key informants, 50 casual informants and 30 general informants. Data was validated using a triangulation technique and findings are presented using a descriptive analysis. The research highlighted current conditions and problems in dancing process, melody, costume, performers, time and rituals, which have similarities and contrasts depending on the environment and the social and cultural changes in each area. The standardization of the dance was found to be similar to the dancing process, melody, costume, performers, time and rituals. Traditions are not supposed to change in order to demonstrate the identity of Mon Dance. It was concluded that the dance process has 6 indicators and points were set in the performance judging criteria as follows: 170 points for the melody with 3 indicators, 195 points for the costume with one indicator, 30 points for the performers with six indicators, 80 points for the time with 2 indicators, 25 points for the rituals with 3 indicators and 40 points for meeting the assessment criteria. The passing score for the dance will be 80%.

Keywords: Mon dance, performing arts, traditions, inheritance, standardization

1. Introduction

Dance is a medium created by human society to entertain and has become an integral part of cultures worldwide. The success of its continuation and transmission lie with the performers in each generation, who are responsible for either adhering to or diverging from traditional postures and practices. Original dances were a mixture of physical representation of human emotion, imitation of animal postures and reproduction of natural phenomena. Mon dance, the dance of the Mon ethnic group, is no different. Although there is no longer a Mon country or independent territory, the Mon people retain a strong sense of identity and their representatives in modern-day Thailand and Myanmar continue to perform traditional dances.

Thai people refer to the Mon ethnic group as *Raman*, which was a name derived from the ancient kingdom of Suwannaphum. Elsewhere, the Mon are known as *Taleung*, which derives from the name of a Southern Indian territory. The Mon people have a long and proud history, which is evident in their rich and diverse culture, not least their traditional dances. However, the function of modern Mon dance has changed. As shown by the research of Pairoit Boonpook (1994), Mon dancing is primarily used for funerals. In reality, the dances can be employed for auspicious, as well as inauspicious occasions. Boonpook also found that the number of Mon musical troupes was decreasing and the musical form was affected by the influence of global music trends. A particular disadvantage of Mon dance in the modern world is the length and speed of dancer movements. The Mon dance steps are traditionally slow and deliberate. This causes people to associate the style of dance with sadness and inauspicious occasions and has led to the popularity of Mon dance at funerals. Moreover, this perception puts Mon dance at risk in an increasingly hurried and fast-paced modern society (Suntranon, 2005).

Given these problems, the research team was interested in creating standards for Mon dance that would enable uniformity in performance, its accurate inheritance and ensure that the performing arts of Thai-Raman could continue in the future.

2. Methodology

This was a qualitative study to study the background, current conditions and problems of Mon dance, to assess the requirements for standardization and to create a set of standards that may be applied uniformly to Mon dance. The research team identified six aspects of Mon dance for research, which were: dancing process, melody, costume, performers, time and rituals. Three provinces in central Thailand were purposively selected as the study area for this investigation. The selected provinces were Pathum Thani, Nonthaburi and Samut Prakarn. These locations were chosen because they are places with large ethnic Mon communities who still perform traditional Mon dances. By means of simple random and purposive sampling, a research sample of 100 individuals was identified. This number was split into three distinct groups for analysis: key informants, casual informants and general informants.

Research tools used for data collection during this investigation were survey, non-participant and participant observation, unstructured and structured interview, focus group discussion and workshop. Data was collected and arranged according to the aims of the research. All data was validated using a triangulation technique and analyzed by both analytic induction and typological analysis. The results are here presented as a descriptive analysis.

3. Results

3.1 The Background, Current Conditions and Problems of Mon Dance

Mon dance is heavily influenced by Indian culture. There is no exact knowledge of the origin of Mon dance because it was first passed on from generation to generation by word of mouth, experience and observation. The history of the dance in the three provinces covered by this investigation is different. The dance first arrived in central Thailand with the mass migration of Mon people to the area during the Ayutthaya Kingdom. It was used for a variety of festivals and occasions. 8 to 12 female dancers take part in the performance, which is split into two sections. The first section is accompanied by the traditional *pleng 12 taram* music. The second part is accompanied by a choice of other musical pieces. The aspect of the performance that cannot be omitted is the Piphat Mon ensemble. Buddhism is integrated into the Mon lifestyle and temples have played a large part in the musical journey of the Mon people. Mr. Jeun Dontrisano established his Piphat Mon ensemble in Pathum Thani in the local temple. The abilities of ancestors have generated fame and reputation for modern ensembles, which stay with them today. Mrs. SompitPumyai (Personal Communication, 2013), said that dancers learn with traditional Mon teachers, who teach the 13 postures of Mon dance. She said that the teachers never refer to the postures by name and merely instruct how to replicate them. Mon dance is more difficult than traditional Thai dance because the rhythm is much more important. The thirteen musical pieces each have different postures and for a perfect performance 8 dancers must be used.

There are six areas of Mon dance: dancing process, melody, costume, performers, time and rituals. The similarity between the dance processes of the three studied provinces is the list of twelve dance postures used in the dances. There are three major differences between the dance processes, which are the names given to the dance postures, the use of dance postures in each song and interchange of dance position use for each song. The melody of the music is predominantly the same from one province to the next, although certain songs vary, notably the first, eleventh and twelfth. There are two forms of costume. For auspicious events, such as retirements and festivals, the ensemble will wear bold colors, omitting black. For inauspicious events, the ensemble will wear black and white. In each province, male and female performers are permitted. The length of the performance depends on the occasion. For a full program of twelve songs, the performance will last 20-30 minutes. However, nowadays the ensembles select appropriate songs for the occasion, performing only one or two in a 5-10 minute period. The rituals surrounding the performance are similar in each province. Before the performance, the ensemble will *waikru* to pay their respects to the spirits. If the occasion is a funeral, the ensemble must bow before the performance three times to the Lord Buddha, once to the deceased, once to the musicians and once to the audience.

3.2 The Requirements for Standardization of Thai-Raman Performing Arts

The dance process must adhere to original traditions and not be adapted. This will ensure that the identity of the dance postures is upheld. Despite replication of traditional movements, the length and style of the postures themselves will depend on the individual performer and harmony with the music and fellow dancers. The dancers should neither stoop too low nor dance too upright. No additional postures should be added to the

performance, which will cause divergence from the traditional identity of the dance. The dance arrangement will depend on the appropriate positioning for the particular ensemble. If the dances are to remain the same, the music must also strictly follow traditional melodies. The music must be played by a traditional Piphat Mon band. There must be two forms of costume. For auspicious events, such as retirements and festivals, the ensemble should wear bold colors, omitting black. For inauspicious events, the ensemble should wear black and white. Performers must display grace and elegance in their movements. They should be skilled in the traditions of Mon dance. The dancers should be able to observe and evaluate their surroundings and apply their findings to their dance technique. Performers must also possess desirable personal characteristics that permit them to train and develop their skill for formal presentation. Moreover, they must both realize and promote the value of their art with professionalism and responsibility. The duration of the performance must be tailored to meet the needs of the occasion and the host. It is essential to uphold the rituals of the performance in order to maintain the traditional identity and not undermine the original beliefs surrounding the dances.

3.3 Standards of Mon Dance

The standards created as a result of this investigation are as follows:

For the dance process there are six indicators and a total of 170 points, which are outlined in Table 1.

Table 1. Standards of Mon dance process

Indicator	Aspect	Points
Dance postures	12 postures for 12 dances	120
	Bow before each song	5
	Appropriate connections between postures	5
Posture identity	The feet are shuffled and not lifted, as in Thai dance	5
	When bowing, the weight should be shifted forwards	5
Posture characteristics	Dancing and movement should be complimentary	5
	Movements must be gentle	5
Organization of rows	There must be organization of rows	5
Dance rhythm	The dance rhythm must match the rhythm of the music	10
Number of performers	There must be at least 4 performers	5
	Total	170

For the melody there are three indicators and a total of 195 points, which are outlined in Table 2.

Table 2. Standards of Mon dance melody

Indicator	Aspect	Points
Songs	The 13 traditional songs must be included in the performance	130 (10 for each song)
Musical accompaniment	13 instruments are used in the Piphat Mon band	55 (5 for each instrument)
Rhythm	The rhythm of the music is appropriate for Mon dance	10
	Total	195

For the costume there is one indicator and a total of 30 points, which are outlined in Table 3.

Table 3. Standards of Mon dance costume

Indicator	Aspect	Points
Costume	The hair bun is adorned with a flower	5
	There is appropriate use of face make-up	5
	Shirt-sleeves should extend to the wrist or at least three quarters of the arm length	5
	The dancers must wear a frontal shawl	5
	There should be accessories and a belt	5
	An appropriate <i>pa nung</i> must be worn	5
	Total	30

For the performers there are six indicators and a total of 80 points, which are outlined in Table 4.

Table 4. Standards of Mon dance performers

Indicator	Aspect	Points
Dance skill	The dance is beautiful	5
	The dance is gentle and delicate	5
Sense of dance	Performers can solve dance problems	5
	There is observation and evaluation of any new circumstances	5
Dance ability	The performers know the dance postures well	5
	Performers are able to listen to the musical melody and adjust their dance to suit	5
Behaviour, emotion and feelings	The dancers are calm	5
	The dancers are committed	5
Desirable qualities	The dancers can convey the emotion, feeling and mood of the dance	5
	There is no consumption of alcohol during the performance	5
	The dancers are in harmony	5
Personality	The performers are punctual	5
	The performers are dignified	5
	Their vision is compatible with their environment	5
	The dancers are calm	5
	The performers' appearances should be fresh and bright	5
	Total	80

For the time there are two indicators and a total of 25 points, which are outlined in Table 5.

Table 5. Standards of Mon dance time

Indicator	Aspect	Points
Defined time	Dancing is consistent with the melody of the music	10
	Dancing corresponds to the rhythm of the song	10
Appropriate time	The length of the dance is appropriate for the occasion	5
	Total	25

For the rituals there are three indicators and a total of 40 points, which are outlined in Table 6.

Table 6. Standards of Mon dance rituals

Indicator	Aspect	Points
Pre-performance rituals	Components of rituals	10
	Lighting of candles and incense sticks before performance	5
	Respect paid to teachers, trainers and seniors before performance	5
Mid-performance rituals	Respect paid to instruments, teachers, audience and corpse (if at a funeral)	5
Others	No walking over instruments or decorations	5
	Items used for worship, especially money, should not be used and must be given as donations to charitable causes	5
	Used costumes should not be discarded in undesirable places.	5
	Total	40

4. Discussion

Mon dance differs slightly in the three provinces covered by this study. The reason for the minor differences is the independent immigration of Mon people when their territory was assumed by Myanmar. The people brought their collective culture and adapted it to the existing Thai society. As adaptations were made independently of

one another and inherited from generation to generation, there were minor differences between the styles in each province. This corresponds to the research of Suksan Puwangklad (1996), which identified stages of transmission and inheritance from ancestors to descendants. There are two ways for inheritance to occur: direct and indirect and the Mon culture was both directly passed on from one generation to the next and indirectly influenced by the surroundings of its new home (Pongsapit, 1994). This phenomenon was proposed by Franz Boas (1914; Bashkow, 2004; Chantachon, 2010) as is also rooted in the cultural ecology of Julian Steward (1990), which stated that culture in each society develops differently when influenced by different internal and external factors. In fact, there are four methods for the spread of culture from one society to the next, which are territorial expansion, historical research, archaeological excavation and observation (Kroeber, 1963).

During this investigation, six aspects of Mon dance were researched: Dancing process, melody, costume, performers, time and rituals. The reason for desired development of a set of standards for Mon dance is to ensure that the old traditions do not disappear. In order for dance performances to adhere to the original ways, they must be monitored by government institutions and the private sector, especially local educational establishments because creation of a specific curriculum is one of the best ways to maintain traditions (Upatamnarakorn, 2009). Maintenance and preservation of culture must also be a community initiative rather than an independent or private project. This will ensure that all parts of a society contribute to the same unified goal (Malinowski, 1944).

A number of indicators were determined to comprise the standards for Mon dance identified during this investigation. The detail of the standardization process corresponds to the findings of PratinPuwangsamlee (1971), which concluded that the intricacy, beauty and identity of a dance are determined by many different factors. This is supported by the aesthetics theory of Alexander Gottlieb Baumgarten (1986).

5. Conclusion

The dancing process, melody, costume, performers, time and rituals have similarities and contrasts depending on the environment and the social and cultural changes in each area. The standardization of the dance was found to be similar to the dancing process, melody, costume, performers, time and rituals. Traditions are not supposed to change in order to demonstrate the identity of Mon dance. It was concluded that the dance process has 6 indicators and points were set in the performance judging criteria as follows: 170 points for the melody with 3 indicators, 195 points for the costume with one indicator, 30 points for the performers with six indicators, 80 points for the time with 2 indicators, 25 points for the rituals with 3 indicators and 40 points for meeting the assessment criteria. The passing score for the dance will be 80%.

6. Suggestions

From the research results, the following suggestions can be made: the standards should be employed by government institutions and the private sector to maintain the traditions of Mon dance; a Mon dance curriculum should be created by local education institutions to preserve the traditions of Thai-Raman dance; further study should be conducted into the inheritance patterns of other ethnic minority performing arts in Thailand; further study must concern other aspect of Mon culture to expand the academic literature base and create resources for the understanding of Mon culture.

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Burmese Migrant Workers: Dimensions of Cultural Adaptation and an Assimilation Model for Economic and Social Development in the Central Coastal Region of Thailand

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Abstract

This research is aimed at studying the background of Burmese migrant labor, the current state and problems with Burmese migrant labor and the dimensions of cultural adaptation and an assimilation model for economic and social development of Burmese migrant labor in the Central Coastal Region of Thailand. This is a qualitative study carried out between November 2012 and November 2013 that incorporates document study and field research. The research area was purposively selected as Samut Sakhon, Samut Prakan and Samut Songkhram Provinces. The research sample was also purposively selected and comprised of 150 individuals, divided into three groups: key informants (n=21), casual informants (n=69) and general informants (n=60). Tools used for data collection were observation, interview and focus group discussion. Data was validated using a triangulation technique. The result of the investigation is a development model in five sections: cost of labor, work conditions, job security, career progression and work sanitation and safety.

Keywords: Burmese migrant labor, cultural adaptation, cultural dimensions, social development, economy

1. Introduction

In recent years, the strength of the Western economy has influenced the Eastern economy, which has grown as a result and now looks like being an important part of the global economic situation for the foreseeable future (Media, 2012). Globalization has affected the economy in such a way that borders and governments are much more fluid when it comes to labor and finances (Achawanichagul, 2002). Thailand is no exception (Chantavanit, 2001). There are two types of causes for labor migration to Thailand from neighboring countries, which are push factors and pull factors. Pull factors are primarily related to the strength of the Thai economy in relation to surrounding countries. Push factors are generally problems in the home country of the immigrants, such as economic or political problems. Most working immigrants in Thailand come from Laos, Myanmar and Cambodia. The GNP of Thailand is six times that of Myanmar, seven times that of Laos and twelve times that of Cambodia (Huget & Punpuing, 2005). Additionally, the population expansion ratio in Thailand has decreased. Almost all Burmese laborers have immigrated to Thailand due to political conflict in Myanmar and population over-control. These affected Burmese life security and safety, making them were willing to move by both legal and illegal means to find jobs in Thailand where better economic growth and lifestyle were on offer. There was also a lack of labor in Thailand because Thai people didn't want to be employed for the low wages available. Those Burmese workers responded to the needs of the economy and helped many entrepreneurs spend much less on labor. The government defense measurements for illegal immigrants were regulated in BE 2555 (2012) and stated that entrepreneurs must register their foreign laborers as legal immigrants (Office of foreign worker administration, 2011). The Central Coastal Region of Thailand is one area where many Burmese workers would like to come and be employed because of the appropriate location within industrial cities where the economy, society, politics and culture are quite similar to the Bangkok metropolis. There are socio-economic problems with Burmese laborers in Thailand. Not only do Burmese laborers compete with Thai workers in the employment market but also cause problems of Thai national security, health and safety, as seen in current criminal news. For more than a century, Thailand has tried to manage these problems, which seem to be out of control. This has resulted in decreasing Thai labor productivity and a chronic lack of labor force. In BE 2558

(2015), Thailand will enter as a member of the ASEAN Economic Community (AEC) and the international workflow will increase. The Burmese are prepared to open their borders and welcome the trend of globalized capitalism making their economy more attractive to international entrepreneurs by granting an eight-year tax exemption. This will affect Thailand because Myanmar has locations with large reserves of natural resources, water and electric plants, many Burmese are good at speaking English and the country is geographically connected to India and important maritime trade routes. The danger is that Burmese workers will see more opportunity in their homeland and return, causing employment shortages in Thailand (Wiwattanangan, 2012). Almost all Burmese laborers immigrate to Thailand because of push and pull factors giving them a better lifestyle. Unfortunately, they may be exploited by their employer and officers who attempt to find benefit in their situation. Human rights violations and oppression are destroying Burmese labor security and safety (Sibpart, 2009). Nevertheless, Burmese laborers feel inclined to work for a better life and family survival. The researchers recognized that foreign employment must be improved to benefit both foreign workers and Thailand and maintain their relations. The researchers thus conducted this investigation of Burmese migrant workers: Dimensions of cultural adaptation and an assimilation model for economic and social development in the Central Coastal Region of Thailand.

2. Research Methodology

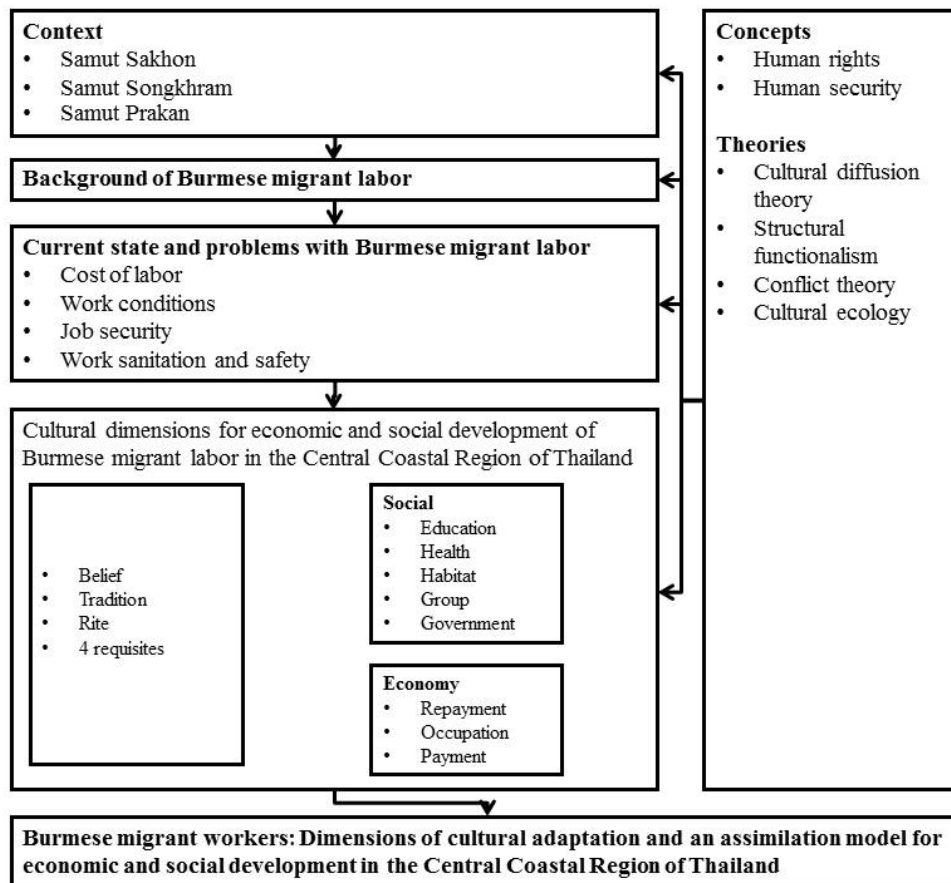


Figure 1. Research framework

This is a qualitative study carried out between November 2012 and November 2013 that incorporates document study and field research. The research area was purposively selected as Samut Sakhon, Samut Prakan and Samut Songkhram Provinces. These three provinces were chosen because they have a high number of Burmese workers in local industry. The research sample was also purposively selected and comprised of 150 individuals, divided into three groups: key informants (n=21), casual informants (n=69) and general informants (n=60). Tools used for data collection were participant and non-participant observation, structured and non-structured interview and focus group discussion. Data was validated using a triangulation technique. Analysis was conducted by typological analysis and analytic induction. The results are here presented as a descriptive analysis.

3. Results

3.1 History of Burmese Immigrant Laborers Working in the Central Coastal Region of Thailand

Initially, Burmese workers were illegally smuggled through Thailand and worked as crews on fishing boats or as laborers. After Typhoon Gay hit Thailand and killed many Thai fishing crews, mostly Thai workers from the North-eastern region, in BE 2532 (1989), Thai workers were frightened away, causing a lack of workers in the industry. Employers had to find workers from other regions instead and started to employ Burmese workers due to their patience and willingness to work hard for low payment. Later, other entrepreneurs such as palm, coffee or rubber plantation owners in Southern Thailand became interested in hiring more laborers from Myanmar. Later, Burmese workers immigrated more to Central Thailand to work in various businesses: sugar cane harvesting, rice mill, potatoes and other agricultural industries. Burmese immigrants moved to and worked in the Central Coastal Region of Thailand: Samut Sakhon, Samut Songkhram, and Samut Prakarn provinces. In BE 2539 (1995) the Thai government permitted foreign immigrants (Burmese, Lao and Cambodian) to be employed in some areas of Thailand. This made Thailand change from a labor export country to a country welcoming to foreign workers. There are three ways Burmese immigrants move into Thailand: 1) Immigrate under the foreign workers employment memorandum of understanding (MOU), mostly found in large and well systemized enterprises. They immigrate through the requirements that the owners offer to Thai governments. Burmese workers will be taken from Myanmar by employment agencies; 2) Immigrate with nationality approved under the council of ministers resolution. These laborers can be found in medium-sized enterprises and mostly come to Thailand as travelers with 1-3 months traveling visas, before asking for annual working licenses given by the ministry of labor and social welfare; and 3) Immigrate Illegally, as seen in small and medium enterprises. These enterprises do not usually have well systemized organizations. Burmese workers in this group have moved to Thailand through border stations or ferries landing along the Thailand-Myanmar border area used for goods exchange. Another instance is as a traveler with 1-3 months traveling who neither asks for an annual working license nor gets their nationality approved under the council of ministers resolution, having lived in Thailand for more than 10 years. There are two immigration types used by Burmese immigrants: 1) agencies and 2) self immigration. The Central Coastal Region of Thailand has both legal and illegal foreign laborers but it is difficult to find the actual amount, so the government has permitted and expanded the time limit for nationality approval for Burmese, Lao and Cambodian laborers immigrating illegally in order to allow them to register for a legal working license.

3.2 Conditions and Problems of Burmese Immigrant Laborers Working in the Central Coastal Region of Thailand

The researchers have divided the conditions and problems of Burmese immigrant laborers working in the Central Coastal Region of Thailand as follows:

3.2.1 Cost of labor

All foreign labor wages and welfare are provided according to the law of labor employment and protection. Legal foreign laborers will receive wages and social security welfare as Thai laborers, a minimum of 300 baht daily wage and overtime duty of 56 baht per hour.

3.2.2 Work Conditions

Burmese laborers work up to 8 hours a day, with 1 hour rest after 5 hours work. This working time schedule depends on each factory. Almost all large factories in Samut Sakhon have divided their working time into 2 periods: around 7-8AM to 5-7PM (11AM or 12PM break) and 7PM to 7AM (11PM break). According to interviews with Burmese laborers, they are willing to work overtime duty for higher wages no matter how long they have to work. They attempt to keep that wage to send back home to Myanmar.

3.2.3 Job Security

Work security is very high in Samut Sakhon Province due to demand. Enterprises never contemplate firing laborers. However, Burmese laborers usually quit themselves when their friends or family members working in different factories offer them better work. This communication causes job comparisons, making Burmese laborers change their job to for better positions.

3.2.4 Career Progression

Burmese laborers who have worked in Thailand for over 5-10 years can speak Thai and are promoted to positions as head of a labor team, which means their wage will be increased by 20-50 baht per hour. If some

Burmese laborers are also able to speak English, they will be promoted as officers to communicate with other foreigners.

3.2.5 Work Sanitation and Safety

These two conditions will be looked after according to the law of labor hospitalization rights and health welfare, which Burmese laborers could receive either from social security welfare or health insurance welfare.

3.3 *A Burmese Immigrant Labor Cultural Adaptation and Assimilation Model for Economic and Social Development in the Central Coastal Region of Thailand*

The researchers created a Burmese immigrant labor cultural adaptation and assimilation model for economic and social development in the Central Coastal Region of Thailand with five sections: cost of labor, work conditions, job security, career progression and work sanitation and safety.

3.3.1 Cost of Labor

Almost all Burmese immigrant laborers working in Thailand aim to get as much income as they can and save money to send back home for family to raise their quality of life. To work in a foreign country happily, Burmese immigrant laborers have to act in accordance with the principles of Thai society. The education of many Burmese immigrants is quite low; some of them have never studied and they hold strong beliefs in religious and traditional health care, preferring to return to Myanmar and ask Khmer monks or fortune tellers to cure them when they get sick rather than going to hospital in Thailand. Nevertheless, some Burmese immigrant laborers in Thailand are trying to adjust themselves according to Thai lifestyle for safety and survival. For example, Burmese men wear trousers instead of sarongs to avoid standing out to the police. Some Burmese immigrants who have a high enough level of education are treated by doctors. At the same time, Thai society is trying to provide many facilities and give them more recognition due to the similarities between both nationalities. This represents easy adaptation for Burmese immigrant laborers.

3.3.2 Work Conditions

Burmese immigrant labor work conditions in Thailand are improving and becoming more stable. According to the traditional dimensions of cultural assimilation, it was found that Burmese laborers respect Buddhism like Thai people. Thus the traditions and cultures of both countries are similar, for example Songkran festival, ordination ceremonies and marriage ceremonies. All previous traditions are strongly related to Buddhism.

3.3.3 Job Security

According to the job security dimension of cultural assimilation, it was found that every Burmese performance and play, such as Myanmar traditional dramatic performances or Burmese traditional dance in various occasions can be arranged with the permission of provincial governors, considering appropriation to public security and the risk of civil commotion.

3.3.4 Career Progression

Burmese immigrant laborers who work in Thailand and have developed their experience and expertise are promoted to better positions. This means that they can self-adapt in harmony with the customs and beliefs of both Thailand and Myanmar.

3.3.5 Work Sanitation and Safety

In the work sanitation and safety dimension of cultural assimilation, it was found that there are four basic human necessities (food, clothes, shelter and medicine). 1) Both Thai and Burmese people mainly eat rice at each meal and additional comfortable shipments and transportation between these two countries mean that Burmese immigrant laborers' eating habits in Thailand can be easily adjusted. The food consumption culture of some Burmese immigrant laborers requires them to eat with their fingers but recently they have adjusted themselves by using utensils such as spoons or chopsticks in public places. Another untidy habit that all new Burmese immigrants (both genders) usually have is chewing and spitting out betel nut mixed in the work place and public areas. This behavior will decrease about 1 month after working. 2) Burmese immigrant laborers wear clothing depending on the regulations of each enterprise. At the same time, clothes worn at home are similar to Burmese national costume, including a shirt and sarong. In public places, such as a department store, they will dress in accordance with Thai fashion. 3) Some Burmese immigrant laborers live in rented rooms with room-maids or family members but some Burmese laborers stay in flats or terrace houses where the owner waives the rent fee, although they must cover the cost of utilities. Burmese immigrant habitation in Thailand is quite overcrowded and insanitary because almost all Burmese laborers have low levels of education and public consciousness. A lot of trash and garbage is scattered in and around their living areas. In addition, Burmese immigrant laborers have

poor levels of road discipline and accidents often occur. 4) Some Burmese immigrant laborers use folk herbal medicines but most usually see doctors at both government and private hospitals.

4. Conclusion

The researchers found that the Burmese immigrant labor cultural adaptation and assimilation model for economic and social development in the Central Coastal Region of Thailand consists of five sections: cost of labor, work conditions, job security, career progression and work sanitation and safety. This model can explain the cultural behavior of Burmese immigrant laborers related to the working state in Thailand.

5. Discussion

Immigration of Burmese laborers to Thailand began in the late 20th century when the Thai economy was booming. This Burmese group was an important factor in the Thai manufacturing process. Mr. Yod Santisombat (1994) said that culture is human thinking and behavior which is permanently carried with people wherever they go or live. Thus, cultural diffusion may depend on geography, transportation, economy and social factors. The researchers found that in this case, the main factor of Burmese labor immigration to the Central Coastal Region of Thailand is economic growth in Thailand and comfortable transportation. Triphop Tungmankhong (2009) studied Burmese immigrant labor in Samut Sakhon province and found that important push factors causing Burmese immigrants to move to Thailand are internal wars, unemployment and poverty.

This study corresponds to the conflict theory of Karl Marx. Marx explained that the conflict theory is a part of a practical argument model between class conflict and social change, consisting of three principles: 1) for economic organization, owners determine principles such as structural-functional class, institute collocation, social value systemization and religious beliefs in the social group; 2) conflict in any society can originate from groups or classifications; and 3) conflict is a bipolar phenomenon concerning the exploited class and the ruling class. Kritsana Awanitchakul et al. (1999) studied the effect of foreign immigrant labor employment on Thailand security. They found that there are both positive and negative effects from Thailand hiring foreign immigrant labor: The positive effects are decreased worker insufficiency and cost of manufacturing; the negative effect is work market competition between Thai laborers and foreign immigrant laborers.

According to the Burmese immigrant labor cultural adaptation and assimilation model for economic and social development in the Central Coastal Region of Thailand, Burmese immigrant laborers in Thailand are trying to adjust themselves according to Thai lifestyle for safety and survival. At the same time, Thai society is trying to provide many facilities and give them more representation due to the similarities between both nationalities. This ensures that adaptation is not too hard for Burmese immigrant laborers. This corresponds to the concept of cultural ecology, 'the study of the processes by which a society adapts to its environment.'

6. Suggestions

6.1 Suggestions for the Practical Implementation of the Result

- The Ministry of Labor and Social Welfare should find ways to manage rightful foreign labor immigration with legality, tidiness and appropriate to each working situation in Thailand.
- The Ministry of Public Health can take the results of this investigation to apply and manage various epidemic diseases occurring in foreign immigrants illegally passing through Thailand without clinical examination.
- Provincial organizations or local government organizations can use the results of this investigation to allocate residence zones.
- The Ministry of the Interior can use the results of this investigation to lay down measurements of traffic safety and educate foreign immigrant laborers about traffic discipline and laws.

6.2 Suggestions for Further Research

- Research should be conducted about dimensions of cultural adaptation and an assimilation model of other foreign immigrant laborers in Thailand.
- A cultural adaptation model in ASEAN member countries should be investigated.
- Burmese community management in foreign immigrant labor residence areas should be studied.
- Environment effect resolution guidelines in industrial communities where foreign immigrant laborers have lived should be studied.

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Silk Patterns: Conservation and Development of Traditional Thai silk Production for Added Commercial Value in Khon Kaen Province

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Abstract

Silk patterns are examples of fine art that show the valuable culture and identity of Thai communities. This is a qualitative research and the researchers used a purposive sampling technique to identify four districts in Khon Kaen province for assessment by means of survey, observation, interview, focus group discussion and workshop. The history and development of silk patterns in Khon Kaen province occurred from a process of pattern making called *mudmee*. The techniques were passed from generation to generation, copying plant and animal patterns in nature. Silk patterns developed in three ways: 1) using *mudmee* patterns as a model; 2) imitating television, fashion magazines and other media; 3) following specific commission specifications of customers. Production processes are *mudmee* (silk blending) and *tammee* (silk marking), which require original wooden equipment reinforced with steel for strength and electrical motors for speed. Both simple silk fibres and factory silk fibres are used and patterns are created based on traditional designs. In order to develop silk pattern production for added commercial value, original patterns with contemporary character must be chosen and expanded as bigger and more varied products, such as handbags. New silk patterns sold in local and regional markets will boost the income of people in Khon Kaen Province.

Keywords: silk, patterns, production, product development, conservation

1. Introduction

Weaving reveals the inherited identity of ethnic groups. Woven products are produced in response to everyday needs and are physical representations of culture, traditions, ideas and beliefs (Suwan, 2009). In Thailand, there is archaeological evidence suggesting that white mulberry (*Morus alba*) has been cultivated and silkworms (*Bombyx mori*) bred for over three thousand years. The long history of silk weaving has allowed the development of many weaving processes, dyeing techniques and pattern designs that show different community identities, social conditions, lifestyles and traditional knowledge (Methawin, 2008).

In the past, Thai silk was not accepted by the world market and, consequently, domestic popularity suffered. This situation changed after World War II, when American businessman Jim Thomson revived the Thai silk industry and increased the reputation of Thai silk across the world (Klungpanyathai, 2009). North-eastern Thai, or Isan fabric is regarded as some of the best quality fabric in the country due to the weaving patterns and colours that differ in each locality. The most woven fabrics of Isan are *khid* and *mudmee*, while in the North almost all weavers produce cloth based on Lanna styles and in the South *yok* is the principal fabric. Although modern weaving is becoming homogenised, it is possible to find local products that retain their original identity (Silpakorn University, 2001).

Fibre production is not easy. In addition to loom weaving of natural coloured fabric, weavers incorporate their own pattern variations. The patterns are often influenced by everyday objects, including key patterns (*pra jae*), hook patterns (*kho*) and pigtail patterns (*kha-pia*). Other patterns include the *tum* pattern, based on fishing equipment; flower or fruit based *ba* and *krabok* patterns; floral *dok sarn*, *dok jik*, *dok yung*, *dok kaew* and *dok pi kul* patterns; *phong nam* sponge patterns; and *kho kra jorn* patterns, replicating earrings. Aside from everyday objects, patterns are also derived from beliefs and imagination, such as the patterns of *nak kho*, *nak hua chor* and *nak khon tee* (Office of Archaeology and the National Museum, 1997). Silk patterns have been inherited from

generation to generation and reveal the values, lifestyles, visions, traditions and culture of women in Isan, who were the primary weavers. Isan people consider silk a valuable commodity and are proud of their ancestral weaving traditions (Phojanee, 2000).

Khon Kaen province is the most important silk production area in modern Isan and production groups in the region emphasise silk production to add commercial value to community enterprises. There are many important and outstanding silk production businesses. Chonnabot District is the most famous district for silk production and particularly *mudmee* silk (Nartnapang, 2005). *Mudmee* silk patterns in Khon Kaen province have developed so fast and so extensively that outsiders are ignorant of the original patterns, weavers imitate eye-catching styles and the silk products have lost their traditional local identity. New products combine traditional knowledge with modern technology and the designs are pre-produced using graph paper and computer programs. Problems occur when the older generations, who are the sole source of information regarding traditional patterns, cannot blend either old or new patterns because they do not have the skill to use modern machinery.

For this reason and given the traditional importance and value of Isan silk weaving, the research team wished to analyse conservation and development of traditional Thai silk production for added commercial value in Khon Kaen Province. The objective was to conserve and develop original silk patterns, integrating new concepts in silk pattern design and production to meet local requirements and appeal to consumers. It is hoped that the knowledge gathered from this research can be applied to promote community economy and job creation in North-eastern Thailand.

2. Methodology

This is a qualitative research with two main aims: 1) To study the history and development of Thai silk patterns in Khon Kaen province; 2) To study the conservation and development of Thai silk production for added commercial value in Khon Kaen province. The researchers used a purposive sampling technique to identify six *mudmee* silk production groups in four districts of Khon Kaen province for analysis. The research area has a fifty-year history of commercial silk production integrating traditional knowledge inherited from ancestral communities. The key informants were academics, teachers, local community members and production group leaders. The casual informants were manufacturers in the four districts. The general informants were traders and consumers. Tools used for data collection were survey, participant and non-participant observation, structured and unstructured interview, focus group discussion and workshop. The data collected during field study and document research was organized according to the two aims of the investigation. Data was validated using a triangulation method, as documented by Supang Chantavanit (2002). The research data was analyzed using analytic induction, typological analysis and constant comparison. The study began in March 2012 and ended in June 2013.

3. Results

The first *mudmee* silk production group was formed in 1984. In the past, two silk patterns were produced in Khon Kaen Province, *mak jub* (Figure 1) and *kho lho* (Figure 2). *Mak jub* was the archetype that all *mudmee* silk leaders in Khon Kaen Province learned and inherited. Production knowledge was especially important in Chonnabot District, where *mak jub* was first conceived (Thongsook, 2012).



Figure 1. The identity of *mak jub* patterns

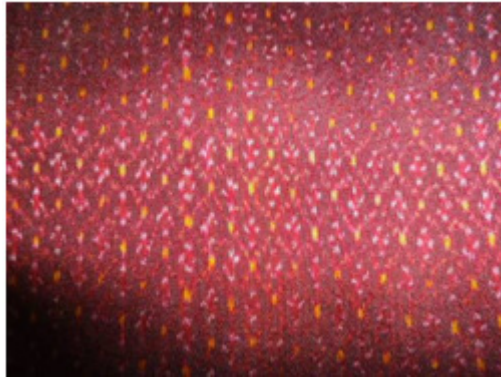


Figure 2. The identity of *kho lho* patterns

At present, various patterns are produced in Khon Kaen Province. Most of these designs are imitations from elsewhere and originate in external consumer fashion and from the media. Designs are generally produced in the community and made repeatedly. Occasionally the patterns are named. These named designs give an identity to the founding production group and are transformed to create male and female clothes (Supanee, 2011). Local pattern identities are:

- *Phong nam hua phay* (Figure 3) of Ban Hua Phay in Po Daeng Sub-district, Chonnabot District.
- *Jee phetch* (Figure 4) of Ban Nong Krong Kaew in Chonnabot Sub-district, Chonnabot District.
- Animal patterns such as *kai*, or chicken pattern (Figure 5) and five-heddle spot pattern *nop pa kaow* (Figure 6) of Ban Chonnabot in Si Bun Rueang Sub-district, Chonnabot District.
- *Nong ya plong* (Figure 7) of Ban Nong Ya Plong in Phon Phek Sub-district, Mancha Khiri District.
- *Buy sri pha ya nak* (Figure 8) of Ban Kham Wari in Mueang Phia Sub-district, Ban Phai District.
- *Kho sam sib jed* (Figure 9) of Ban Chad in Kham Pom Sub-district, Phra Yuen District.



Figure 3. The identity of *phong nam hua phay* patterns



Figure 4. The identity of *jee phetch* patterns



Figure 5. The identity of animal patterns (chicken)



Figure 6. The identity of *nop pa kaow* patterns (five heddles)



Figure 7. The identity of *nong ya plong* patterns

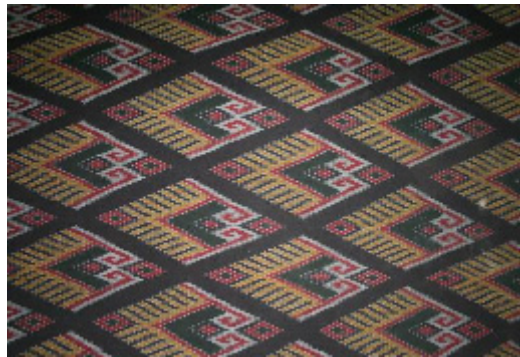


Figure 8. The identity of *buy sri pha ya nak* patterns

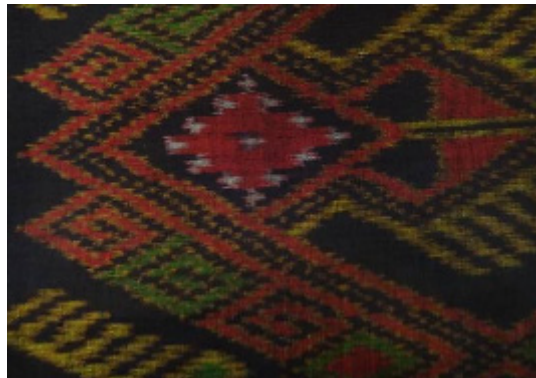


Figure 9. The identity of *kho sam sib jed* patterns

Production groups in every district use original patterns as models to design and develop pattern varieties. The method of pattern design is remembered by experts, who blend the patterns to create new versions. Production groups in every district use graph paper to make designs before blending patterns. Ban Chad silk production group in Phra Yuen District is the only group not to continue the development stage on computer. Computer designs help modernise creations and the electronic samples can be used in communication with consumers. Two groups, Ban Hua Phay silk production group in Chonnabot District and Ban Nong Ya Plong silk production group in Mancha Khiri District consult consumers using computer designs. Production groups in every district design patterns to consumer specifications, which is a way of creating valuable local identity and competing in the marketplace.

3.1 Development of Equipment and Processes in Mudmee Silk Pattern Production in Khon Kaen Province

The two traditional processes of *mudmee* and *tammee* have been conserved in Khon Kaen Province. Nevertheless, there have been innovations in the silk production process that have reduced production times,

expenses, wages and operation steps. There are also new colour variations thanks to knowledge developments in primary colours and colour mixing. Traditional weaving equipment consists of a reel for spinning the silk (*auk*), a wooden frame (*hong khon mee*) for silk spun by hand, a blade for fixing the silk, a wooden wheel and a wooden loom. The traditional equipment has been developed by reinforcing the wooden frame with steel and adding a motor for spinning. The production process remains the same as the past. The weft fibres are prepared for pattern blending. The silk is then purified and spun. The weft fibres are arranged by length along the reed of the loom. The specifications for the weft are set (*khon lam mee*) for making specific patterns. The *mudmee* frame is then filled and the silk is blended with other dyed fibres to create patterns and spun. The blended fibres are finally woven into a fabric using a loom (Songkram N, personal communication, 2011).

3.2 Conservation of Silk Pattern Production for Added Commercial Value

Traditional patterns are ultimately conserved in the locality because the community has a traditional knowledge base and does not actively learn new techniques. There are new design innovations of silk patterns that have never been produced in the community but these do not cause the original patterns to disappear. Instead, new developments make the community realize the value and worth of original patterns. Moreover, commercial value is added because, by producing original patterns in which the community has knowledge and skill, they reduce production time. Nonetheless, modern patterns are demanded by consumers and can sell at a high price when compared to patterns of silk product that have been produced for a long time. Therefore, active conservation of original patterns with expansion to bigger and more varied styles is the way to add commercial value to the silk of Khon Kaen Province.

There are two types of pattern development: completely new designs and applied traditional patterns. Four traditional patterns that are commonly adapted are *mak jub yai*, *mak bok yai*, *mak jub yai pra yook* and *dok kaew yai*. These patterns have proven to be good for sale and mass production. Silk patterns are usually made by coupling colours. White or cream will often be used as the main colour of the silk fabric and blended with only one additional colour. This is to reduce dyeing costs and increase production speed. New products are then created by transforming the silk patterns into products, such as *mak jub yai* and *mak jub pra yook* handbags with wooden handles, *mak bok yai* silk patterned handbags with rattan palm and wooden handles, *mak jub yai* and *mak jub yai pra yook* box handbags, *mak jub* silk patterned pyramidal handbags and small bags from silk off cuts. Silk pattern products are easy to sell and increase profits because previously only sheet fabrics were sold. The products allow for market expansion and attract a new class of consumer, different age groups and occupations.

4. Discussion

From study of six *mudmee* silk production groups in four districts Khon Kaen Province, it is not clear exactly when *mudmee* silk weaving first occurred but there is evidence to suggest it has been learnt and inherited for over 3000 years. The original patterns are imitated from nature and imagined from religious beliefs. These ideas correspond to the research of Surachaipataradit Lordkamwattana, which concerned local knowledge of Tai Yuan native fabric weavers in Nakhon Ratchasima Province. The results show that, although there was a variety of fabric patterns, most were derived from nature and the village environment (Lordkamwattana, 2009).

At present, a variety of silk patterns are produced in each locality and each region has its own fabric identity. This corresponds to the theory of symbolic interactionism, which focuses on the idea of understanding symbols and processes as interpretations of human interaction. Primary symbols drive human understanding, meaning and interaction, so each group will produce silk patterns that reflect its own local identity (Chantachon, 2006). This idea agrees with the research of Lakana Thanawanakit, which studied consumer satisfaction with *jok* fabric products in Ratchaburi Province. Thanawanakit found that patterns appearing on fabric will show the identity, culture and lifestyle of people who weave. Over time, economic status and society will change the perspectives of the weavers and cause patterns to evolve (Thanawanakit, 1997).

Mudmee silk production uses the same tools and processes as the past but steel has been added to reduce maintenance costs and motors have been applied to decrease production time. Udom Choeikeewong argued that these innovations are necessary developments because they improve, restore and format culture so that it does not disappear from one generation to the next. As a result, cultural heritage and the daily life of local people both benefit (Choeikeewong, 2005).

There are adaptations to four traditional silk patterns: *mak jub yai*, *mak bok yai*, *mak jub yai pra yook* and *dok kaew yai*. These silks are transformed into a variety of products that have not previously appeared in the local markets and can increase the value of the silk. New silk pattern products retain their quality but profits have increased because overhead capital and labour time have decreased, goods are easier to sell, prices are higher and

they can compete in the market. These developments were also noticed by Niyom Wongpongkham in a study of traditional Isan knowledge for the production of bronze alloy products. While products retain the original concepts, local knowledge has been integrated with new ideas, especially material, production process and product form development. This adds value to the traditional handicrafts as it meets the requirements of the community and consumers (Wongpongkham, 2008).

The researchers make five suggestions for further research to improve *mudmee* silk patterns in Khon Kaen:

- Appropriate colour combinations should be determined.
- Factors affecting success and failure of pattern conservation and development must be analysed.
- Cultural environment conditions that affect conservation and development of silk pattern production should be identified.
- Silk pattern products should be formatted to aid marketing efficiency.
- Financial analysis and specifications of silk pattern products should be conducted to determine appropriate pricing scales for silk products.

5. Conclusion

The history and development of silk patterns in Khon Kaen province occurred from a process of pattern making called *mudmee*. The techniques were passed from generation to generation, copying plant and animal patterns in nature. Silk patterns developed in three ways: 1) using *mudmee* patterns as a model; 2) imitating television, fashion magazines and other media; 3) following specific commission specifications of customers. Production processes are *mudmee* (silk blending) and *tammee* (silk marking), which require original wooden equipment reinforced with steel for strength and electrical motors for speed. Both simple silk fibres and factory silk fibres are used and patterns are created based on traditional designs. In order to develop silk pattern production for added commercial value, original patterns with contemporary character must be chosen and expanded as bigger and more varied products, such as handbags. New silk patterns sold in local and regional markets will boost the income of people in Khon Kaen Province. Successful conservation and development of silk pattern production in Khon Kaen Province adds commercial value to community handicrafts. If the local producers accept new ideas that integrate traditional knowledge, their work with cultural capital will add to the market power of local silk products.

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The Decline of Local Riverside Markets in Suphanburi Province, Thailand

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Abstract

The objectives of this investigation were to assess the history of riverside markets in Suphanburi Province and to understand why the trade at some of the markets has collapsed. The results show that sixteen markets on the Tha Chin River in Suphanburi prospered while the river was used as the main source of transportation. Both external and internal factors caused the decline of some markets. External reasons included the emergence of road transportation, a new bridge across the river, the increase of local fairs and the construction of supermarkets. The internal factors included disregard and lack of harmony in local communities and traders leaving the area. Some markets remained and prospered. This was due to external help and community participation.

Keywords: markets, Tha Chin River, conservation, restoration, community, culture, development

1. Introduction

Suphanburi Province is in Central Thailand and is bisected by the Tha Chin River. The local societies along the banks of the Tha Chin River benefitted from greater use of the river for transportation during the early Rattanakosin period. Initially, the people lived a life of subsistence, but with the 1855 signing of the Bowring Treaty, implementation of free trade policies and abolition of slavery, market life grew on the banks of the Tha Chin (Jindamaneerot, 1989). All river trade in Suphanburi originated further upstream in Chainat. Boats passed through Suphanburi en route to Bangkok and for over a century, the riverside markets of Suphanburi flourished. This situation continued until the advent of road transport and the outdating of river trade (Chompunit, 1997). Government policies in the 1960s emphasized road travel and particularly promoted the construction of roads in and around the Suphanburi area, reducing the need for transport on the river. This in turn caused the markets to lose trade and eventually, in most cases, die out (Pipatwong, 2004).

Markets are not only areas to buy and sell products, but are also places to exchange culture and share ideas. Markets are expressions of local identity and are hubs for the surrounding communities, which is evident in the identity of products sold at the stalls. In addition, markets are important centers of community discourse and act as community glue, strengthening relationships and creating a focus for local society (Ditpan, 2009). There are 16 such centers on the 160km stretch of the Tha Chin River through Suphanburi Province. The majority of these markets have closed in the wake of commercial pulling power of new supermarkets, convenience stores and other retail shops. Given the problems faced by local markets in the area and the increasing danger that all 16 of the trade centers may eventually be forced to close, the research team conducted this investigation to assess the history of riverside markets in Suphanburi Province and to understand why the trade at some of the markets has collapsed.

2. Research Methodology

This investigation, *the decline of local riverside markets in Suphanburi Province, Thailand*, was carried out using a qualitative method over a 2 year and 10 month period. The study began in 2008 and ended in 2011. The research team examined the state of local Tha Chin River markets and the reasons why some discontinued and some flourished. The researchers needed an appropriate and detailed understanding of Suphanburi history and cultural context in order to implement their hypotheses and analyze field research adequately to determine causes for the development or decline of local markets.

Suphanburi was purposively selected as the research area based on documentary analysis highlighting the specific conditions of Suphanburi. There are 16 markets on the 160km stretch of the Tha Chin River through Suphanburi Province and each is only 10km from the next. Their prevalence and proximity give a clear indication of the former importance of the markets. The population for the research included community members, market traders, shoppers and local government representatives. The research sample was purposively selected and divided into 4 groups. The key informant group was comprised of 16 local community heads, who were chosen by a purposive sampling method. 28 community and market members were chosen to comprise the casual informant group by means of snowball and purposive sampling, which were also the techniques used to identify nine market traders to be general informants. Finally, accidental sampling was the preferred method to highlight customers of existing markets to provide data for the research.

Two modes of data collection were employed: 1) document study; 2) field study. Data was collected by means of survey, questionnaire, observation, photography and audio capture. All information gathered was validated by a triangulation method (Jantawanit, 1999). Data analysis was conducted by arranging the collected data into groups of typologies according to the aims of the research and conducting a typological analysis. Analytic induction was also used as a method of analyzing data, while the findings are presented below method in the form of a descriptive analysis.

3. Results

3.1 The History of Riverside Markets in Suphanburi Province

Suphanburi Province is in Central Thailand and is bisected by the Tha Chin River. The local societies along the banks of the Tha Chin River benefitted from greater use of the river for transportation during the early Rattanakosin period. Initially, the people lived a life of subsistence, but with the 1855 signing of the Bowring Treaty, implementation of free trade policies and abolition of slavery, market life grew on the banks of the Tha Chin. All river trade in Suphanburi originated further upstream in Chainat. Boats passed through Suphanburi en route to Bangkok and for over a century, the riverside markets of Suphanburi flourished. This situation continued until the advent of road transport and the outdated of river trade. Government policies in the 1960s emphasized road travel and particularly promoted the construction of roads in and around the Suphanburi area, reducing the need for transport on the river. This in turn caused the markets to lose trade and eventually, in most cases, die out.

Markets are not only areas to buy and sell products, but are also places to exchange culture and share ideas. Markets are expressions of local identity and are hubs for the surrounding communities, which is evident in the identity of products sold at the stalls. In addition, markets are important centers of community discourse and act as community glue, strengthening relationships and creating a focus for local society. There are 16 such centers on the 160km stretch of the Tha Chin River through Suphanburi Province. The majority of these markets have closed in the wake of commercial pulling power of new supermarkets, convenience stores and other retail shops. Originally, the markets were established for community trade. They were also employed to moor local boats and provided access for the local people to the river. Goods sold at the markets were predominantly related to farming but there were also import and export goods sold as traders sailed to and from Bangkok.

3.2 Causes for the Decline or Development of Tha Chin River Markets

The development of land transport technology signaled the end for many river markets. Government policies supported the growth of road networks, which connected people to other places and reduced the importance of the river. Indeed, the car made the river seem outdated and slow in comparison, reducing its popularity as a means of transport, dramatically affecting the popularity of the established bazaars. Further government policies supported local fairs, which proved to be in direct competition with river markets. As the frequency of the local fairs increased, so the number of river market customers decreased. Also, the greater importance of the roads led to the foundation of a number of roadside communities. These communities needed somewhere to shop and the river markets soon became obsolete thanks to their distance to the roadside markets. Consequently, a number of convenience stores and supermarkets were established, coming into direct competition with the markets.

Regarding restoration, there is no single direction, with different community factions pulling in different ways. Some groups wish to develop and restore the original markets, while others consider restoration as a backwards step that would cause unnecessary debt and spending. Even if 1 group lacks energy to drive restoration projects, the whole movement will become unfeasible. This means that restoration is not a realistic short term goal and traders have been forced to seek work away from the Tha Chin River markets of Suphanburi.

However, there are 2 riverside markets that have undergone a successful restoration program and are flourishing in their new form. These are PothiPraya and Samchuk. The 2 markets differ. Samchuk sells food, utensils/toys or is a great place for a daytrip. PothiPraya is a fresh market, selling fresh food and ready-made meals. These markets have benefitted from external support by private organizations, including financial support and management. The restoration projects have been innovative and modern, while relying on the traditional identity of the markets to draw its own customers. The external organizations have collaborated with local people, which helps to maintain the local traditions and keep a constant customer base. With the influence of external supporters, tourism has become a significant form of income for the two remaining markets. The success of the markets would be impossible without the leadership and drive of local community heads.

4. Conclusion

The objectives of this investigation were to assess the history of riverside markets in Suphanburi Province and to understand why the trade at some of the markets has collapsed. The results show that sixteen markets on the Tha Chin River in Suphanburi prospered while the river was used as the main source of transportation. Both external and internal factors caused the decline of some markets. External reasons included the emergence of road transportation, a new bridge across the river, the increase of local fairs and the construction of supermarkets. The internal factors included disregard and lack of harmony in local communities and traders leaving the area. Some markets remained and prospered. This was due to external help and community participation.

5. Discussion

Successful adaptation of the markets enabled them to flourish and prosper. This idea is in correspondence with the research of Julian Steward. Steward identified the concept of cultural ecology. He said that a basic cultural foundation was the only way that human society could adapt. In the cases of Samchuk and PothiPraya markets, the core of Steward's theory are represented by the locals participating in market management to retain community identity, traditions and the original consumer base (Steward, 1972). One further requirement of Steward's concept is the incorporation of technological innovations and the appropriate use and management of the surrounding environment.

Recent research into the markets of Turkey has found that their success does not only depend on their management, trade and consumer base. The markets must be part of a larger network between the town and the society. Successful markets act as branches between the two and require efficient and convenient connections. This was visible in the past, when the markets of Suphanburi were connected to one another, the traders and the customers by the popular river transport. For successful restoration programs, road networks must be established to re-link the markets to the people in the wake of the decline of river transport (Biral, 2008). Local communities must administer restoration projects by improving tourist amenities and facilities, teaching one another how to develop a service mind and upgrading the external environment. For communities and their organizations to continue in modern society, there must be dedicated people living in those communities, strong intra-community relationships and establishment of formal bodies to control various tasks (The Catholic Education Council of Thailand, 1990).

It has been discovered that Samchuk Market, to which this investigation alludes, thrives on community participation and efficient tourism management policies. These are also positive factors for the success of KhlongSuan 100-Year Market in SamutPrakarn Province (Saepoo, Assawakowitwong and Jirawattawee, 2007). In accordance with recent Thai government policies, Samchuk has been branded as a 'living museum', which appeals to the new wave of ecotourists visiting Thailand to admire the nature and culture of the country. Samchuk conservation projects have benefitted as a consequence.

PothiPraya and Samchuk Markets have benefitted from external support by private organizations, including financial support and management. The restoration projects have been innovative and modern, while relying on the traditional identity of the markets to draw its own customers. The external organizations have collaborated with local people, which help to maintain the local traditions and keep a constant customer base. With the influence of external supporters, tourism has become a significant form of income for the two remaining markets. The success of the markets would be impossible without the leadership and drive of local community heads.

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Isan Stupas: Reflections of Value, Utilization and Cultural Heritage

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Abstract

Nowadays much religious architecture has been destroyed, which affects the local religious identity of Isan people. Valuable aspects of community culture have been lost, so this research aims: 1) to study the history of IsanSim and 2) to reflect on the value of utilization and cultural heritage of IsanSim. For this research, data was collected through field notes in the provinces of Mahasarakham, Kalasin and RoiEt. The research sample was selected by purposive sampling and totaled 81 individuals. Analysis was conducted by analytic induction and typological analysis. The results show that the first stage of Sim construction in Isan was influenced by LanXang culture and later incorporated architectural styles of the Rattanakosin period. This became the identity of IsanSim, as remains in the architecture of WatPhotharam, Wat Yang Thawongwararam and WatKlangKosum in Mahasarakham Province, Wat Wang NueaThamuang and Wat Sri Than in Roi Ed Province and WatUdompracharat, WatUmungkla and WatKlangKok Kho in Kalasin Province. The Sim of Isanare almost exclusively used for activities of the clergy. People in the community will promote clerical activities according to the belief that those who help to promote deeds such as *kathin* and especially ordination ceremonies will get great merit. The value of Sim is in their collections of community history. In addition, Sim are valuable pieces of local architecture that reflect the origins of tradition. Patterns incorporated on Simarchitecture are collaborations between various branches of local craftsmen. In addition, Sim reflect the important doctrines of Buddhism on their inner and outer walls.

Keywords: IsanSim, value, utilization, identity, belief, cultural heritage

1. Introduction

In Northeastern Thailand (Isan), religious buildings, such as Sim, are evidence of local prosperity. The word Sim comes from *Sema* or *Seema*, which are temple boundary markers (Phongtharanon, 2006; Kongpian, 2006). Sim in Isan are a form of inherited culture created by Isan craftsmen. They are used to host religious ceremonies and show Isan local architectural wisdom, beliefs and traditions that are related to daily life, relationships and unity.

The Buddhist Simare derived from Lao art and are small in size and short but similar to Lanna architecture, where the whole of the roof is wooden or tiled with a high, slightly curved gable. The roof decorations are on the gable apex and made from cement connected from the roof ridge or fixed to the outer gable apex. Carved wood is then mounted on top (Hengrasamee, 1987).

Surveys have found that Sim are aged about 80-100 years. Only a few remain and most are influenced by LanXang or Lao art. Much of the Isan architecture has been destroyed, largely due to a combination of age and lack of maintenance. Some Buddhist temples have been reconstructed but take a distorted form from the original models. Some temples have been demolished to make way for newer constructions, which leaves few valuable works of architecture in the locality. IsanSimhave fallen into a critical condition. At present, most remaining IsanSim are imitations from the central region of Thailand. There are a number of reasons for this but the largest is a deterioration of belief in Isan wisdom or culture and the growing popularity of Bangkok, whose art and style is perceived as more beautiful and better. This is a very dangerous concept, which could destroy the architectural heritage particular to Isan society. A knock-on effect of this is the current lack of knowledge, realization and transmission of local Buddhist faith, as well as neglect of traditional construction materials and building techniques (Jindawong, 2003).

From the crisis and problems summarized above, the researchers were interested in conducting a study about IsanSim in the provinces of Mahasarakham, Kalasin and RoiEt to develop understanding, local pride and participation in the conservation and development of *Sim*.

2. Research Methodology

This research, *IsanSim: Reflection of utilization and cultural heritage* used a cultural qualitative method and was conducted with two main aims: 1) to study the history of *IsanSim* and 2) to reflect on the value of utilization and cultural heritage of *IsanSim*. A purposive sampling technique was used to identify a total of 81 randomized samples, including 27 key informants, 27 casual informants and 27 general informants. The research area covered the provinces of Mahasarakham, Kalasin and RoiEt in Northeastern Thailand.

For this research, data was collected by means of field notes, structured and non-structured interviews, participant and non-participant observation and focus group discussion. Field research began in May 2012 and was completed in September 2013. Data was validated using a triangulation technique. Analysis was conducted by analytic induction and typological analysis. The results are here presented as a descriptive analysis.

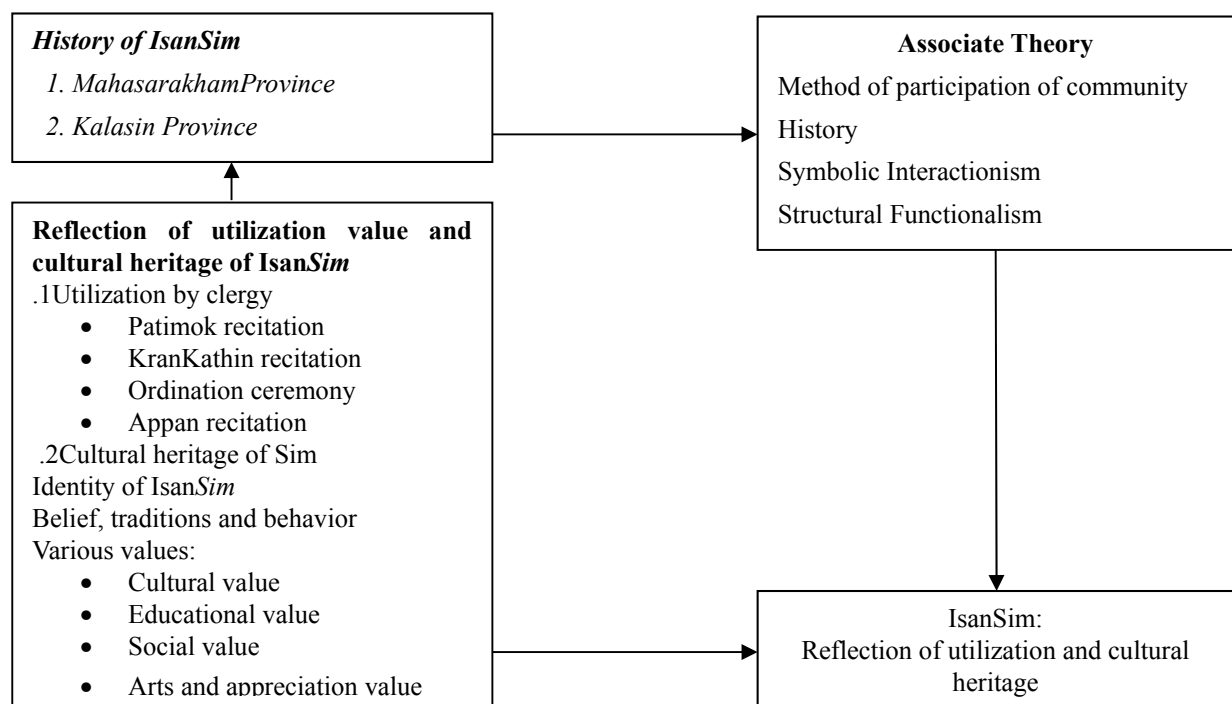


Figure 1. Conceptual research framework

3. Results

3.1 History of IsanSim

The Dvaravati period signaled the origin of Buddhism in Isan. Stone Semawere used to symbolize holy sites and were later developed into brick buildings. Evidence of this has been found at *MueangFah Dad Song Yang*. During the Lopburi period, Khmer religious places were constructed, such as *Arokaya Sala*. Later the LanXang Kingdom came to influence Isan from modern-day Laos. “The people of the LanXang Kingdom began to settle and built religious places for important rites” (Respondent A, Interview). These *Sim* were influenced by LanXang culture and later incorporated architectural styles of the Rattanakosin period. This became the identity of *IsanSim*, as remains in the architecture of WatPhotharam, Wat Yang Thawongwararam and WatKlangKosum in Mahasarakham Province, Wat Wang NueaThamuang and Wat Sri Than in Roi Ed Province and WatUdompracharat, WatUmungkla and WatKlangKok Kho in Kalasin Province (Respondent B, Interview).

3.2 Reflection of the Utilization Value and Cultural Heritage of IsanSim

Sim are important buildings that comprise one component of a perfect temple. The role of the *Sim* is in the rites of the clergy, including recitals, such as the *Patimok* recital. Monks of every temple must join the *Patimok* recital

every fifteen days on the 15th day of the waxing moon and the 15th day of the waning moon in full months or the 14th day of the waning moon otherwise. In addition, *Sim* are used for every morning and evening chant on normal days, with the exception of Buddhist holy days. After morning activities have been completed, the 5 o'clock morning bell will be rung and monks will congregate to begin the morning chant. A bell will also be rung in the evening to signal the evening chant. Important rites held in the *Sim* include ordination ceremonies, which will be set every year between the sixth month and Buddhist Lent. At the end of Buddhist Lent *KarnKathin* (a process of stretching out the fabric to be used to make the robes during the Kathin festival) will be organized in the temple precinct after people gave *Kathin* inside the *Sim*. During the first lunar month, Isan monks will set the *Appan* recital.

The *Sim* of Isanare almost exclusively used for activities of the clergy. People in the community will promote clerical activities according to the belief that “those who help to promote deeds such as *kathin* and especially ordination ceremonies will get great merit” (Respondent C, Interview). The researchers consider this very important because Buddhism is an emanation of monks. The identity of Isan*Sim* is noticeable from their architectural components, decorations and beliefs related to *Sim*. Investigation found that each *Sim* has its own unique style. In general, every *Sim* will be built from cement and brick on a rectangular sitemap, facing east. The base of the *Sim* is shaped like an inverted and upturned lotus. *Sim* in the study area were found to have both *Mook Na* and no *Mook Na*. Pillars can be found throughout the inside and outside of the building, such as the *Sim* of WatPhotharam in Ban Dong Bung. In addition, some *Sim* are designed with *NokMuan* wooden engravings, although many have been broken and lost. *RuangPhueang* (Honeycomb) designs were found least and are predominantly found in Roi Et Province, notably the *Sim* of Wat Sri Than, where there are engraved pictures of *PhanPhuang Sa* (Forest) and *PrissanaTham* (Dharma puzzle). Staircases are often designed with animal models such as the Naga at WatNuaeThaMuang or the *Singha* at Wat Ban Yang. Besides, “Sema are also placed in the eight compass directions around the *Sim*” (Respondent A, Interview).

Important characteristics that adorn the interior murals of Isan*Sim* are the Buddha's biography, the story of Gautama Buddha, *Ramasul* (thunder giant), *Mekala* (goddess of lightning) and five gods. As for the outer walls, the story of Gautama Buddha, Buddha's biography, Sin Sai's story, PhraMalai and Nang Orapim folklore take prominent positions. Drawings often reflect the way of life of people in the community, such as farming, fishing and local traditions.

Beliefs in Isan*Sim* concern their construction. “*Sim* must not be built to block the sun from the east or west” (Respondent D, Interview), which would be inauspicious. Woods used as construction materials for *Sim* building are *Ta Kien*, *Teng* and *Rung*. Only the heartwood is used because termites cannot bite it. There are no beliefs regarding other materials and these depend on local craftsmen.

4. Conclusion

Nowadays much religious architecture has been destroyed, which affects the local religious identity of Isan people. Valuable aspects of community culture have been lost, so this research aims: 1) to study the history of Isan*Sim* and 2) to reflect on the value of utilization and cultural heritage of Isan*Sim*. For this research, data was collected through field notes in the provinces of Mahasarakham, Kalasin and RoiEt. The research sample was selected by purposive sampling and totaled 81 individuals. Analysis was conducted by analytic induction and typological analysis. The results show that the first stage of *Sim* construction in Isan was influenced by LanXang culture and later incorporated architectural styles of the Rattanakosin period. This became the identity of Isan*Sim*, as remains in the architecture of WatPhotharam, Wat Yang Thawongwararam and WatKlangKosum in Mahasarakham Province, Wat Wang NueaThamuang and Wat Sri Than in Roi Et Province and WatUdompracharat, WatUmungkla and WatKlangKok Kho in Kalasin Province. The *Sim* of Isanare almost exclusively used for activities of the clergy. People in the community will promote clerical activities according to the belief that those who help to promote deeds such as *kathin* and especially ordination ceremonies will get great merit. The value of *Sim* is in their collections of community history. In addition, *Sim* are valuable pieces of local architecture that reflect the origins of tradition. Patterns incorporated on *Sim* architecture are collaborations between various branches of local craftsmen. In addition, *Sim* reflect the important doctrines of Buddhism on their inner and outer walls.

5. Discussion

The study found that *Sim* are collections of valuable historical information about the community. *Sim* can be used in ordination ceremonies and important rites. Villagers will take valuables, especially money and gold, to donate to the buildings and generate merit. *Sim* have local architectural value that reflects both Thai-Lao and Yuan artwork. The findings correspond to the research of NongnutPhumalee (2009), which found that *Sim* in

RoiEt province are closely associated with LanXang*Sim* built by Vientiane craftsmen. They clearly reflect local culture and the simplicity of communities in Isan. *Sim* are valuable buildings for the locality, which help to educate new generations. The *Sim* is the center of the temple and all traditions of the 12 months relate to *Sim*. Importantly, ordination ceremonies cannot be held in any place other than the *Sim*. These results confirm the research of SuwitJiramanee (1990). Jiramanee proposed that if there were no *Sim*, there could be no ordination ceremony, meaning that Buddhism would not exist.

Sim reflect original arts and their value lies in their unique appearance. This can be noted from the components of the buildings, which are symbols to recall the virtue of the Three Jewels and represent the Lord Buddha's doctrine. This corresponds to the research of WorapanPhuwijjan (2008), which discovered that the stories in murals often retell the Lord Buddha's biography, the ten incarnations of the Lord Buddha and folklore described using the Dharma. This also relates to research led by JamnongKitisakol (2010), which found that Naga often decorate the tops of *Sim* buildings, including parts of the roof, the walls and the staircases.

Nowadays there are fewer *Sim* than in the past. Important causes of the loss of *Sim* are natural disasters and changing social character. These lead to rapid development, affecting the degeneration of *Sim*. There is also corrosion and damage over time. Many *Sim* have been pulled down and rebuilt, so the *Sim* that do remain are increasingly valuable. The maintenance of remaining *Sim* in the right way will help to add value and ensure they remain beautiful representatives of local community culture.

AnuwatIntana (2010), found that landscape improvement, and development of archaeological sites as tourist attractions may affect the components of art, causing degeneration and damage. *Sim* should be conserved in harmony with traditional architectural practices and remain consistent with the natural environment. All *Sim* studied during this investigation were found to be located in appropriate sites, with large areas around the *Sim* for people to join in religious ceremonies. All *Sim* occurred from the combination of Thai-Lao and Yuan arts with no fixed pattern. *Sim* are buildings that show the purity of faith and the wisdom of local craftsmen. Importantly, *Sim* are important physical representations of traditional culture and Buddhist doctrine.

6. Suggestions

6.1 Suggestion for Practical Implementation of the Research Results

- The 9th and 10th regional offices of the Fine Arts Department should use this data to restore *Sim*.
- The National Office of Buddhism must use this data to instruct abbots to maintain *Sim*.
- The Department of Local Administration must use this data to set up a budget for maintenance and landscape improvement around *Sim*.
- The Secondary Educational Service Area Office 24, 26 and 27, the Primary Educational Service Area 2 and 3 of Mahasarakham Province, the Primary Educational Service Area 1 of Kalasin Province and the Primary Educational Service Area 1 of RoiEt Province must use this research to generate a local curriculum and local learning initiative.
- The Provincial Office of Tourism and Sports in all 3 provinces should use this data to publicize tourism about local archeological sites.
- The Office of Culture around *Sim* locations should use this data to set up a budget for the Provincial Cultural Office and Ministry of Culture to maintain *Sim*.

6.2 Suggestions for Further Research

Further research should concern:

- Other *Sim* in Isan, focusing on a comparison between the *Sim* of North Isan and South Isan.
- Decorative components of *Sim* in the Isan region and The Lao People's Democratic Republic.
- The character of patterns of other buildings, such as relics and pavilions that stand within temple ground boundaries to further knowledge in local Isan architecture.
- The succession of artwork of local craftsmen.
- Identity of local and royal craftsmen.

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Naga Artistic Work in the Northeastern Region of Thailand

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Abstract

This research, Naga artistic work in the Northeastern region of Thailand aims to study the concepts and artistic form of Naga in the Northeastern region of Thailand. A qualitative research method was used. The researchers studied a total of 58 artistic works, divided into four groups: 5 paintings, 27 sculptures, 21 architectural structures and 5 handicraft products. The samples included Naga artworks that were created and located among 14 provinces in Northeastern Thailand. Data was collected by document retrieval from textbooks, literature and research documentaries, artistic exploration with photography and sketching and interviews with informants. Results show that there are various styles of Naga artistic work in Northeastern Thailand. All three parts, head, body and tail are direct results of Naga artwork formation having different features and meanings. Even if designs differ and some combine other animals, people still recognized the identity of a snake-like Naga. Northeastern Thailand is a huge region with a varied ethnic make-up and a long social history representing religion, beliefs, political change and development. These are the factors affecting lifestyle, art and culture like a great number of Naga artistic works appearing in this region. Those artworks were built by various races of artist and also were artistically influenced by other nations. Naga artistic work is a representation of an imaginary animal tied with human beliefs. The Naga image is used as a symbol of Northeastern lifestyle and represents many meanings.

Keywords: Naga, artistic work, Northeastern Thailand, culture, beliefs

1. Introduction

Art is a diverse range of human activities and products which have been created and used as media of thinking and personal feelings towards the surrounding social context. It is an emotional transmission that depends on individual humans from each area, race, religion, language and environment. These factors affect representation style and contribute to various art forms, which are not only aesthetically valuable but also contain many aspects of human ethnic history.

Nature creates everything and is the greatest base for knowledge. Humankind has explored and used nature to survive and has transmitted its experiences from generation to generation. These experiences affect human ability to do more complicated lifestyle activities, creating social connections to imagination, religion or belief and other controllable and uncontrollable things. These become driving forces directly against human life and also the inspiration with which humans try to communicate. This leads to abstract thinking and concrete representation as art: literature, architecture, music and dance. Many artistic works from primitive eras have been inspired by human surroundings. The snake is one creature that humans have selected and used as a symbol of art. James George Fraser studied about the culture of human beliefs and Carl Gustav Jung studied the principles and symbols which humans used in ancient society. Both found that people in many regions use the image of the snake as a national symbol or sign (Eaw-Sriwong, 2005).

Snakes are commonly found everywhere in nature and their long and legless figure gives them a different identity from other animals. Many species of snakes possess deadly venom, which affords them an air of power. Humans in primitive eras, who lacked of knowledge and cognition, would be frightened of snakes and believed that people could satisfy snakes with sacrifices. By revering the snake in a god-like manner, people believed they would be safe. This is why many snake-worshipping cults occurred worldwide, from Egypt to Greece, Japan to

Thailand. The snake worshipping ceremonies of these cults are recounted in literature, legends and artistic works.

There is an interrelationship between Naga and snake. In the Royal Institute Dictionary (RID) BE 2542 (Ministry of Education, 1999), Naga means hooded snake or snake with a comb. In Sanskrit, Naga is a cobra, a specific type of snake (Wongted, 2000). The Northeastern Thai Dictionary explains that Naga is a huge snake with a comb, a mythical animal and Phraya Naga is the king of snakes (Ministry of National Culture Office, 1983). Thai historical and archeological research has uncovered many artistic works showing respect for the Naga or snake at least three thousand years ago, during the prehistoric period. Many of these works have been found in the Northeastern region of Thailand. When Buddhist and Brahman expansion caused the establishment of religious places, images and sculptures the legends of the Naga became known as Buddhist symbolism, affecting Naga imagery in many Northeastern Thai Buddhist art works. Thus, belief in the Naga of Northeastern Thailand began and has been inherited since prehistory, influencing Naga in Buddhism, Brahmanism, the Dvaravati Kingdom, the Lopburi era and even present Mekong river bay communities (Jindawattanaphum, 1999). However, the Naga is one of the only animals not really existing in empirical biological framework. The Naga is a byproduct of human imagination under the context of cultural art in each community. It is created so that people can feel and recognize its physical features through various forms of art (Saipun, 1996). Despite present world social development by the new technology and related structures, artistic work has been maintained to act as the agent from the past that tells the story of humanity over time. Artistic work is evidence of national aesthetic wealth, helping people to explore history (Phoonumphol, 2009).

The research team was thus interested in studying the concepts and artistic forms of Naga artwork in Northeastern Thailand. This study assumes to rely on information from history, folk tales, mythology and archeological places and objects, helping the researchers to see the relative structures between groups of people in the community, performances and Naga symbolism in non-artistic work, which later leads us to understand how people bind their Naga beliefs with concepts, styles and symbolic representation.

2. Research Methodology

This research, Naga artistic work in the Northeastern region of Thailand aims to study the concepts and artistic form of Naga in the Northeastern region of Thailand. A qualitative research method was used. The researchers studied a total of 58 artistic works, divided into four groups: 5 paintings, 27 sculptures, 21 architectural structures and 5 handicraft products. The samples included Naga artworks that were created and located among 14 provinces in Northeastern Thailand: Kalasin, Khon Kaen, Nakhon Phanom, Nakhon Ratchasima, Buriram, Mahasarakham, Mukdahan, Yasothon, Roi Et, Loei, Nong Khai, Amnat Charoen, Udon Thani and Ubon Ratchathani.

Data was collected by document retrieval from textbooks, literature and research documentaries, artistic exploration with photography and sketching and interviews with informants (Figure 1). The informants were divided into three groups: 1) Artistic informants; 2) Anthropological and historical informants; and 3) Informants in the community who most closely deal with art work. Data was analyzed through interpretation and content analysis. The research results are presented here as a descriptive analysis.

3. Results

3.1 Naga Artistic Form

3.1.1 Naga Physical Form

The researchers found that the shape and figure of Naga on various types of artwork in the study area were quite varied. The visual perception is both two and three dimensional, created with material depending on function; this represents the diversity of artist wisdom, capability and experience. Although Naga physical appearance detail is different, there are three essential components appearing on every Naga artistic work found in this study: 1) head, 2) body and 3) tail (Table 1). Naga figures in some artworks or objects were incomplete due to the principle use and position, for example Naga figures on the headstock of *Phin* (a type of local lute) from the research institute of North-eastern art and culture, Mahasarakham province or the Naga head on the spinning wheel at Kham Poon village, Ubon Ratchathani Province.

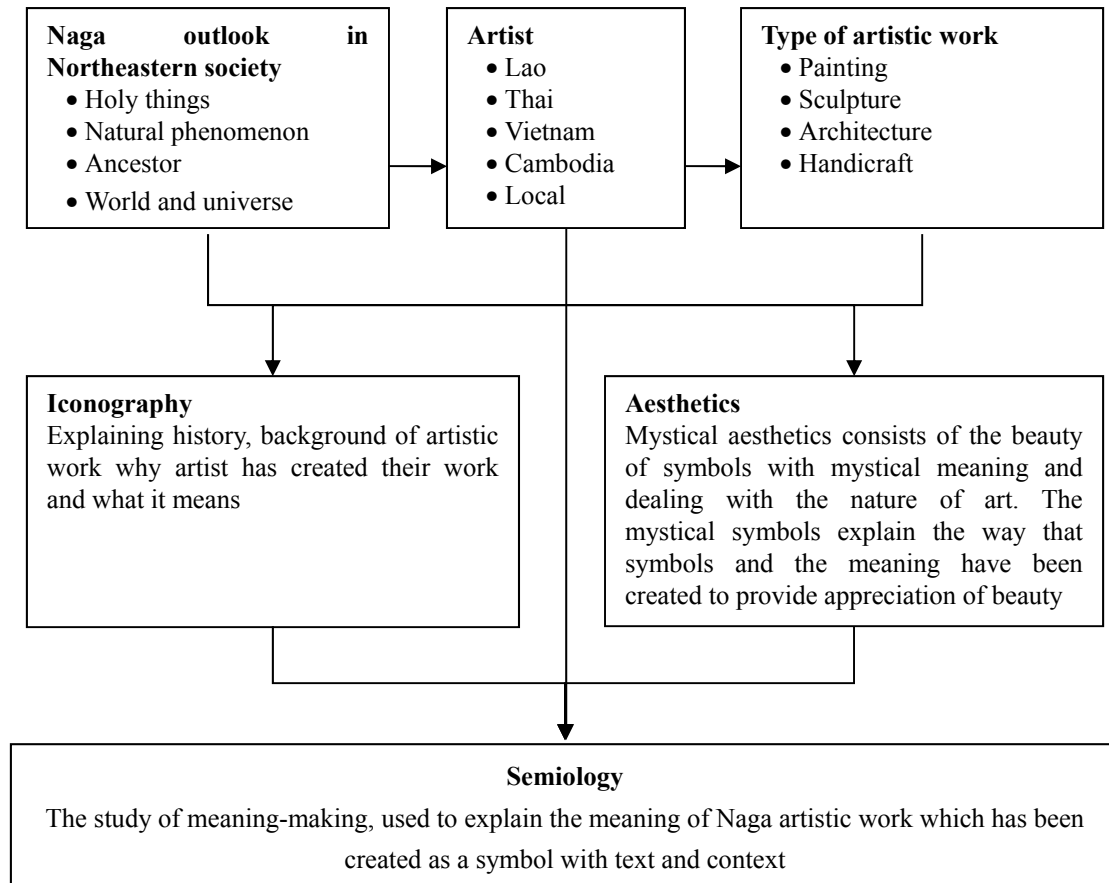


Figure 1. Research framework

Table 1. Frequency of physical structures in Naga artistic work

Sample (Naga artwork)		Frequency	Percentage	
Position	High	36	62	
	Middle	19	33	
	Low	9	16	
Dimensions	2D	10	17	
	3D	48	83	
Physical appearance	Head	More than one head	7	12
		Crest	56	97
	Head	Beard	49	84
		Horn	2	3
		Ears	5	9
	Body	Wings	15	26
		Legs	3	5
		Composed with other animal	7	12
		Tail	Yes	52
	No		6	10

The researchers found that the Naga heads consisted of important features: crest, beard horn and ears. Naga artwork head formation in Northeastern Thailand was varied: Snake-like, dragon-like, lion-like or similar to other animals, with both single and multiple heads (3-9 heads are related to religious belief). One more interesting aspect of these Naga heads is that some Naga faces were influenced from other countries, for example some Naga faces look like dragons and lions that were created by Vietnamese and Khmer artists or had been influenced from China.

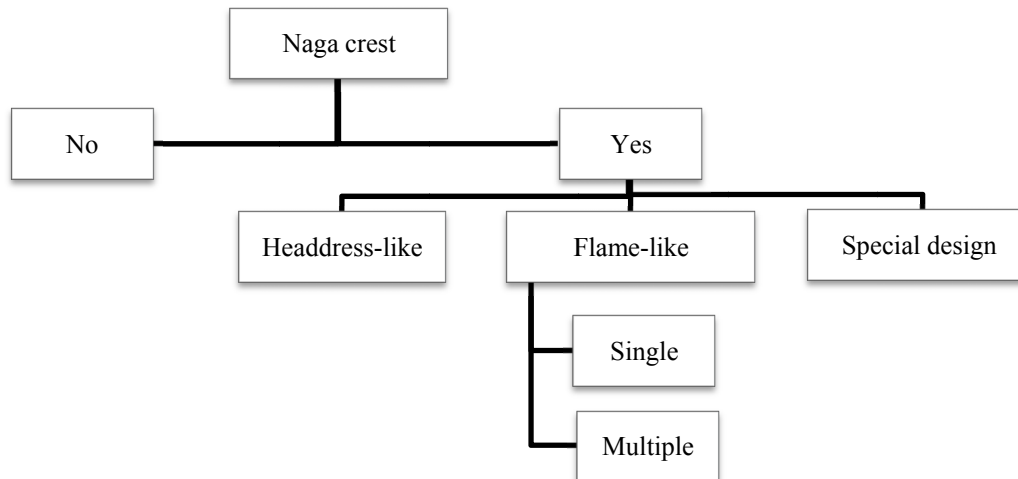


Figure 2. Naga crests in Naga artwork



Figure 3. Type of Naga crest

In figure 2 (Figure 2) and figure 3 (Figure 3), the researchers divided the Naga crest appearance into 4 types. The first type is a headdress-like crest, artistically influenced from Khmer and mostly found in stone sculptures according to the technical limitations of the stone-sculpting processes, for example Naga statues in Phimai historical park, Nakhon Ratchasima province. The second type is a flame-like crest, the most common crest type found on artistic works such as Naga heads on the headstock of *Phin* from the research institute of North-eastern art and culture, Mahasarakham province and also on fabric patterns, for example the Ikat silk from Loei province. Both have single and multiple flames. The third type is a special design reflecting the imagination of the artist. The last type is without a crest. A few Naga heads with no beard appeared in artwork artistically influenced from Khmer and found in stone sculptures. Almost all beards appearing on Naga heads were created by Vietnamese artists inspired by Chinese art. In addition, many images of the Buddha show beardless Naga over his head. Some Naga heads show small horns and ears, like those of a deer.

The researchers found the shape of the body of Naga artwork in Northeastern Thailand to have different details. Not only did they have long figures like a snake but also additional organs, such as wings, legs and feet. Some Naga artwork shows body figures combined with other animals: crocodiles, frogs and elephants, for example the holy water sprout with elephants spewing up from the Naga figure design and a Naga head spewed out by a frog figure on a wooden spinning wheel at Kham Poon village, Ubon Ratchathani province. According to this investigation, almost all Naga artwork was designed with an 'S' body shape (Figure 4) at the connecting part between the head and body. In the principles of nature a snake will make a posture in the shape of an 'S' before attacking prey or protecting itself. The body structure occurring in artwork may not only show moving lines but also intend to create more formidable powers than other common snakes in nature. The body structure was created corresponding to the artwork features it comprised.

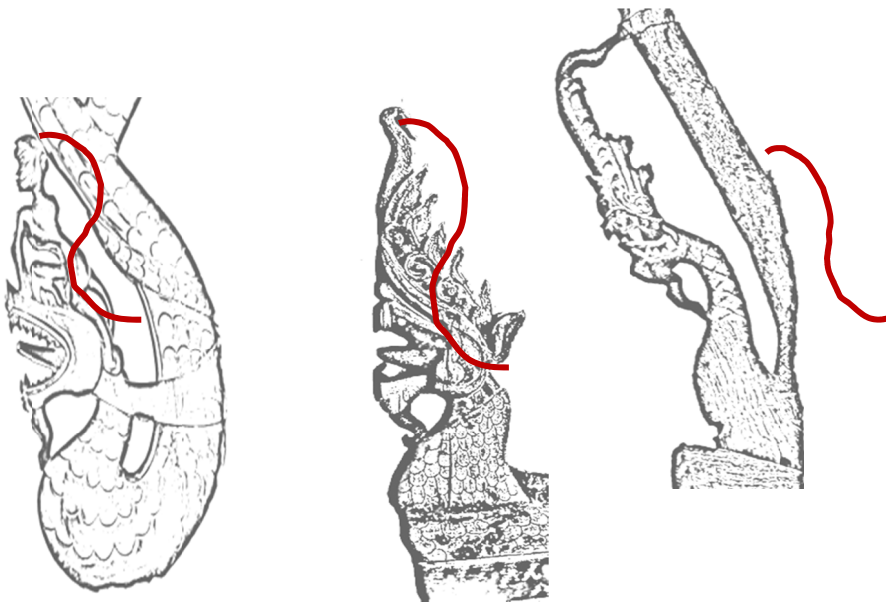


Figure 4. S-shape of Naga line structure

3.1.2 Naga Significance according to Artistic Family

In the following table (Table 2), the researchers have grouped Naga artistic work significance according to artistic family: Khmer art, Vietnam art, Lao art.

Table 2. Naga artistic work significance according to artistic family

Artistic family	Khmer (Figure 5)	Vietnam (Figure 6)	Tai-Lao (Figure 7)
Influencing nation	India, China	China, West, France	Cambodia, Lan Xang, Siam, Khmer, Myanmar
Material	Stone	Molded figure, Painting	Fabric, Wood, Cement, Metal, Other local material
Naga appearance types	<ul style="list-style-type: none"> Bald head Naga is similar to general snake in nature but has a flattened mouth like a duck bill, for example the Naga sculpture on the cage of Muang-Tum stone castle, Buri Ram province Naga with headdress crest like a fascia sheath attached on the top of the Naga looking like a crown, for example the Naga sculpture at Phanom Rung 	<ul style="list-style-type: none"> Dragon-like Naga with whiskers, mane and claws, such as Naga on Buddhist monastery walls at Udom Prasharat temple, Kalasin Province, and Naga wall painting at Srinuan Sawangarom temple, Ubon Ratchthani Province Dog-like Naga has extended Naga face with big nose, wide grinning mouth and multiple flame crest. This Naga type is mostly found on the 	<ul style="list-style-type: none"> Snake-like Naga with a long, slender body shape with scales, no crest and beard and face features similar to a real snake. This artwork design has occurred since prehistory. In addition, this represented snake-worshipping until changing to a Naga due to the religious role in society. Naga with crest and beard, the most common Naga type

Artistic family	Khmer (Figure 5)	Vietnam (Figure 6)	Tai-Lao (Figure 7)
	<p>stone castle, Buri Ram province and Phimai stone castle, Nakhon Ratchasima Province</p> <ul style="list-style-type: none"> Lion-face Naga also was found at Phanom Rung stone castle and was created in Nakhon Wat era, Chinese artistry influence. This Naga appearance was similar to Chinese lion face: round and big eyes, grinning mouth. 	<p>handrail of temple stairs, for example the Naga at North Khon Kaen temple, Khon Kaen Province and the Naga sculpture on handrails of stairs at Saphan Khum temple, Sakon Nakhon.</p> <ul style="list-style-type: none"> Mixed species Naga is combined with organs of other good fortune animals such as Cygnus, Garuda or angels. This causes the figure of the Naga to become dissimilar to other general Naga artwork. Mostly long and snake-like but some have legs. This creation clearly reflects the cross-species combination. This type of Naga artwork was only found in Photharam temple, Mahasarakham province. 	<p>found in Northeastern Thailand, with a long, legless body like a big snake and flame-like crest: both single and multiple flame. This Naga artwork design was usually used in every type of artistic work.</p> <ul style="list-style-type: none"> Decorated Naga, an outstandingly designed, snake-like Naga with crest, beard, wings and horns but no legs. This artwork design is also found in literature and is influenced by China but is not like a dragon or Chinese Lion Spewed-out Naga, poking its head out of the mouths of other animals, such as crocodiles, dragons, frogs or elephants.
Artistic type	<ul style="list-style-type: none"> Architecture Sculptures 	<ul style="list-style-type: none"> Architecture Painting 	<ul style="list-style-type: none"> Handicraft Literature Architecture Sculpture Painting



Figure 5. (1) Bald head Naga, (2) Naga with headdress crest, (3) Lion-face Naga

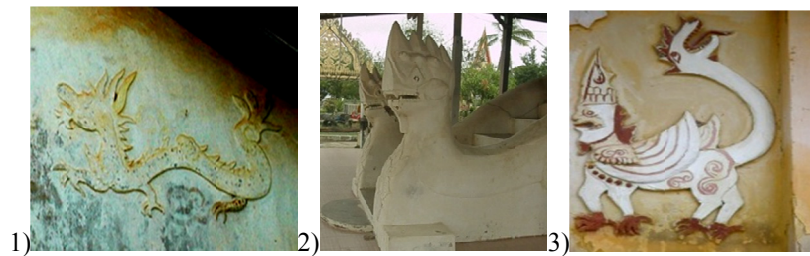


Figure 6. 1) Bald head Naga, 2) Dog-liked Naga, 3) Mixed species Naga



Figure 7. 1) Snake-like Naga, 2) Naga with crest and beard, 3) Decorated Naga, 4) Spewed-out Naga

3.2 Concept Affecting Naga Artistic Work Creation

According to this study, each artwork is overlapped by several meanings and the image of the Naga also becomes a symbol of many things. To convey the idea of Naga through artistic work responding to the need to transmit beliefs and signs, the artist has to consider the shape, features, structure and position of the Naga in their artwork. This is not only aimed to influence the artwork appearance but also to connect to human belief. Thus, the Naga will have more meaning than an imaginary snake with a crest. In addition, images of Naga are currently used as different signs, such as trademarks or logos of places and organizations. Concepts and beliefs about snakes and Naga have been settled in community ideology for a long time. These local beliefs can be divided into four viewpoints (Table 3).

Table 3. Northeastern perspectives of Naga

Naga perspective	Detail	Naga symbol	Artistic work
The Naga is holy	The Naga is a powerful supernatural being, which has good fortune and greater status	Holy thing, guardian and protector	Decorated Naga or Naga with headdress-crest, horns, wings, feet etc. Features performed as lined, structural sculptures found in fine architecture
The Naga has a human origin	The Naga is the great ancestor giving birth to several races and tribes	Mother	Found in fabric patterns, tattoos, weaving tools and folk literature
The Naga is related to natural phenomenon	The Naga is god of water and rain, the creator of world abundance	Water, earth, rain, abundance	Naga figure on water sprout, fabric patterns, fine architecture and handicrafts
The Naga links the world and the heaven together	The Naga is a part of both human world and another cosmos, linking humanity to heaven	Connective bridge between two worlds	Found in fine architecture, bridges, thrones, funeral chariots, Naga brocades, musical instruments etc.

4. Conclusion

There are various styles of Naga artistic work in Northeastern Thailand. All three parts, head, body and tail are direct results of Naga artwork formation having different features and meanings. Even if designs differ and some combine other animals, people still recognized the identity of a snake-like Naga. Northeastern Thailand is a huge

region with a varied ethnic make-up and a long social history representing religion, beliefs, political change and development. These are the factors affecting lifestyle, art and culture like a great number of Naga artistic works appearing in this region. Those artworks were built by various races of artist and also were artistically influenced by other nations. Naga artistic work is a representation of an imaginary animal tied with human beliefs. The Naga image is used as a symbol of Northeastern lifestyle and represents many meanings.

5. Discussion

Even though the Naga was imagined by humans, its features still originate from those of a snake. The prince Narisara Nuvativong, Prince of Siam, explained that Naga came from snakes with different added organs, depending on human imagination (Satian Koket Foundation, 2009). Sombat Plainoi explained that Naga was a Pali word meaning snake, while Hinduism referred to Naga as a cobra. In Buddhism, Naga means the great snake and Sanskrit also defines this word as Norathep, snake with a human face. People from the western world would call an animal with a long body a Nake, relating to the word snake, which also comes from the Indian word Naga (Plainoi, 2011A, 2011B). These explanations represent the relationship between snake and Naga in meaning and linguistic background.

Most Naga featured in the Northeastern region are similar to snake figures. Chamnong Kitisakon (1990) studied Naga on vernacular sim (church) architecture in Northern Isan and found that, although Naga artistic forms in each study place were different according to artist skill, all artwork conceptual designs originated from the figures of snakes. This caused Naga to become a new symbolic figure under the snake's significance. The researchers recognized that artistic family model, raw material, use and belief were transmitted into the artwork and affected the differentiation between Naga features and fine detail appearance on artistic works. Somchai Na Phanom and Nangnoi Puchapan (1994) said that there was no actual pattern of folk artistry creation in Northeastern Thailand but they used the components combined with the surrounding environment and human beliefs. Art in ancient Thailand was created with nearby natural resources. When Buddhism and Brahmanism grew, the religious places and statues began to be created.

In the concept that Naga is a powerful supernatural thing with good fortune and greater status, Janjira Benchapong commented about animal features decorated on several tools that people in ancient times relied in their lifestyle. The people observed animal behavior and special characteristics that reptiles and amphibians had enabling them to live both on ground and under water. Therefore, people thought that those animals would have mysterious power. They became sacred and combined with the imagination to form mixed species, such as Naga or dragons. These animal features are added to various artworks and tools, for example boat coffins and musical instruments, according to the belief that these feature would help people connect to supernatural power (Benchapong, 2012).

Sonpan Wannamat studied fabric weaving patterns and found that images of Naga were shown on fabric patterns as a symbol of the mother, human tribe reproduction and abundance. This was related to religious beliefs of women who wove the fabric (Wannamat, 1991). In addition, the researchers found that Naga not only represents female symbol but also takes male status, as can be seen from the imagery of Naga tattoos on Northeastern men.

In the concept that Naga is god of water and rain, the creator of world abundance, Buddhist and Hindu principles state that the Naga was the creator who gave humans abundance (Lamai, 1995). This also corresponds to Sumet Chumsai Na Ayutthaya, who explained the meaning of Naga as a symbol of water elements (Chumsai Na Ayutthaya, 1986). Suriya Samutkub analyzed the imagery of the Naga and found that Naga was the symbol of crop abundance, an important factor of life for Northeastern people who rely on water and natural resources for their agriculture (Samutkub, 1990).

6. Suggestions

6.1 Suggestions for Further Research

Further research should concern the concept and artistic forms affecting artistic work of Naga creations compared with other regions or in other countries such as Lao, Cambodia and Vietnam. Further research should also consider the concept and artistic form affecting artistic work of Naga creation in Northwestern Thailand, where many literature and artwork related to the Naga has been created.

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Thai Oil Massage: The Application of Traditional Knowledge in North-eastern Thailand

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Abstract

This qualitative research reviews the current state of traditional oil massage in the North-eastern region of Thailand and identifies methods to preserve traditional knowledge. The findings are obtained by interview, observation and focus group discussion. The results show that traditional knowledge of oil massage was developed to combat occupational health problems in local communities, and that it has been inherited through both self-education and apprenticeship. For each treatment, the masseur/masseuse (*Maw Nam Man*) prepares him/herself and his/her equipment. He/she then reviews the patient position before proceeding with the oil massage. There are no adverse effects during or after well-executed traditional massage therapy. In order to incorporate traditional oil massage therapy in holistic healthcare under the supervision of the Ministry of Public Health, traditional wisdom must be integrated with modern medicine procedures and a management framework must be formulated.

Keywords: traditional knowledge, oil massage, traditional masseuse, holistic healthcare

1. Introduction

From historical evidence, researchers believe that both Egypt and China have recorded massage for over 5,000 years, while 1,000 years later there were paintings representing massage therapy in India (Podder, 2002). These cultures influenced much of Thai society and were the foundations on which Thai massage was based. The first historical evidence of massage in Thailand was found in the stone inscriptions of King Ramkhamhaeng and has been dated to 1357. From these beginnings, the field of Thai traditional medicine progressed and expanded, especially the discipline of Thai massage in the Ayutthaya (1351-1767) and Rattanakosin (1782-1932) Kingdoms. Due to war, some knowledge and documentation disappeared, which King Rama I sought to restore upon his ascendancy in 1782. Perhaps the major contribution of King Rama I to Thai massage was the restoration of the royal temple *Chettuphon Wimon Mangkhilaram Ratchaworamahawihan (Wat Pho)*. The temple was reconstructed upon a centre of traditional Thai medicine and came to be recognised as the first public university in the country. One of the earliest traditional massage schools was established at the temple and *Wat Pho* is considered the home of traditional Thai medicine. King Rama I also gathered experts in traditional medical knowledge to inscribe medical texts and sculpt recreations of traditional Thai exercise postures (Ungpinitpong, 2008).

Knowledge of massage is a heritage of local Thai society. People in communities used massage techniques to relieve suffering from pain caused by occupational activities, mostly farming. This local knowledge was considered as both science and art, created by families and the simple, peaceful community culture of Thailand (Dumri, 2002). Traditional massage has been informally inherited by observation of experts and self-teaching. The benefits of massage are muscle relaxation, improved blood and lymphatic circulation, increased haemoglobin and stress relief. Nowadays, the science of Thai traditional medicine has been approved under the Practice of the Art of Healing Act BE 2542 (1999) by the Institute of Thai Traditional Medicine, Ministry of Public Health and three related laws: Nursing Act BE 2541 (1998), Drug Act BE 2510 (1967), and Wisdom of Thai Traditional Medicine Protection and Promoting Act BE 2542 (1999). However, traditional practitioners are not legally certified according to the existing system and there are no national standards, although traditional

knowledge is controlled and supported in every community. National standardisation would mean that each community could not individually manage its own traditional knowledge (Matichon, 2002).

People in the modern global era consistently turn to advanced mainstream medical treatments. Although traditional knowledge of oil massage has so much value, this alternative treatment may disappear if its conditions and problems are ignored. The research team was thus interested in studying the traditional knowledge of oil massage in North-eastern Thailand to assess its state, identify its problems and find ways to preserve its place in local society.

2. Methodology

This research has two primary aims: 1) to study the state of and the problems caused by using traditional knowledge of oil massage and 2) to develop a model to apply traditional massage knowledge to the mainstream system of holistic healthcare. This is a qualitative investigation. Three provinces in the North-eastern region of Thailand were purposively selected as the research area. These were Khon Kaen, Mahasarakham and Roi Et. These provinces were selected due to their long history of traditional oil massage culture and individual treatment using traditional oil massage techniques. Purposive sampling identified 83 randomized samples for the study. The samples were divided into three groups. The first group (key informants) totalled 18 individuals: representatives from the provincial cultural office, hospital deans, village leaders and abbots. The second group (casual informants) totalled 15 individuals: Masseurs/masseuses (*Maw Nam Man*) from the three provinces. The final group (general informants) totalled 50 individuals: patients and their relations. Data was collected by structured (Appendix) and non-structured interviews, participant and non-participant observation and focus group discussion. After all data had been collected, it was validated using data and methodological triangulation. Data was analysed in line with the research aims using typological procedures and results are here presented as a descriptive analysis (Chantavanich, 2004). This study was conducted from October 2012 to August 2013.

3. Results

Traditional oil massage in the research area was developed to cure health problems of villagers in the community. The traditional knowledge was inherited by two methods: 1) self-learning through experimentation or from textbooks and 2) learning by observing and listening to the experience and advice of expert practitioners and replicating their skill. The desirable characteristics of a traditional oil masseur/masseuse are a good service mind, generosity, friendliness, honesty, patience, sense of responsibility and love of helping others. Mrs. Thongkham Paladkrong (55 years old) from Baanpai District, Khon Kaen Province said that she started to be a masseuse after self-learning from textbooks. When her family had a more secure financial status and she had more spare time, she began to practice traditional oil massage with the masseur in her village (Thongkham Paladkrong, personal communication, 2012). According to interviews with *Maw Nam Man*, the research team summarized and divided the traditional oil massage procedures in two steps: preparation and approach (Table 1). Mrs. Krongkaew Meelap (47 years old), a *Maw Nam Man* from Borabue District, Mahasarakham Province, explained that when her patients visit her and ask to be treated she has to review patient information and perform a body pain examination. She has to prepare her massage equipment and the setting, check her uniform then meditate before starting her massage procedure (Krongkaew Meelap, personal communication, 2012). Mr. Kwanchai Singchan (56 years old) *Maw Nam Man* from Thawat Buri District, Roi Et Province, said he usually prepares the massage oil by himself, but sometimes purchases medicinal herb oil to apply to the painful areas before applying pressure to those areas of the body to provide relief (Kwanchai Singchan, personal communication, 2012). In addition, no patients massaged by authentic *Maw Nam Man* suffer from side-effects or pain after the treatment.

Table 1. Current state and problems with traditional oil massage

Traditional oil massage in three North-eastern Thai provinces		
Current state		Problems
Preparation	Approach	
<ul style="list-style-type: none"> Standards of operating procedure are established and presented to customers as posters or sign-boards. Facilitators are ready, both physically and mentally, to provide services. 	<p>Oil massage technique and method</p> <ul style="list-style-type: none"> <i>Maw Nam Man</i> asks patient general information and medical history. Physical tests are done and 	<ul style="list-style-type: none"> No patients receiving traditional oil massage had complications or adverse side effects during or after treatment
		Rules of traditional oil massage

<ul style="list-style-type: none"> • The location is clean and there is adequate air and light. • Massage equipment and tools are prepared. 	<p>painful positions determined.</p> <ul style="list-style-type: none"> • Massage oil could be made by the <i>Maw Nam Man</i> or bought from a medical store. It is applied to pressure areas and the pressure points are felt with a slight push of the thumb before starting the massage. <p>Traditional knowledge of oil massage</p> <ul style="list-style-type: none"> • This knowledge is able to treat symptoms of pain at various points of the body, including muscle numbness and sprains. 	<ul style="list-style-type: none"> • Do not practice massage with drunk patients or with those having recently undergone an operation (in the last 2 months). • <i>Maw Nam Man</i> who are drunk or have a high fever are not allow to treat patients. • <i>Maw Nam Man</i> must wash their hands before and after performing a massage. • Some <i>Maw Nam Man</i> believe that having a meal at the massage location will cause the patient condition to deteriorate.
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The research team collected data from the interviews and organised it to classify four dimensions of holistic healthcare processes for traditional oil massage: Physical, psychological, social and spiritual (Table 2, Figure 1). The research team then incorporated this data into a focus group discussion on August 20th 2013 to consider methods to apply the traditional knowledge of oil massage to modern holistic healthcare under the supervision of the Ministry of Public Health. Successful application would allow traditional knowledge of oil massage to continue in modern society. According to the focus group discussion, informants from three provinces, including representatives from government institutions, agreed to integrate the traditional medicine treatment processes into their modern medical care. They also agreed to put traditional oil massage knowledge into their management framework by using the 'TERMS Model for Community Self-Reliance', consisting of five categories: Technology, Economy, Resources, Mental and Socio-culture (Table 3).

Table 2. Holistic healthcare processes for traditional oil massage knowledge

Dimension	Details
Physical	<ul style="list-style-type: none"> • Research or model of holistic healthcare management has to be established. • Therapeutic practice must be rearranged in steps and according to recommendations of a qualified physician. • Patient and masseur/masseuse must be recorded. • Patients should follow the lifestyle changes recommended by <i>Maw Nam Man</i>.
Psychological	<ul style="list-style-type: none"> • The patient has to trust the <i>Maw Nam Man</i> and undergo a course of treatment to recover fully. In addition, the <i>Maw Nam Man</i> must be trustworthy and encourage the patient.
Social	<ul style="list-style-type: none"> • Traditional oil massage training should be arranged. • Medicinal herb experiments to formulate massage oil must be supported to increase treatment effectiveness and variety. • It is recommended that all patients are screened before massage to determine if there are any reasons to prevent the massage treatment from taking place.
Spiritual	<ul style="list-style-type: none"> • Psychological consultancy is necessary for traditional oil massage treatment. • A patient's medical history and daily lifestyle information must be examined. • Patient encouragement after the massage will instil more confidence and trust in the treatment.

Table 3. TERMS MODEL of traditional oil massage for the community

Matrix	Details
Technology	<ul style="list-style-type: none"> • A plan of holistic healthcare management should be researched, developed and publicized. • Medical records of traditional oil massage patients and practitioners must be kept.
Economy	<ul style="list-style-type: none"> • Public relations would increase patient confidence. • Service prices and methods must be cleared prior to treatment. • Medicinal herb cultivation and use should be promoted. • Formulation and use of oils containing medicinal herbs are recommended.
Natural Resources	<ul style="list-style-type: none"> • Developing herbal recipes into the new, more convenient dosages, forms and packaging are necessary.
Mental	<ul style="list-style-type: none"> • Counselling services by <i>Maw Nam Man</i> or psychologist must be provided for the patient alongside treatment. • Short ceremonies prior to treatment where the practitioner pays respect to their instructor could promote <i>Maw Nam Man</i> confidence and increase his fortunes.
Socio-culture	<ul style="list-style-type: none"> • Basic traditional oil massage techniques that are easy for patients to do themselves or with family members should be taught in the community.

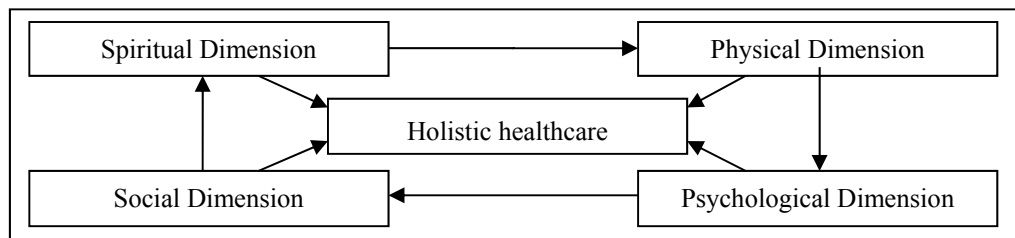


Figure 1. Holistic healthcare framework

4. Discussion

Traditional knowledge of oil massage was developed to help cure community health problems by both self-experimentation and learning from expert experience. This represents the symbolic concept of socialization, where both formal and informal instruction is used. The concept consists of three compositions: 1) Social interaction between at least two people, 2) language used to communicate and understand and 3) relationships between teachers and students (Sanyawiwat, 2008). In a study of traditional healers in Nan province, Panom Wongthai found that the medical skill of each healer depended on their accumulated experience in curing villager illnesses. Once they had gathered sufficient knowledge they were considered experts and were accepted by the community (Wongthai, 2004).

Current oil massage procedures begin with the preparation of services and facilities, then treatment starts using the individual techniques of the *Maw Nam Man*. The preparation is a symbolic step to instil confidence in the patient and to reveal the expertise of the masseur/masseuse. Somphong Dulyakit explained that people use symbols to communicate or explain their level of understanding and experience. Even if that experience is not immediately apparent, patients are able to interpret the symbols displayed during the preparation stage and follow the conditions given by those symbols (Dulyanukit, 2006).

The important things that *Maw Nam Man* have to do are analyse and understand the pros and cons of each pattern of traditional oil massage for more effective treatment. The *Maw Nam Man* should clearly describe the details of massage approaches to their patients, be organised and serve their position honourably. This situation is a representation of the structural functional theory. People have basic needs for being accepted in their society: physical needs, mental needs, symbolic needs and the responses of other members of society (Santasombat, 2005). In their study of family practice residents and family physicians regarding complementary and alternative medicine, Frenkel, Ben-Arye and Hermoni (2004) found that alternative medicine is well known in the West.

Education could change trainee attitudes regarding participation of family healthcare. Knowledge of alternative medicine can be developed as a strategic model for healthcare and the environment.

Further research must focus on the comparison of traditional oil massage in different ethnic groups or countries in order to identify outstanding or unique features to benefit the general development of traditional knowledge in the field. Further study must also consider the problems with and threats to traditional oil massage knowledge inheritance and ways to support more systematic and secure heritage. It is also recommended to establish an effective massage procedure in holistic healthcare as a study program.

5. Conclusion

The local knowledge of traditional oil massage can be applied as a holistic healthcare treatment. The traditional skill and modern medicine can be developed simultaneously to professionalise traditional Thai medicine.

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Appendix

Structured interview

Thai oil massage: The application of traditional knowledge in North-eastern Thailand

Instructions

1. This interview is used for casual informants: *Maw Nam Man*
2. This interview has four parts
 - Part 1 - Personal information
 - Part 2 - Research aims
 - Part 3 - Ritual element and procedure of patient treatment
 - Part 4 - Application of traditional knowledge in holistic healthcare

Part 1: Personal information

First name (Mr/Miss/Mrs)..... Last name Age.....Job.....

Marital status.....

Highest education level

Permanent address

Province

Correspondence address

Province

Treatment experience

Part 2: Research aims

Background of traditional oil massage knowledge

.....

.....

.....

.....

.....

...The conditions and problems of using traditional oil massage knowledge in holistic healthcare, related to ceremonies, traditions and natural resources in the community

Preparation

.....

..... Treatment procedure

.....

.....After the treatment

.....

.....

Local knowledge application in holistic healthcare

Traditional knowledge usage

.....

.....

Modern knowledge usage

.....
...

... Traditional knowledge applied with modern knowledge in holistic healthcare

.....
...

Part 3: Ritual element and procedure of patient treatment

What type of oil do you formulate and use in traditional oil massage?

.....
...

Do you conduct any ceremony or incantation before massage oil formulation?

.....
...

What tools or equipment do you use in ceremonies or incantations?

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...

What type of patient usually comes for traditional oil massage?

.....
...

How do you diagnose them?

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...

What tools or equipment do you use for diagnosis?

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...

What type of disease do you usually treat?

.....
...

Which part of the body do you treat most?

.....
...

Do you consider dispensing herbal or modern medicines? If yes, what are they?

.....
...

How long does one treatment take?

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...

Where do you provide traditional oil massage?

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...

How much will the patient have to pay?

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...

Part 4: Application of traditional knowledge in holistic healthcare

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.....
...

Other suggestions

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...
.....
...

Date

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Quality Control Management of Traditional Jasmine Rice Production and Processing Methods

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Abstract

The *Tung Kula Rong Hai* jasmine rice industry suffers from low economic efficiency and low employment standards, which weaken the economies of local communities. This qualitative research was conducted in the areas of Surin, Roi-Et and Sisaket Provinces in North-eastern Thailand using the research tools of basic survey, observation, interview and focus group discussion. Results found that changes to traditional rice cultivation caused the quality of rice to diminish. The quality control management of jasmine rice production still has problems and the rice processing lacks identity and standards. Given these factors, the added value of rice products is at a low level. In order to solve these problems, the jasmine rice industry of *Tung Kula Rong Hai* must manage its quality control procedures more systematically and thoroughly on the principles of traditional knowledge.

Keywords: *Tung Kula Rong Hai*, jasmine rice, quality control, processing, traditional agriculture

1. Introduction

The agricultural sector is important for Thai society and generates many benefits, which include the creation of employment opportunities, production of food, reduction of poverty and defence against global warming. Production is linked to the local culture and lifestyle, which are based on traditional relationships with the surrounding environment. Even though the agricultural sector benefits from the natural resources at its disposal, production must be boosted with foreign imports. This raises production costs, reduces agricultural tendencies, limits the value of goods processed by general industries and hinders progress. The development of agricultural goods in order to increase profit and sale, standardise, campaign against the use of chemicals and promote of contractual agriculture will enable businesses to compete while having no effect on natural resources. Sponsorship for research and development of production and processing and development and strengthening of agricultural processing industries based on traditional knowledge and creative invention are needed to raise the level of product value, create standardized quality of produce and make Thai products more appealing to the domestic and international markets (Office of the National Economic and Social Development Board, 2011).

Rice is the most important agricultural product in Thailand and aromatic rice is the biggest group, in both non-glutinous and glutinous forms. Aromatic rice is different from other varieties because of the distinctive fragrance that remains from the paddy to the plate. For the most part, the aromatic rice plant is tall, resistant to sunlight and responsive to fertilizer. Each plant has a unique aroma, which arises from the different conditions in its planting. Two parts of the same rice plant that are grown in different areas will smell differently (Pontanee, 1990). Rice with a fragrant aroma is popular in Asia and is gaining popularity in Europe and America thanks to its smell and texture (Weerapet, 1988). The aromatic rice sold most throughout the world is Basmati, which is grown on both sides of the Indus River in Pakistan and India. Another country famous for exporting aromatic rice is the United States of America, which sells both Della Aromatic and Pecan Rice (Singh, Singh & Khush, 2000). Rice has been grown in Thailand for over 5,000 years. The rice varieties that are supported by the Thai government and planted across the country are KDML105 (non-glutinous), RD15 (non-glutinous), Nahng Mon-S4 (non-glutinous) and RD6 (glutinous). However, the aromatic rice grown most in Thailand and exported throughout the world is *Kao Horm Mali 105* (KDML105). This white variety is soft, particularly aromatic and

with low amylase levels. Important markets for the Thai economy are United States of America, the European Union, China, Hong Kong, Singapore and Malaysia, who all pay high prices (Pontanee, 1990).

The origin of Jasmine rice was in Bang Khla District, Chachoengsao Province, which is an area of saline, sandy soil with no flooding. Nowadays, this has been transformed into an industrial and residential area and the most famous and largest area of rice production in present-day Thailand is at the *Tung Kula Rong Hai* area of the North-eastern Region (Isan). The dryness of the *Tung Kula Rong Hai* had become a symbol of the Isan region and local stories told of how locals were forced to migrate from the area to find more hospitable terrain. However, these stories decreased thirty years ago in 1982 when the Australian government was recruited to help adapt the soil conditions. This was achieved by flattening the soil and adding fertilizer. Rice plants were then planted, both glutinous and non-glutinous. It was revealed that Jasmine rice had a more fragrant aroma and higher quality than other varieties. When the Thai Rice Department supported the cultivation of Jasmine rice in the *Tung Kula* area, the previously discarded territory was developed and became the largest production area of Jasmine rice (Reutidet, 2006). Although, Jasmine rice yield is not exceptionally high, the *Tung Kula* area is large enough to ensure that producers can generate a high income. For the most part, the rice is exported abroad and is renowned as *Tung Kula Rong Hai* Jasmine Rice (Suwandee, 2003).

For the reasons given, the Department of Intellectual Property allocated a geographical indicator (GI) to the *Tung Kula Rong Hai* area in 2006. The European Union also bestowed a GI on the area in March 2013. This was the first GI recognition for an ASEAN country and the third recognition for a country outside of Europe by the European Union. This is a significant step in promoting the name, raising the level and increasing the value of Jasmine rice from the *Tung Kula Rong Hai* area, thus increasing the ability for Thailand to compete in the global economy. Additionally, this helps support the income of people in the five provinces covered by the *Tung Kula Rong Hai* area, which are Surin, Mahasarakham, Roi-Et, Yasotorn, and Sisaket. However, the *Tung Kula Rong Hai* area is faced with problems. Soil deterioration, lessening rice quality and aroma, lack of internationally standardized management and production, low product value and poor general agriculture mean that the *Tung Kula Rong Hai* area is still a developing area. It is necessary to research the quality control management of Jasmine rice and its processing to address these problems using the principles of traditional knowledge and benefit the community economy of *Tung Kula Rong Hai*.

2. Objectives

The research had three objectives:

- 1) To study the changes of traditional rice farming methods and problems in the *Tung Kula Rong Hai* area;
- 2) To study current conditions and problems with quality control management and processing of Jasmine rice in the *Tung Kula Rong Hai* area;
- 3) To study a model for quality control management and processing of Jasmine rice based on traditional knowledge principles in the *Tung Kula Rong Hai* area.

3. Methodology

This qualitative research, aimed at the objectives, was conducted by document research and field study, using survey, participant and non-participant observation, structured and non-structured interview and focus group discussion (Chantachon, 2010). Data was validated using data triangulation and methodological triangulation. Data was then categorized in correspondence with the research aims and analyzed. The research period was from June 2012 to May 2013.

The research area was chosen using a purposive sampling method according to the objectives of the investigation. The area covered Surin, Roi-Et and Sisaket Provinces. The research population was composed of fifteen key informants, seventy casual informants and twenty general informants. The key informants were five government administration officials, five jasmine rice business owners and executives and five sub-district chiefs and village leaders. The casual informants were ten government production officials, fifty workers from Jasmine rice industries and ten local experts in agriculture and traditional knowledge. The general informants were ten reception level workers at jasmine rice businesses, five traders and five general farmers.

4. Results

4.1 Changes to Rice Farming Methods and Problems in the *Tung Kula Rong Hai* Area

Before the introduction of jasmine rice to the *Tung Kula Rong Hai* area, the objective of rice cultivation was for consumption in the household. Farmers mostly grew indigenous glutinous rice and a small amount of non-glutinous varieties, which were both highly unsusceptible to disease. Families would grow many varieties of

rice, meaning that they needed harvesting at different times. This caused a lack of urgency in the farming process. Water was only sourced from natural rainfall. Tools used in rice cultivation were homemade and used human and animal power. Fertilizers were naturally produced from cow and buffalo waste and no chemical fertilizers were used. There were many steps in the cultivation process, responsibilities were shared among family members and there was a high level of cooperation among community members, who would help one another to harvest and process the rice. As the entire process relied on nature, respect was customarily paid to the relevant spirits at each stage. Rice was meticulously managed at the farming level. Pure, organic rice was produced naturally and continuously.

After the introduction of jasmine rice to the *Tung Kula Rong Hai* area, the rice farming methods dramatically changed. Nowadays, ninety percent of the land is used to farm *Kao HormMali 105*. However, the local people prefer to eat glutinous rice and only grow the jasmine rice for sale. This has made the jasmine rice an important economic plant for the local area. The varieties of rice that were once grown here have disappeared in response to high external market demand. The *Tung Kula Rong Hai* area has almost entirely been developed for the cultivation of jasmine rice and each family plants large quantities, harvests at the same time and works rapidly until they have no more energy. As the reasons for production shifted from internal consumption to external sale, so machinery was increasingly used. Chemical fertilizers are now in the majority, as are chemical herbicides and pesticides. Mechanical ploughs enable ploughing to be completed in a day; combine harvesters enable harvesting to be completed in a day (Figure 1 and Figure 2). Farming has become faster and easier, so farmers have become ‘farm managers’. With this change, more and more people have been allowed to go to the cities to work, leaving the farms to be maintained by the elderly and children. This means that the farms are not always meticulously cared for. The changes have also seen the shift from free communal help at harvest time to employed communal help. The beliefs and ceremonies have also disappeared, the soil quality has deteriorated, the surrounding environment and ecology has been harmed, the rice quality has reduced, especially the aroma. With the need for speed, it has become increasingly difficult for the industry to manage the rice.



Figure 1. A mechanized plough



Figure 2. Modern harvesting machinery

4.2 Current Conditions and Problems with Quality Control Management of Jasmine Rice and Processing in Tung Kula Rong Hai

4.2.1. Current Conditions and Problems with Quality Control Management of Jasmine Rice

4.2.1.1 Current Conditions

Organic jasmine rice businesses recognize and control the quality of rice before agreeing to buy it, especially with regards residue because they contract and control workers to use organic methods in each stage of production. This includes soil testing and quality control checks of planting. The factors and stages of planting are systematically recorded and chemical products are banned from the cultivation process. Social cooperatives that deal in jasmine rice also recognize and maintain quality of rice prior to purchase. At the same time there are training courses and support for agricultural production according to the system of good agricultural practices (GAP), which now has over 2000 members. Private rice mills have little or no practices of quality control in the cultivation process.

The government program to purchase rice from farmers is aimed at private rice mills and community businesses. Private rice mills, especially large sized mills and middle-men, do not separate their materials by location, which is not appropriate for the GI rating of jasmine rice from *Tung Kula Rong Hai*. At the same time, community businesses that deal in both general and organic jasmine rice purchase rice from specific locations, such as *KongtunkaoSurin Organic Agricultural Cooperative*. Burlap sacks for containing jasmine rice can be used twice. When the sacks are filled, the details of the rice must be recorded on the sack, including the name of the farmer, the location, the farmer's code, day, month, year, bag number and either ACT (Organic Agriculture Certification Thailand) or BCS to control the quality of the rice (Figure 3 & Figure 4). As the government program to purchase rice from farmers set a higher price than the market, it is able to drive the market. Nowadays, the majority of rice grown in the *Tung Kula Rong Hai* area is sold through the government program and private businesses or middle-men choosing to purchase outside of the program are only able to buy very small quantities of rice.

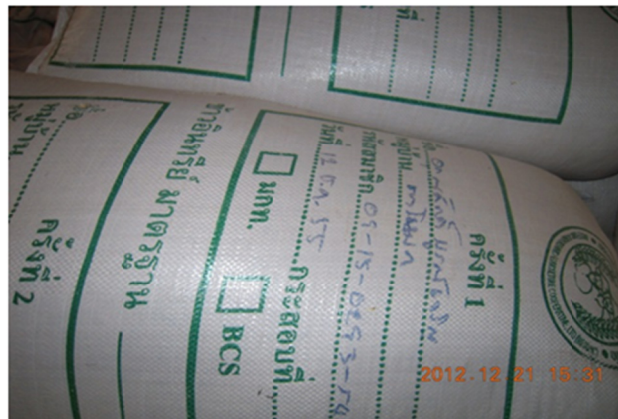


Figure 3. Rice sacks used by *KongtunkaoSurin Organic Agricultural Cooperative*

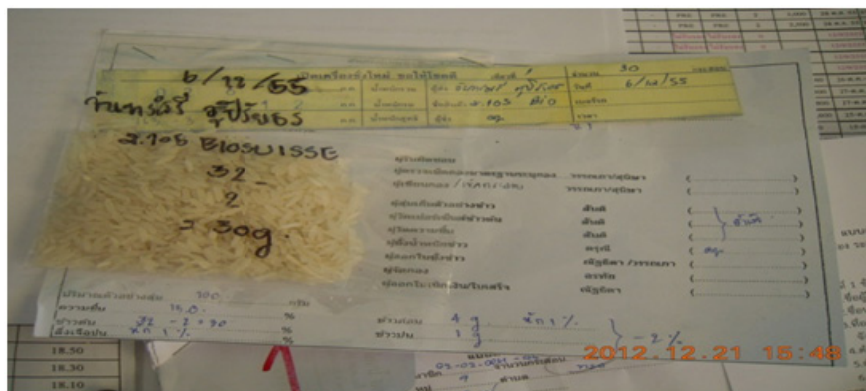


Figure 4. Recorded information of rice crop by *KongtunkaoSurin Organic Agricultural Cooperative*

1) Examination of rice

The program of rice examination in businesses is the same in each province. Examination consists of moisture level measurement, separation of foreign objects, testing for mixed rice plants and yield examination (as a percentage). These tests are purely on the physical aspects of the rice and there are no tests for residue or aroma. The tests are related to the direct purchase value and the mills will separate the rice into grades for ease of sale. For the most part, businesses studied during this research used similar testing techniques by using the eyes to look, the hands to feel and tools to assist. There is heavy reliance upon experience and traditional knowledge of the testers. This is particularly the case for the *Surin Organic Agricultural Cooperative* and *Sunkaochumchon Community Corporation Group, Ban Umsaeng*, who do not use any tools in the testing process. The *Rasipanit Sri Saket Rice Mill (2004)* use dyes to test their rice.

2) Recording Rice quality

Community businesses that process organic jasmine rice record details of the rice from the farm to the sale and keep samples of the harvested product. The rice bags are also kept and the records are clear and thorough. This means that the rice can be conveniently and accurately traced back to the farmer who planted it. For cooperatives that process general jasmine rice, quantities and important quality details are recorded.

3) Reducing moisture in rice

Reducing moisture in rice is an important issue for quality control management of jasmine rice. There are two methods of reduction that are used nowadays, which are sun-drying and machine-drying. Sun-drying is a traditional method carried out by spreading the rice in a courtyard (Figure 5). This procedure relies on the weather and there is no way of controlling the temperature or the moisture levels. If it rains, the rice could be ruined and there is a high chance of contamination. The advantage of sun-drying is the minimal cost incurred. Machine-drying enables the processors to effectively control the temperatures and the moisture levels. Rice that has been machine-dried is standardized and the yield is high. There is also minimal chance of contamination. The major disadvantage is the high operating cost because, for the most part, farms in the *Tung Kula Rong Hai* area have only one harvest and the machine dryers are therefore used just once a year. The manager of the *Rasipanit Sri Saket Rice Mill (2004)* (personal communication, 2013) explained that ‘the ovens are only used for two months at most each year. This makes the investment in a machine dryer worthless.’ In general, private rice mills use machine dryers to reduce moisture, while more traditional community businesses adopt sunning methods.



Figure 5. Sun-drying of rice in a courtyard

4) Maintenance of un-milled rice

The storage of un-milled rice is another important step of quality control in the processing of jasmine rice. There are many ways to store the rice, such as in a barn, in a silo or in a storehouse. Each method has positives and negatives. In a barn, there is good ventilation and the rice can be stored for a long time. However, the storage efficiency is low and it requires a lot of manpower. In a silo, the temperature and moisture levels can be controlled but they are expensive and can overheat and ruin the rice. In a storehouse, other tools or methods can

be used to help, such as sacks. Additionally, storage is orderly and allows for ventilation, while the rice can be placed on plastic or in boxes to protect against moisture and fans can be used to control the temperature. The companies will mostly prefer the storage methods that they are familiar with and have used before.

4.2.1.2 Problems

There are five problems with current quality control management:

- Because there are no agricultural business contracts, the general rice mills cannot conduct quality control before they purchase the rice.
- As the quality control testing is only done at the time of purchase, only physical tests may be conducted and chemical tests cannot be used.
- Few agriculturalists farm organically or according to GAP, which means that the majority of rice is not separated from that which comes from outside the *Tung Kula Rong Hai* area and its quality data is not easily traced. This is not appropriate for the geographic indicator of *Tung Kula Rong Hai* jasmine rice.
- As there is no planning for the timing of rice planting and rice harvests, the rice of each household is not at the same level of ripeness when gathered. Rice that is overripe will be brittle and processing yield will be low. Rice that is not yet ripe enough will become withered when the moisture is removed.
- Due to global warming, the climate is changing so that rains occasionally occur during the harvest season. This means that the processing mills are unable to fully reduce the excess moisture in the rice, which will become rancid and yellow.

4.2.2 Current Conditions and Problems with Jasmine Rice Processing

4.2.2.1 Current Conditions

Workers in each of the rice mills studied during this investigation were highly experienced. For the most part, they had learned their trade from their parents. The majority of private companies were family businesses that had passed their traditional knowledge through the generations. Even though they may now use modernized equipment, their procedures have never been internationally standardized. The large rice mills and cooperatives used modern international equipment and had brand-named tools, such as Satake and Buhler. Community businesses preferred domestic brand products.

The larger mills have more steps to rice processing than the smaller businesses, allowing for finer processing. The steps of large mills include cleaning, hulling the rice, separation of brown rice from husks, removal of grit (Figure 6), removal of rice bran, whitening, separation of weeds and broken milled rice, polishing, removal of the rice plant from the milled and polished rice and rice colour sorting. Ordinarily there are two stages of polishing but these are flexible. At the *Rasipanit Sri Saket Rice Mill (2004)* there are three whitening and three polishing steps; at *Fai Surin Rice Mill*, there are three whitening stages and two polishing stages; at the *Kasetwisai Agricultural Cooperative Rice Mill*, the rice is whitened twice and polished twice but this can be increased to three times and the whole process adapted to include extra cleaning of the milled rice, an additional grit removal stage, an additional stage for separation of weeds and broken milled rice, two additional stages for removal of the rice plant from the milled and polished rice and an additional stage for rice colour sorting. This thorough process will produce the highest grade of rice. For middle and small level community businesses, there will be fewer steps and less manpower required. In general, there will be no stage for polishing the rice, removal of grit or colour separation. However, some mills, such as *Surin Organic Agricultural Cooperative* have installed colour sorting machines (Figure 7). The middle and smaller sized mills do have access to high quality rice that can be controlled. The quality of the rice is also recorded from the location of the cultivation to the individual farmer, and this information is passed on to the customer. The larger mills will only produce general jasmine rice of both first and second grade, while the middle and smaller mills will process organic rice. These mills mostly produce second grade organic white and brown rice, although *Sunkaochumchon Community Corporation Group*, *Ban Umsaeng* produces organic brown germinated rice and organic rice flour.



Figure 6. A machine for removing grit from the rice



Figure 7. Rasipanit Sri Saket Rice Mill (2004) colour sorting machine

4.2.2.2 Problems

- Middle and smaller sized mills do not have complete tool sets, especially machinery for removing grit from the rice and colour sorters. This makes the rice dangerous and also means that black and yellow rice is able to pass through the system.
- As the rice is mostly sold to central traders operating out of Bangkok and to protect the budget, the rice does not meet the standards of ISO, GMP and HACCP. There is also no intention to produce rice that falls into line with the designated GI.
- There is a lack of final product variety, especially in larger mills that mainly produce milled rice. This results in a low value and low grade of rice. The mills have little power over price-setting and there is high competition, which often results in the lowering of prices. The mills operate at only about 5% profit, which means that they try to increase the business efficiency and reduce the rice processing costs.

4.3 A Model for Quality Control Management of Jasmine Rice and Its Processing for the Community Economy of Tung Kula Rong Hai

In order to solve the current problems and raise the level of jasmine rice business so that the community economy of *Tung Kula Rong Hai* will be stronger, it is necessary to create a model to manage the quality control of jasmine rice and its processing in *Tung Kula Rong Hai* based on traditional agricultural principles and incorporating modern developments.

4.3.1 Quality Control Management from Root to Harvest by Contractual Agriculture

Holding villages or sub-districts as agencies is to be achieved by forming contracts with community household farmers and maintaining a GAP model of rice cultivation (for private mills and large community cooperatives) and organic farming (for middle-sized and smaller businesses) according to GI standards for jasmine rice of *TungKula Rong Hai*, which requires detailed and thorough data that can be evaluated and traced back. There must also be control of factors and behaviours in the rice cultivation. Community businesses, especially those trading in organic jasmine rice, must establish contracts with farmers. This will clearly define the rights, benefits and roles of all parties. Techniques and experiences should be recommended to farmers, who should also receive assistance in sourcing organic plants and fertilizers. There must be thorough examination and quality control management of soil and cultivation practices and these should also be recorded and easily traced back. Aside from receiving income from the sale of their rice, the farmers should also be rewarded in bonuses from the community businesses. The farmers should overlap occupations as workers in the processing mills, so to reduce the problems of seasonal inactivity, increase individual income and alter the local infrastructure. A number of the local businesses are encouraging the farmers to plant organic vegetables such as *Sunkaochumchon Community Corporation Group, Ban Umsaeng*, who support the growth of organic soy beans after the rice season. This is a way of improving the quality of soil for the jasmine rice in the next season. Contract farming is an effective method for the cultivation of jasmine rice according to GAP and organic agricultural principles and will strengthen the community economy of the *Tung Kula Rong Hai* area.

4.3.2 Planning for Rice Cultivation, Harvesting and Reduction of Moisture by the Method of Machine-drying

It is necessary for private and community mills to plan rice cultivation and harvesting with farmers who have plots of land adjacent to one another. The local community or village is responsible for harvesting the rice in time, according to the ripeness of the plant. Given the increased likelihood of unseasonal rains ruining the rice crop, the processing mills should create or move to a purpose-built drying store to increase the yield of the rice crop. This is an important stage of processing that will increase the value and quality of the rice.

4.3.3 Focus on the Completion of All Stages of Rice Processing

In general, the machinery of the large rice mills in the *Tung Kula Rong Hai* area is at a good level and there are appropriate steps to ensure that rice is of a high standard. There is also good protection against grit and metal. For middle and smaller-sized mills, it is necessary for them to invest in machinery to remove grit from the rice and sort rice colours. The traditional method of yard-drying used in the community businesses leads to an increased risk of grit in the rice, which could affect the safety of the final jasmine rice product. A colour sorter would help remove the black, yellow and glutinous rice from the final batch, which would increase the standard of the rice.

4.3.4 Emphasis on Management according to International Standards and the Geographical Indicator (GI)

It is necessary for cultivation and processing to be carried out according to international standards in order to create confidence in the safety and cleanliness of the product. For this to be achieved, production must follow good manufacturing practice (GMP) and employ a system of hazard analysis and critical control points (HACCP). Additionally, general mills should register and conduct business in line with the GI of *Tung Kula Rong Hai* to increase the value of their product.

4.3.5 Emphasis on Product Variety to Increase Product Value and Employment Opportunities

Jasmine rice can be processed to create a variety of products and almost nothing of the original plant needs to be wasted. Germinated brown rice contains amino acids, vitamins and metallic elements that can help the nervous system, digestive system, stress levels and sleep patterns. Germinated brown rice is twice as expensive as milled jasmine rice. The shoots sell for 80 baht per kilogram while the milled rice sells for 40 baht per kilogram. The price reflects the increased number of steps required for germinated brown rice processing. The development of this side of the industry is a way to increase employment. Aside from this, rice bran oil is also very expensive at 1000 baht per kilogram. 100 kilograms of rice bran can produce six kilograms of oil. The high vitamin content makes the oil suitable for cosmetics. The development of these extra products will increase the value of rice cultivation, increase employment and benefit the local economy of *Tung Kula Rong Hai*.

5. Conclusion

Geographical and natural assets allow *Tung Kula Rong Hai* to produce the highest quality jasmine rice in Thailand, which is the predominant source of income for the area. To develop the community economy, it is necessary to raise the level of product value and employment so that rice processing standards match the quality of the rice. This will help create further employment opportunities. Quality control management of jasmine rice

must be conducted from the first stages of planting and thorough details of quality control data must be traceable back to every stage of cultivation and processing. This makes it increasingly necessary to adopt principles of contract farming, GAP and organic agriculture. All procedures must be in accordance with the geographical indicator of Tung Kula Rong Hai jasmine rice. With regards rice processing, all processing steps must be followed and product variety must be increased. The processing of jasmine rice must be in accordance with international standards and the GI. If this model is implemented, the traditional knowledge of the *Tung Kula Rong Hai* jasmine rice industry will have a higher value, strengthen the local economy and enable the products to compete domestically and abroad.

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A Synthesis of Traditional Knowledge Used in the Construction and Restoration of Thai Buddhist *Ubosot* in Bangkok and Its Surrounding Provinces

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Abstract

This qualitative investigation synthesises the use of traditional knowledge in the architecture of Thai Buddhist temples. The focus of this paper is on the main worship hall of the temple, the *ubosot*. The research was carried out between August 2010 and March 2013 using data collection tools of interview, observation, focus group discussion and workshop. The findings show that current restoration projects neglect traditional knowledge of *ubosot* construction in favour of more modern techniques. Six problems with traditional knowledge in this field were identified: lack of inheritance, insufficient funds, poor budget management, skilled labour shortages, lack of historical records and no standardisation. This paper synthesises traditional knowledge of *ubosot* construction and outlines five steps for the successful application of traditional knowledge in the creation and restoration of *ubosot*: a) planning; b) creation and restoration using traditional methods and processes; c) evaluation of construction and restoration; d) correction and improvement; e) recording of results for use as a future guide and model. These results can be used as a model for future restoration projects in Bangkok and beyond.

Keywords: traditional knowledge; Thai architecture, *ubosot*, restoration, Thai temples

1. Introduction

Thai traditional knowledge is a valuable heritage that originates from ancestral exploitation of the surrounding environment to enhance everyday life. The role of traditional knowledge in modern Thai society is under threat from modernization and must be conserved for future generations to benefit from and enjoy (Jaroenrot, 2000). The Thai government has emphasized the importance of Thai traditional knowledge since the first economic development plan in 1961 but the urgency of active inheritance has become increasingly apparent in the last decade (Tangsaku, 2004).

A Thai Buddhist temple comprises a number of structures, the most important of which is the worship hall, or *ubosot* (Jiratanakul, 2000). The *ubosot* is vital for maintaining the code of monastic discipline and the Buddhist beliefs of locals. It is still popular for community members to practice their faith in the *ubosot* on a weekly basis. For the most part, *ubosot* in Bangkok and its surrounding provinces are very similar and the only differences are in scale. This scale is determined by the number of resident monks who perform services, in turn affected by the amount of Buddhist idols housed within the temple.

Currently, the *ubosot* of Bangkok are in bad condition and are not adequately maintained by the government. There is a lack of community participation in restoration projects and the traditional knowledge used in the creation of the structures is being consigned to history. This knowledge is vital to successful and accurate restoration of the *ubosot*, yet has not been inherited in the community. Despite its importance, there has also been very little formal academic research on the traditional structure of the *ubosot* (Tongjiao, 2002). Given these problems, the research team began this investigation to examine the traditional knowledge used in restoration of Buddhist *ubosot* in Bangkok.

2. Methodology

This qualitative investigation was conducted between August 2010 and March 2013. The research had three aims: to detail the extent of traditional knowledge used in current restoration projects, to outline the problems with using

traditional knowledge in restoration and to synthesise the traditional knowledge used in creation of a Buddhist *ubosot*. The principal features of the *ubosot* that were considered during this investigation were the foundations, the main building and the roof. Data was collected from document study and field research. Tools used for the collection of data were: structured and non-structured interview, participant and non-participant observation, focus group discussion in groups of six to ten people and a workshop. There were four criteria for selection of the research area for this study. Firstly, the area must have a current or recently finished *ubosot* restoration project. Secondly, traditional knowledge must have been used during the restoration. Thirdly, the *ubosot* must be part of a public (not royal) temple. Finally, the temple must have been continually used for worship by local residents for over fifty years. After applying these four criteria, six temples were purposively selected for study:

- *Wat Luang Paw Opasee*, *Bang Mot* Sub-district, *Thung Khru* District, Bangkok
- *Wat Chomnimit*, *Bang Khru* Sub-district, *Phra Pradaeng* District, *Samut Prakan* Province
- *Wat Sahakorn Kositaram*, *Khok Kam* Sub-district, *Mueang* District, *Samut Sakhon* Province
- *Wat Kiertipradit*, *Bang Pakok* Sub-district, *Rat Burana* District, Bangkok
- *Wat Krunai*, *Bang Khru* Sub-district, *Phra Pradaeng* District, *Samut Prakan* Province
- *Wat Bang Krajow*, *Bang Krajow* Sub-district, *Mueang* District, *Samut Sakhon* Province

The research population included citizens in the fifty districts of Bangkok and the five surrounding provinces of *Nakhon Pathom*, *Samut Sakhon*, *Samut Prakan*, *Pathum Thani* and *Nonthaburi*. The purposive research sample of 110 individuals was divided into three groups: 15 key informants, 45 casual informants and 50 general informants.

Data was gathered and recorded according to the three aims of the research. All collected data was verified using a methodological triangulation technique (Chantachon, 2006). If there were any discrepancies found, further data was collected. Traditional knowledge used in the creation and restoration of the structures was analysed according to the part of the *ubosot*: foundation, building and roof. This data was then used to create a synthesis of traditional knowledge used in the creation of Thai Buddhist *ubosot*. Problems with the application of traditional knowledge were analysed separately and individually. The research results were presented at a workshop on Friday 8th June 2012 held at *Wat Kiertipradit*, *Bang Pakok* Sub-district, *Rat Burana* District, Bangkok. The findings of the research are here presented as a descriptive analysis.

3. Results

3.1 The Application of Traditional Knowledge in the Creation of *Ubosot*

The creation of the *ubosot* at *Wat Luang Paw Opasee* applied traditional knowledge in *Garuda*-patterned stucco on temple boundary markers, gables, pillars and archways. The *ubosot* is ornamented inside and outside with decorative screens (Figure 1). There are four interlocking gables at the front and back of the *ubosot* (Figure 2). The ceiling has been drilled above the principal Buddha image of the temple to attach four corner orb lights with a large drooping chandelier in the centre. The ceiling in the middle of the *ubosot* is similarly drilled but with two orb-lights outside three chandeliers. Throughout the temple are historical Buddhist drawings. The symbol of *Wat Luang Paw Opasee* is the large Thai letter (equivalent to O and representing ‘*Opasee*’) on the roof and represented in the architecture around the *ubosot*; ‘whoever sees it knows they are at *Wat Luang Paw Opasee*’ (Phrakhru Sutiyanopat, 2012, interview). ‘Modern studies have been used to adapt the architecture and make the temple stronger, such as by driving in pillar piles by using a crane rather than by hand’ (Chaloempon Meesilarat, interview, 2012).



Figure 1. Decorative screens within the *ubosot* at *Wat Luang Paw Opasee*



Figure 2. Gables on the *ubosot* at *Wat Luang Paw Opasee*

The structure of *Wat Chomnimit* has been adapted to modern society by including three levels. The first level is used to park vehicles, the second level is used as multipurpose space and the third level is the *ubosot* proper. ‘Although the construction of three levels is still just one building, it allows three uses for the temple’ (Phrakhrū Sukom Seenkun, 2011, Interview). The roof is a pointed spire *chedi* and is filled with Buddha relics. There are four gables at each of the front corners of the *ubosot*. There are fire escape stairways from each level of the temple. The roof structure and handrails are all made from stainless steel (Figure 3). ‘The creation and design depends on the needs of the temple. Appropriate use and benefit of space should be determined by the government to ensure strength and beauty’ (Angsumalin Jutajindaket, 2012, Interview).



Figure 3. Stainless steel handrails on the fire escape stairways

Traditional knowledge was used in the creation of *Wat Sahakorn Kositaram* to create stairs from the earth. The stairs provide access to the *ubosot* and are 5.6 metres wide, the same width as the front and back of the *ubosot*. There are *chaw fa*, *bairaka* and *hang hong* (elaborately curved roof decorations) on the roof. These decorations are designed and created by local artisans using block or mosaic mirrors (Figure 4). There are three layers of roof because the *ubosot* is 33 metres long. The temple was made so long because there are ‘many monks and even more family members who come to worship within’ (Phrakhrū Sakorn Thammakosit, 2012, interview).



Figure 4. Local artisans creating roof decorations

Traditional knowledge was used to merge the old and new foundations of *Wat Kiertipradit*. Bricks have been used to link the old and new walls (Figure 5). *Bali* decorations have been used on the roof and a Naga head has been used instead of a *chaw fa* and *hang hong*. These changes 'have increased the beauty and image of the temple' (Phra Attikarnsutee Suntaro, 2012, interview). The temple interior has been restored by local artisans (Figure 6).



Figure 5. Merger of the old and new temple walls



Figure 6. Temple restoration by local artisans

The *ubosot* of *Wat Krunai* is decorated with ceramic tiles on the walls and ceiling rather than paint. Paint is reserved for the doors, windows and their frames, both inside and out. Lighting has been fitted inside the *ubosot* (Figure 7).



Figure 7. The interior decoration of *Wat Krunai*

Traditional knowledge has been applied to renovate the roof of *Wat Bang Krajow* so that the materials used are as similar to the original as possible. Local artisans were used to replicate the original wooden *chaw fa*, *bairaka* and *hang hong*. New coloured mirrors and paint were used to decorate the interior and exterior, while the eight *sema* stones and front and back porch pillars were each painted. ‘The temple is hundreds of years old and very dilapidated. However, we must renovate the areas that the monks use most first’ (Phrakhru Baitikasutin Sutunno, 2012, interview).

There are six problems with application of traditional knowledge in the creation and restoration of *ubosot* in Bangkok:

- There is no transmission of traditional building knowledge from one generation to the next.
- There are no standards for the construction of *ubosot*. Temple management employs external contractors to take full responsibility for construction and restoration, which reduces expression of the local community in the *ubosot* structure.
- There is a shortage of skilled labourers with experience in construction and renovation of *ubosot*.
- Budgets are managed incorrectly, causing construction and renovation projects to be delayed and abandoned.
- Historical records of *ubosot* creation and renovation are incomplete.
- There are insufficient funds to continuously repair and renovate *ubosot*.

3.2 A Synthesis of Traditional Knowledge Used in *Ubosot* Creation and Restoration

Traditionally, *ubosot* are single-level structures with high foundations. The weight of the building is supported by the pillars, beams and walls. Corbels are used to help support the roof. The *ubosot* faces east and usually has a three-tiered roof with four breaks. In the final break, an eaves jut out to meet the supporting porch pillars. The porch extends around the entire *ubosot* and it is possible to walk around the building on the porch. The gable ends are decorated with *chaw fa*, *bairaka* and *hang hong*. The door and window frames are traditionally decorated with stucco in a *monthop* style. There are two doors at the front entrance to the *ubosot* and two at the rear. There are five windows in *monthop* style on each side of the *ubosot*, placed between the pillars. Within the *ubosot* is a lobby with a replica image of Phra Buddha Chinnarat and various historical Buddhist paintings and murals. Outside the *ubosot* is a *kampaeng kaew* or ‘mirror wall’ and *sema* stones at each of the eight compass points to define the *ubosot* area. There are five steps for the successful application of traditional knowledge in the creation and restoration of *ubosot*: a) planning; b) creation and restoration using traditional methods and processes; c) evaluation of construction and restoration; d) correction and improvement; e) recording of results for use as a future guide and model.

4. Discussion

Apichai Pantasen argued that community culture is an expression of ancestral belief that has been inherited from generation to generation (Pantasen, 1998). The temple is the most important structure of that expression, in particular the *ked putthawat* or holy area of which the *ubosot* is a component (Jiramanee, 1981). If the temple management hire external constructors to complete renovations to the *ubosot*, the local culture will not be retained and external influences will be visible in the architecture, as consistent with the cultural diffusion theory

of Franz Boas (Boas, 1891). Indeed, local communities benefit most from a specifically designed local culture (Yodmanee, 1994). Therefore, in order to successfully restore *ubosot* in Bangkok, a basic concept of traditional knowledge is necessary.

Six problems were found with the application of traditional knowledge in the construction and restoration of *ubosot*. These six problems are all influenced by five primary factors. Firstly, the funding is limited by community and government donations. Secondly, material quality is limited by the budget. Thirdly, many companies employ migrant labourers, who have little understanding and experience of the Thai *ubosot*. Fourthly, labour costs must be paid up front and are limited by the budget. Finally, waste and debris from reconstruction is not managed correctly and affects the surrounding temple area and the local community. It is clear that there are not enough structures in place to manage the restoration programs and their relationship with the community (Radcliffe-Brown, 1940). The particular structure that would help the success of conservation projects is a plan or model, which this research aims to provide. Julian Steward identified the need for culture to adapt to its surroundings and this is something that temples must do to preserve the application of traditional knowledge in *ubosot* restoration (Steward, 1990).

The following suggestions can be made for future application of traditional knowledge in the restoration and construction of *ubosot* in Bangkok and its surrounding provinces:

- Government ministries and local institutions, especially the ministry of culture and the office of national Buddhism, should support and supplement temple restoration budgets.
- A local curriculum should be designed to incorporate traditional knowledge of *ubosot* construction. This curriculum should then be implemented by local municipalities to educate the community in correct restoration practices.
- Abbots wishing to construct or restore *ubosot* must consider the problems identified by this investigation.
- The results of this investigation should be presented to building contractors so that they are made aware of the specifics when constructing or restoring *ubosot* and the potential problems.
- Temples must introduce a system for storing and maintaining historical records, including details related to the construction and restoration of *ubosot*.

5. Conclusion

This is a unique synthesis of traditional knowledge used in the construction and restoration of Thai Buddhist *ubosot*. The significance of this study lies in its rarity. At present there is little emphasis placed on the traditional practices related to the *ubosot* during restoration. This has led to six problems with *ubosot* renovation. By using this research as a foundation, temple management committees may successfully integrate traditional Thai architectural knowledge in their reconstruction projects and ensure that Thai temples continue to reflect the essence of the local community for the foreseeable future.

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Development of Lifestyle Following Occupational Success as a *Mor Lam* Artist

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Abstract

Mor Lam is a folk performing art that originates from traditions in the locality and customs of religion. There are some current problems with *Mor Lam*, especially in the face of globalization. *Mor Lam* suffers as traditional beliefs and values decrease. Society is rapidly changing and the role of the mass media has increased. Newer media provide knowledge and entertainment in ways that make it impossible for *Mor Lam* to compete. This research used a cultural qualitative research method and had three main aims: to study the history of *Mor Lam* artists, to study the present conditions and lifestyle of successful *Mor Lam* performers and to develop the lifestyle of successful *Mor Lam* performers. The research was carried out from July 2011 to October 2012. Data was collected through field notes, structured and non-structured interviews, participant and non-participant observation and focus group discussion. The results show that *Mor Lam* is a performance style that has been very popular in the Isan region. It has a long history and is closely associated with the religious beliefs, values and way of life of Isan people. The way of life of *Mor Lam* artists depends on internal and external factors. Internal factors are chance and perseverance. Most *Mor Lam* artists lack education in the standard system and depend on the status of their family. In the past Isan society was poor. Farming and agriculture was the chief occupation, which relied heavily on nature. People had difficulty transporting to the city to study, so most *Mor Lam* artists like practiced their art as a way of being heard and seen. A *Mor Lam* artist must be intelligent, dedicated and self-confident with high levels of creativity. External factors are technology, family status and social beliefs. From interviews and discussion, lifestyle must be developed to focus on health, education, mind, morals, readiness to live in society, occupational skill and benefits.

Keywords: *Mor Lam*, history, artist, lifestyle, development

1. Introduction

Mor Lam is a folk performing art that originates from traditions in the locality and customs of religion. In original social conditions, *Mor Lam* artists were regarded as philosophers of society who inherited and transferred local wisdom, including traditions and way of life. This was the identity of Northeastern Thai (Isan) entertainment (Jantabut & Jantalua, 2004). The role of *Mor Lam* performance is to give knowledge and provide entertainment, as well as recording the behavior of people in society. It is a way to inherit traditions and beliefs related to Isan people. The exact origin of *Mor Lam* performance is unclear (Thongsuk, 2004).

In the past, many developments have affected *Mor Lam*. Politicians previously hired *Mor Lam* performers for their political campaigns because *Mor Lam* performers are close to the people. Additionally, people like to listen to news from poems, which are easy to understand and entertaining. So, *Mor Lam* had a significant role as a function of mass communication, particularly before the advent of television, radio and the internet (Boonprasert, 2009). *Mor Lam* is a medium for transferring social behaviors of Isan people. In addition, *Mor Lam* has been used to spread messages of public relations, administration, public health, national energy, agriculture, irrigation and education (Buengesai, 1990).

Mor Lam performers are people who combine folk dancing performances with Kaen singing. There are various melodies to accompany the valuable poetry of philosophy, religion, traditions, history, geography and literature. Important social events are summarized and composed as *Mor Lam* performances. *Mor Lam* performers are now

trained in performing arts at various places, including school. Famous national artists are important people in the promotion and conservation of traditional Isan society.

There are some current problems with *Mor Lam*, especially in the face of globalization. *Mor Lam* suffers as traditional beliefs and values decrease (Nesusin, 2007). Society is rapidly changing and the role of the mass media has increased. Newer media provide knowledge and entertainment in ways that make it impossible for *Mor Lam* to compete. Although there are many Isan *Mor Lam* performers who have tried to adapt to modern changes and have become wealthy as a result, many *Mor Lam* groups have had to cancel performances and stop business. These performers suffer in finance, education and family life. This research was thus designed to identify ways to develop lifestyle of performers following occupational success as a *Mor Lam* Artist.

2. Research Methodology

This research used a cultural qualitative research method and had three main aims: to study the history of *Mor Lam* artists, to study the present conditions and lifestyle of successful *Mor Lam* performers and to develop the lifestyle of successful *Mor Lam* performers. The research was carried out from July 2011 to October 2012. A purposive sampling technique was used to identify a total of 100 randomized samples, including 35 key informants, 10 casual informants and 55 general informants. The samples included popular *Mor Lam* artists in five provinces of Khon Kaen, Udon Thani, Ubon Ratchathani, Mahasarakham and Roi Et. Data was collected through field notes, structured and non-structured interviews, participant and non-participant observation and focus group discussion. In addition, data reliability and validation tests were conducted using a triangulation method. This research used analytic induction and typological analysis techniques. The results are presented below as a descriptive analysis.

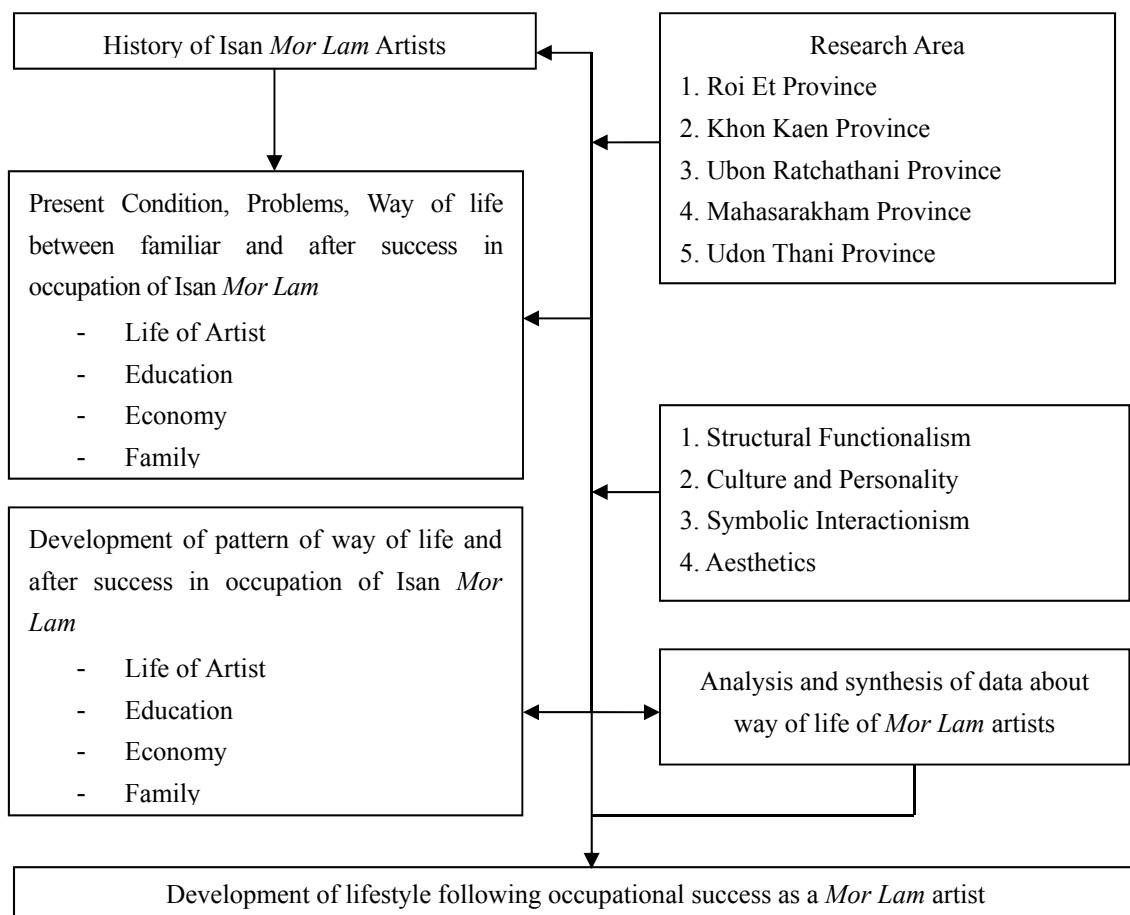


Figure 1. Conceptual research framework

3. Results

Mor Lam is the most important folk entertainment of Isan people, which occurred from reenactments of *Karn Wao Phaya*, *Karn Soot Khwan* and *Karn Ted*. It is also associated with the Isan poem *Phaya*, which can be classified into two types: *Phaya Kiao*, an interactive method of flirtation between young men and young women and *Phaya Supasit*, a method of instruction from elders to the young. There are many variations of *Mor Lam*, including *Lam Puen*, *Lam Klom Tammada*, *Lam Ching Chu*, *Lam Kae Joth* and *Lam Zing*

Isan society, both past and present, holds ceremonies throughout the year. Each festival takes 1-3 days. While activities are underway, there will be celebrations and amusements, which incorporate *Mor Lam* performance. In addition, this traditional performance is related to weddings, ordinations and making merit. Isan people respect Buddhism but also believe in spirits. *Mor Lam* is used as a medium to connect with spirits. So, *Mor Lam* is both secular and religious

Ten active and successful *Mor Lam* artists were interviewed as part of this investigation and their present lifestyle and problems faced are detailed below:

Mor Lam Ken Dalao is a national artist who is employed for 20-30 events per year. Each event brings him 30,000 – 40,000 baht. As he has so many offers of employments, he is able to provide his apprentices with a stage to develop experience and earn a share of the payment. *Mor Lam* Ken Dalao has had a successful career and retains a good standard of living and a love for his occupation.

Mor Lam Ratee Sriwilai has always been associated with *Mor Lam Klom* circles because her family was *Mor Lam* artists. *Mor Lam* Ratee Sriwilai studied the *Mor Lam Klom* performances and compositions of her father and brother. She learned the process and method of poem composition. *Mor Lam* Ratee Sriwilai has had her own *Mor Lam* business since 1976 and accepts both male and female apprentices.

Mor Lam Thongjarern Dalao became interested in *Mor Lam* because two important teachers: his Khong Dalao and his uncle *Mor Lam* Ken Dalao. *Mor Lam* Thongjarern Dalao learned the basic techniques and principles from his uncle and modernized the style to create his own personal identity. As a result, *Mor Lam* Thongjarern Dalao became popular and recognized for his own ability throughout Isan. His success and heritage makes *Mor Lam* Thongjarern Dalao proud to be a *Mor Lam* artist.

Mor Lam Boonchueng Denduang was educated in *Mor Lam* from grade four. She had a gift for singing and was introduced to performing by her sister, Thongkum. Later Boonchueng became the main actress of *Mor Lam Plern* or the *Mor Lam Moo Kana Po Rungsil* group of Thongmee Malai. This was the most famous *Mor Lam Plern* group of the time. Later, she became interest in *Mor Lam Klom* and practices with *Mor Lam* Ken Dalao. She joined the *Lam Klom* performances of *Mor Lam* Ken Dalao and continues to perform *Mor Lam Plern*.

Mor Lam Chaweewan Damnern is a much-respected senior artist, who has been honored as a Thai National Artist and visiting professor at several universities. *Mor Lam* Po Chalardnoi Songserm is a Thai National Artist for *Mor Lam*. He is the folk artist and visiting professor at several universities. *Mor Lam* Paiboon Siangthong developed his own *Mor Lam* experience until he was skilful and understood the characters of *Mor Lam* compositions. Now he teaches his apprentices to perform. *Mor Lam* Buaphan Daokanong still holds his *Mor Lam Klom* career and transfers his knowledge to many young apprentices. *Mor Lam* Ranjuen Duengden is a *Mor Lam* artist devoted society and still holds the title of *Mor Lam*. *Mor Lam* Krissana Boonsan is a famous, self-taught *Mor Lam* artist. The results show that *Mor Lam* artists devote themselves to society, education, economy and family.

A model for *Mor Lam* artist quality of life development consists of creating an atmosphere for *Mor Lam* artists to receive satisfaction to perform. This includes improvement of an artist network to ensure that payment is fair knowledge and skill are continually developed and appropriate work characteristics are instilled. *Mor Lam* artists should be promoted to enable prosperity, stability and social integration. There should be a policy to promote equilibrium of life directed at *Mor Lam* artists. If the individual *Mor Lam* artist has a good and fulfilling life, their state of mind and emotions will be positive, affecting the success of their work, respect, professional growth and future opportunities. A network of folk artists is beneficial in organization the folk performance community and transferring and inheriting wisdom efficiently. There should be: 1) transfer of learning through practice; 2) close relationships between communicant and descendant; 3) a process of transmission, integrating both the content and spiritual aspects of the performances. The operation of a folk artist network should be structured as follows: 1) plan/project; 2) define roles of personnel or institutes; 3) develop patterns of activities; 4) connect to further organizations and networks.

Mor Lam performing arts propagation appropriate for the present day can be achieved by many methods with

thorough preparation of media sources. A *Mor Lam Klon* contest is one method that stimulates *Mor Lam* circles to be active in the restoration of precious knowledge. However, they should consider the judges, evaluation, operation, publicity and use of technology. Convenient advertising can be done in many ways, including publication of a database on the internet and video recordings. These must be filtered by musical academics.

4. Discussion

Mor Lam is a performance style that has been very popular in the Isan region. It has a long history and is closely associated with the religious beliefs, values and way of life of Isan people (Table 1).

Table 1. Development and kinds of *Mor Lam*

<i>Mor Lam</i>		<i>Mor Lam Drama</i>	
Kinds of <i>Mor Lam</i>	<i>Mor Lam</i> content	Kinds of <i>Mor Lam</i>	<i>Mor Lam</i> content
<i>Mor Lam Kae Joth</i>	<i>Mor Lam</i> with debating focus on philosophy and Buddhist	<i>Mor Lam Puen</i>	<i>Klon Lam</i> focus on story, Single <i>Mor Lam</i> Portray all characters
<i>Mor Lam Koo or Mor Lam Klon</i>	<i>Mor Lam</i> debating between men or focus on secular and religious cases	<i>Mor Lam Moo</i>	First content
<i>Mor Lam Chingchu</i>	<i>Mor Lam</i> about self-benefit 2 men and 1 woman, one	1. <i>Lam Plern</i> melody	Present story compose story like story in television, show singing and dancing and stage with stereo.
<i>Mor Lam Sam Kler</i>	have <i>Klon Keoi</i>	2. Ubon melody	
<i>Mor Lam Klon or Mor Lam Zing</i>	Have <i>Klon</i> of secular and religious cases There are <i>Kaen</i> and international musical instrument.	3. <i>Khon Kaen</i> melody	
		4. Kalasin melody	
		5. Sarakham melody	
		(2-5 items, nowadays called <i>Mor Lam Tor Klon</i>)	

In summary, *Mor Lam* is Isan folk singing showcasing Tai-Lao culture. The important musical instrument is the *Kaen*, which is the original sound of *Mor Lam*. One of role is entertainment, while another is the representation of news and social events. *Mor Lam* can be classified into two types: drama and not drama. As for *Mor Lam* artists, the researchers found that many *Mor Lam* artists chose the occupation by imitating close relatives, remember the melodies and postures, then studying until they has enough skill before developing their own identity. The way of life of *Mor Lam* artists depends on internal and external factors. Internal factors are chance and perseverance. Most *Mor Lam* artists lack education in the standard system and depend on the status of their family. In the past Isan society was poor. Farming and agriculture was the chief occupation, which relied heavily on nature. People had difficulty transporting to the city to study, so most *Mor Lam* artists like practiced their art as a way of being heard and seen. A *Mor Lam* artist must be intelligent, dedicated and self-confident with high levels of creativity. External factors are technology, family status and social beliefs. From interviews and discussion, lifestyle must be developed to focus on health, education, mind, morals, readiness to live in society, occupational skill and benefits (Figure 2; Figure 3).

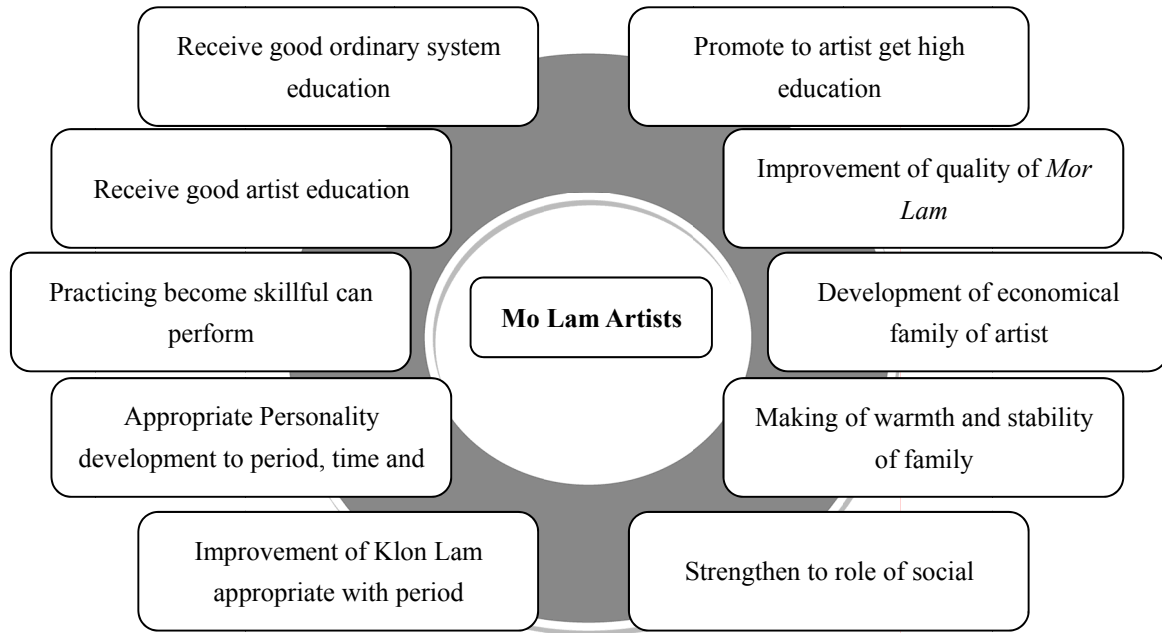


Figure 2. Chart of quality of life of *Mor Lam* artists

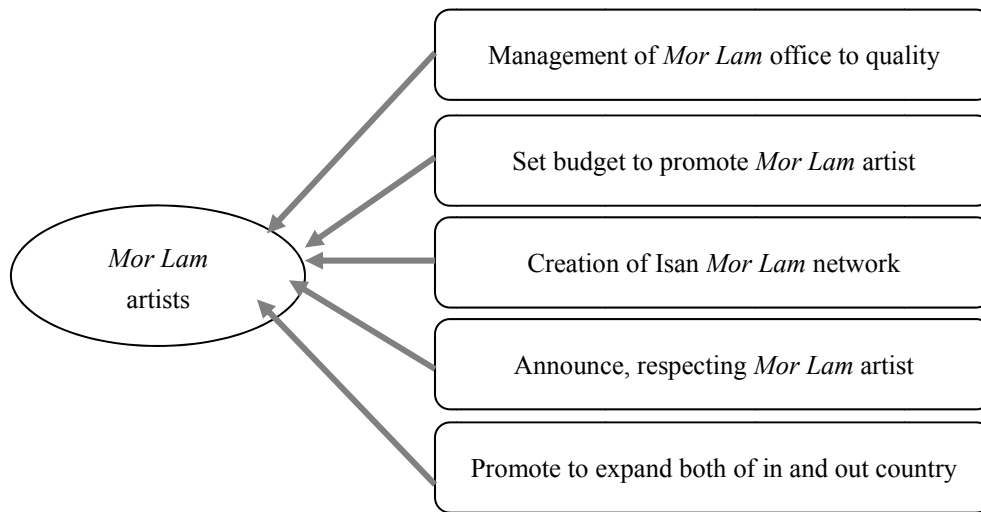


Figure 3. Chart of promotion and development of *Mor Lam* artists

5. Discussion

Jaruwan Tammawat (1985) studied about Isan folk songs under the topic ‘Role of *Mor Lam* in Isan society’. It was summarized that *Mor Lam* was a popular Isan folk song that had a role in every period of Isan communities. There were 2 important roles for *Mor Lam*, rites and amusement. *Mor Lam* Phee Pha had a direct role in releasing social stress, controlling behavior in accordance with norms and creating a unified group to live together and respect Phee Pha. It promoted folk songs and recreation and had a role in reducing the gap between old and new ways of life. This corresponds to the research of Sangiam Buengsaï (1990), who studied the role of *Mor Lam* as a function of local leaders. *Mor Lam* was found to be a connector between the government and the people. *Mor Lam* has a political role in communicating with many sectors of the government, including public relations, education, administration, public health, national energy, agriculture and irrigation. Wanpen Sangpan (2002) studied factors of success of *Mor Lam* artists and found many factors for success, such as art morality, performance and social behavior. Indicators of successful *Mor Lam* artists are occupational progression, social

respect and family happiness. *Mor Lam* has changed with popular currents, adapted, changed its goals, been integrated and maintained its customs to fight for a place in modern society.

6. Suggestions

6.1 Practical Suggestions

- A database of *Klon Lam* literature must be compiled to benefit academics.
- Biographies of *Mor Lam* artists should be publicized.
- Government institutions and the private sector should promote *Mor Lam* performing arts.
- *Mor Lam* performing arts should be specified in primary, secondary and higher education curriculums.
- A network of *Mor Lam* performing artists should be created.

6.2 Suggestions for Further Research

- Further research should consider:
- Ways to promote *Mor Lam* organization and networks.
- Promoting the role of *Mor Lam* in public relations.
- Literature, poem, politics, philosophy of religion and history in *Mor Lam*.

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The Art of *Khon Lakhon* Costumes

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Abstract

This qualitative research aims to explain the steps for putting on traditional *Khon Lakhon* performance costumes and to make suggestions that will minimise the negative effect of these steps on costume fabric. Data was collected by document study, photographic analysis, interview and focus group discussion with national artists, designers and experts in traditional Thai theatrical costumes. The results show that there are four multi-step procedures for donning *Khon Lakhon* costume depending on the role of the performer, hero, heroine, ogre and monkey. The traditional methods used to apply the costumes have an effect on the durability of the fabric, particularly temporary stitching, which causes the fabric to deteriorate through excessive wear. If the embroidery methods are slightly altered and traditional storage practices are followed, the costumes will last longer.

Keywords: traditional embroidery, storage, traditional dress, theatrical costumes, performance art

1. Introduction

Khon Lakhon costumes are used in the traditional performances of Thailand and have been developed from the morals, beliefs and values of Thai people as part of the Thai identity (The National Identity Office, 2000). The costumes are created to be suitable for the performance and according to the imagination of the designer (Jantawit, 1978). The costumes are designed to be beautiful in the eyes of the Thai people. The *Khon Lakhon* costumes are one form of traditional creative art (Yupo, 1951). There are three types of *Khon* costume, which are *Siraporn* (head accessories), *Patraporn* (clothing) and *Tanimpimpaporn* (worn accessories).

After World War Two, the materials used to create *Khon Lakhon* costumes became increasingly difficult to find and more expensive because they were imported from abroad (Kurowat, 1997). The number of traditional skilled costume artists and budgets also decreased, so new, large patterns had to be created for ease and speed of creation (Bagnam, 2007). At this time, the costumes used during the reign of Rama VI (1910-1925) became the standard for costumes created at educational institutes. The resources came from Europe and India, including the characteristics of embroidery and the dress used in the real lives of the royalty (Chaengchaya, 1990). The largest modern producer of raw materials for the *Khon Lakhon* costumes is Surat in India. However, there is a similar relationship between the costumes from Europe, India and Thailand in terms of materials, styles and embroidery.

One thing that made the costumes suffer in the past was the popularity of hiring contractors for their creation. The contractors that offered work at the cheapest prices were hired but this meant that they were unskilled and had little knowledge in the creation of costumes. The costume designers would also only create in styles that they had previously seen and had little or no understanding in the styles of the ancient past. These factors caused the diminishing beauty of the *Khon Lakhon* costumes. Now, there remain only two or three traditional embroidery techniques used in the creation of costumes and it is extremely disappointing that in 2007 maintenance of the National Theatre led to the disposal of many deteriorated costumes, including some that dated back to the start of the Rattanakosin period in 1782. These precious costumes have been sold or thrown away, causing the traditional art culture of Thailand to be thrown away with them.

The creation of *Khon Lakhon* clothing is a work of art but so is putting the costumes on. Costume artists and performers must dedicate their intelligence, time, effort and money to the creation process. The traditional methods are still used for putting the *Khon Lakhon* costumes on but these have an effect on the durability of the fabrics used (Thepsiri, 1996). For this reason, the researchers saw the need to study traditional knowledge in

wearing and storing *Khon Lakhon* costumes as a way to maintain fine art, handicraft and *Khon Lakhon* performance. This also supports the work of Her Majesty Queen Sirikit in promoting the beauty of past *Khon Lakhon* costumes as a national treasure of Thailand.

2. Methodology

The two aims of this paper are to explain the steps for putting on traditional *Khon Lakhon* performance costumes and to make suggestions that will minimise the negative effect of these steps on costume fabric. The research population consisted of three groups: key informants, casual informants and general informants. The key informant group consisted of people who study information and knowledge of fine arts, fabric, clothing and *Khon Lakhon* costumes, including national artists, designers and experts. These people were Jakapan Posyakit, Suwane Chalankoh, Weeratam Drakun-Ngeunthai, Peeramon Chomtawat, Orrapin Isarangkun Na Ayutthaya, Somsak Tadi and Sudsakon Chaisen. The casual informants were the people who directly created costumes, such as contractors, embroiderers, independent artists who embroidered fine art and performers who wore the *Khon Lakhon* costumes. The general informants were people related to the *Khon Lakhon* performances, such as audiences, students, institutes and government departments.

This was a qualitative research. Information was gathered by document study of basic principles and research related to the investigation. The researchers then examined costumes throughout the ages of *Khon Lakhon* performance and took photographs in order to compare them in terms of size, patterns, material, method of creation and embroidery in order to see the development of costume characteristics. Next, the researchers conducted structured and non-structured interviews with experts of *Khon Lakhon* and classical dance. The researchers observed the creation process of costumes in different places and the use of costumes by performers. Finally, the researchers conducted a focus-group discussion.

Data was analyzed from documents, photographs and materials and categorized as follows: historical background of *Khon Lakhon* costume creations, fine arts embroidery in Europe and Asia, pattern design theories, related fine arts work, size, standards, beauty, patterns, method and materials. Related information from the interviews was sorted into topics. Information from the focus group discussion was divided into suggestions, perspectives and concepts and related information was analyzed. Information from the observation was categorized in groups by method of creation, pattern design, and material, method of embroidery, combination and use. The results of the study are here presented as a descriptive analysis.

3. Results & discussion

The traditional costumes of *Khon Lakhon* are hero, heroine, ogre and monkey and they each have different characteristics. The two groups of clothing are male (hero, ogre and monkey) and female (heroine). The male costumes are similar to each other but certain items differ according to the character identity of the performer. The principal components are *sanab plao* (trousers), *pa pawk* (a piece of cloth wrapped around the hips and knotted at the front), *pa nung* (a piece of cloth wrapped around the waist and knotted at the front), *hoy na* (a piece of cloth draped from the front of the waist), *hoy kang* (a piece of cloth draped from the side of the waist), *radsa-aw* (a cloth belt), shirt, *krong kaw* (a flat cloth placed over the head and rested on the shoulders), *inthorn-tanu* (protrusions at the shoulders, shoulder pads), *siraporn* (headgear), *pa-hom nang* (a cloak-style garment, for heroines), *bid-gon* (a cloth draped at the rear, for ogres and monkeys) and monkey tail (for monkeys only).

3.1 Dressing the Hero

Step One: The *pa nung* is crimped (Figure 1). Heroes use a 3-4 m long golden silk cloth that is about 1 m wide. The fabric is folded in about 2 inches at the edges in 6-7 crimps. The cloth is ironed and the crimps are hand-stitched in place.



Figure 1. Crimping of the *pa nung*

Step Two: The actor puts on *sanab plao* with the arched curves at the bottom hem in the centre of the shin, just below the knee. Ankle bracelets are worn and accompanying ankle rings worn below them (**Figure 2**).



Figure 2. The hero wearing *sanab plao*, ankle bracelets and ankle rings

Step Three: The *pa pawk* is tied around the performer to accentuate his hips and make the male performers seem closer in stature to traditional Thai sculptures (Figure 3).



Figure 3. The hero wearing the *pa pawk*

Step Four: The pre-stitched *pa nung* is wrapped around the performer by a costume artist. The artist will triple-pleat the *pa nung* at the back of the performer, wrap the excess fabric around the front and draw it through the performer's legs to the back again, where it will be worn like a loincloth. The actor must also help during this process by holding the fabric tightly in place while it is being crimped and pulled. A piece of plain fabric will be used as a belt to hold the *pa nung* in place. This fabric is also known as a tail fastener because the *pa nung* is draped down to create a tail at the back of the performer. If the fabric belt is not fully expanded, it will hurt the hips of the performer. The *pa nung* is arranged neatly by the costume artist and the belt tied at the front of the performer (Figure 4).



Figure 4. A costume artist helping the performer wear the *pa nung*

Step Five: When the *pa nung* has been successfully put on, the *hoy kang* are attached to both sides of the performer. Once the *hoy kang* has been secured, the bottom half of the costume is complete (Figure 5).



Figure 5. The hero wearing the *hoy kang*

Step Six: The performers must wear padding to exaggerate their chest and more closely resemble Thai sculptures. The inner padding is placed over a vest or t-shirt and stitched under the performer's undershirt with thick zigzag stitching. The sleeves are also stitched while the performer wears the shirt (**Figure 6**).



Figure 6. Traditional embroidery to attach the inner shirt to the hero

Step Seven: As the outer Khon shirt does not have seams at the sides or the back, a temporary stitch is sewn from the waist to the shoulder so that it fits the performer.

Step Eight: The outer Khon shirt is put on the performer and stitched into place with 4-8 threads. The best thread for this task is the same colour as the outer shirt, although white thread is also used. The outer shirt is then pulled tightly into place. The threads used to sew the shirt together are not cut because they will be used again (Figure 7).



Figure 7. Stitching the outer shirt

Step Nine: The *radsa-aew* is stitched to the outfit around the waist using the excess thread attached to the shirt. The fabric is then arranged neatly on the performer and the *radsa-aew* is stitched into the tail piece (Figure 8).



Figure 8. Stitching the *radsa-aew* to the tail piece

Step Ten: The *hoy na* is attached to the front of the performer and must be longer than the *hoy kang*.

Step Eleven: The *inthorn-tanu* is sewn into place on the shoulders and under the armpits of the actor (Figure 9).



Figure 9. Stitching the *inthorn-tanu* into place

Step Twelve: The *krong kaw*, similar to an Egyptian usekh, is attached to decorate the performer's neck area.

Step Thirteen: Accessories are added to the costume. A pendant is worn around the neck, sitting in the centre of the chest. An ornamental belt is fastened around the waist, with its head in line with the pendant. Decorative vambraces are worn on the wrists, as are beaded bracelets and a bracelet of rings or *waen rawb* (Figure 10). A *sangwan* is then placed over the head of the performer. This is an ornamental set of crossed braces at the front and back. It is customary for the actor to make a *wai* gesture by placing their palms together in front of their head before wearing the *sangwan*.



Figure 10. Arm accessories for the hero

Step Fourteen: The final step is to wear the *siraporn* (Figure 11).



Figure 11. The fully dressed hero, front and back

3.2 Dressing the Heroine

The heroine has fewer items to wear than the hero and there are fewer steps involved in the dressing procedure.

Step One: The inner shirt is sewn on. It is popular for the heroine to wear a yellow coloured inner shirt. The shirt may be short or long-sleeved, although a short-sleeved shirt could expose the armpit and breast of the performer (Figure 12).

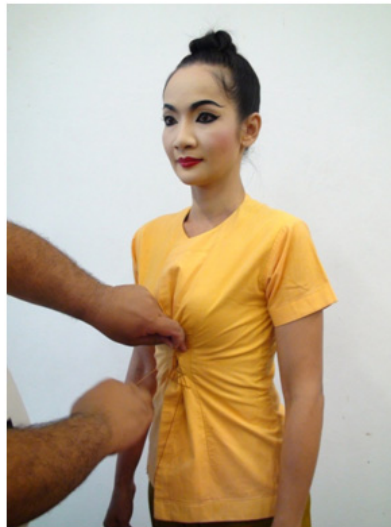


Figure 12. The inner shirt sewn onto the heroine

Step Two: A body necklace is added and commonly sewn to the inner shirt.

Step Three: The performer wears the *pa-hom nang* over her head.

Step Four: The *pa-hom nang* is stitched to the inner shirt behind the neck (Figure 13).



Figure 13. The *pa-hom nang* being stitched together at the back of the heroine

Step Five: The *pa-hom nang* is stitched to the inner shirt at the front of the performer (Figure 14).



Figure 14. The *pa-hom nang* being stitched together at the front of the heroine

Step Six: The *pa-hom nang* is crimped to make a v-shape at the front of the performer.

Step Seven: The *krong kaw* is attached to decorate the performer's neck area. The female *krong kaw* is wider than the male version because the heroine does not wear *inthorn-tanu*.

Step Eight: The *pa nung* is put on the performer. The fabric is about one meter wide and three to four meters long. It is wrapped around the actress and folded in the *saipok* style, whereby the two ends of the sarong are folded and crimped. The folded part of the sarong is approximately two inches wide.

Step Nine: The sarong fold is taken to the right but must not be drawn too tightly or the performer's legs will be restricted. The other side of the sarong is pulled across to cover the point of the *pa-hom nang*.

Step Ten: A three-inch wide fold is made down the front length of the *pa nung*. The actress traps the fold between her legs while the costume artist arranges the sarong folds evenly. The edges of the folds are then tucked into the *pa nung* and secured with a piece of plain fabric wrapped around the waist and tied at the back. The crimps of the *pa nung* are then sewn into place (Figure 15).



Figure 15. A costume artist helping the heroine to wear the *pa nung*

Step Eleven: An ornamental belt is fastened around the waist, a pendant is worn around the neck and decorative vambraces, beaded bracelets and *waen rawb* are worn on the wrists in the same style as the hero.

Step Twelve: The *siraporn* is placed on the head of the performer to complete the costume (Figure 16).



Figure 16. The fully dressed heroine, front and back

3.3 Dressing the Ogre

The ogre is dressed in a very similar way to the hero. The differences are in the application of the sarong, *pa nung*, and the additional item *bid gon*. The method for applying the hero's sarong is called *hang hong*, while the method for applying the ogre's sarong is *nung gan baen*. The distinction is that the ogre's 'tail' is tucked into the *sanab plao*. The ogre's extra item of costume, the *bid gon*, is added after the *pa nung* and before the *hoy kang* (Figure 17).



Figure 17. Application of the ogre's *bid gon* and *hoy kang*

The ogre's *siraporn* includes a face mask (Figure 18).



Figure 18A-B. The dressed ogre, front and back

3.4 Dressing the Monkey

The monkey costume is similar to that of the ogre. However, the monkey does not wear *inthorn-tanu* and has an additional monkey's tail attached to the *bid gon* (Figure 19; Figure 20).



Figure 19. A costume artist attaching the monkey's tail



Figure 20. The dressed monkey

3.5 The Consequences of Using Traditional Embroidery Methods and Storage Techniques for Khon Lakhon Costumes

When the shirts are worn, there must be a long temporary stitch at the back to make the costume the right size for the performers and a temporary stitch at the front so that the item fits the body. Nowadays, large cotton threads are used, which are called *dai-tra-maprao* or *dai-cheug*. Large needles (golden-eye needles) are used to embroider threads in pairs so that the stitches are strong. However, large threads and needles ruin the fabric and some costume artists do not have the necessary expertise to stitch the shirt with minimal damage. In light of this, smaller sizes of thread and needle should be used. The thread should be firm and interview respondents recommend the use of jean, or denim thread.

The *inthorn-tanu* are rested on the shoulders and stitched in place under the armpits. The best quality *inthorn-tanu* are curved to match the body curves of the performer but, when they are stitched in place, the stitching is too tight, causing the *inthorn-tanu* to be pulled down and out of place. Care must be taken in the use of thread and needle so that the shape of the *inthorn-tanu* is not lost and that the stitching does not ruin the fabric. There must be extra care taken when sewing in frequently-stitched places because these parts of the costume deteriorate quickly.

The *krong kaw* is worn around the neck and there is a button to fix the *krong kaw* in place. If the button is not tightly fixed, the *krong kaw* will move during performance. If the *krong kaw* is too large, it must be pulled and

adjusted to fit the neck. If the *krong kaw* is too small, nothing can be done to help and it will squeeze the neck. To eliminate movement of the *krong kaw* during performance, stitching it in place would be most suitable.

There are two types of *sanab plao*, *kranok* pattern and straight-hemmed. In the past, stitches were below the knee, yet nowadays it is popular to wear the trousers higher, so that the stitches are on or above the knee. If the costume artist is not highly-skilled, the *kranok* pattern will be joined incorrectly when stitched and the trouser design will suffer. When the performers are seated, they require wider trouser-legs for comfort. This causes the trouser design to lose its shape and beauty and can be easily remedied by wearing the *sanab plao* lower, as in the past.

The *hoy na* and *hoy kang* are not stitched to any other item of clothing, so extra care must be taken to attach them correctly and tightly to prevent movement during performance. The *hoy kang* must be about two inches shorter than the *hoy na*.

The *radsa-aew* is worn after the *hoy kang* to close the gap between the *pa nang* and shirt. There are two types of *radsa-aew*, straight and curved. The embroiderers do not have the necessary understanding in creating the curves, which causes the *radsa-aew* to be too tight. The straight form of *radsa-aew* should be preferred as tightness is not an issue.

The modern *pa-hom nang* has been made larger and longer than in the past. Nowadays the cloaks are stitched to the rest of the costume at the corners. The costume artists do not have the necessary expertise and make stitches that cause the *pa-hom nang* to be out of shape. It is recommended that the cloak be attached on the cloth rather than at the corners to reduce the risk of wear to the fabric and to retain the shape of the *pa-hom nang*.

The most important thing for maintaining the costumes, aside from the skill of the costume artists, is the care for the costumes by the performers. One factor that causes the deterioration of the costumes is the sweat of the performer, which turns the fabric green or black. When wearing the monkey or ogre costumes, the actors must move a lot in their performance, causing increased amounts of sweat and faster deterioration of costumes. It is important to care for and maintain the costumes as they have a high value. Care must first be taken with the stitching, so that it does not ruin the fabric. By wearing the clothing correctly, the performers will ensure that the costumes can be worn for longer. As sweat is the biggest problem, there must be appropriate cleaning and care methods for the costumes. They cannot be cleaned often, as with everyday clothing. There must therefore be special methods. The clothing must be left in the sun to dry thoroughly. Ideally, potassium cyanide would be used to clean the costumes by adding to water. This method is however very dangerous, so shampoo and a soft brush are sufficient. This method cannot be done often because the chemicals in the shampoo will affect the materials in the costume. The costumes must be stored in dry and well ventilated places. Importantly, the costumes must not be stored in sunlight as this is the primary cause for patterns fading. There must also be care to prevent cockroaches, ants, termites and rats. Regardless, the costumes are used for active performances, so there will inevitably be deterioration. The performers, designers and workers must therefore take special care of the costumes, for they are an important fine art.

4. Suggestions

Nowadays, the restoration of *Khon Lakhon* costume embroidery is growing in popularity because higher education institutions have recognised the beauty of the traditional methods and incorporated them into the curriculum. However, there are still a number of areas that require further research. Firstly, investigation should be conducted into the effectiveness of embroidery instruction in the curriculum. Secondly, the traditional knowledge taught in the curriculum should be compared and aligned to the traditional knowledge used by professionals. Thirdly, further research should be focused on *Siraporn* (head accessories) and *Tanimpimpaporn* (worn accessories) because these were not covered in detail during the current investigation. Finally, although silk is the traditional material used to create *Khon Lakhon* costumes and its disuse would neglect traditional practices, it would be beneficial to study alternative materials that could be used to retain the style and increase the durability of performance dress. Aside from the specific technical points already highlighted for each clothing item, there is one more general recommendation for improving costume durability and quality without compromising the traditional heritage. The costume designers must be fully educated in the dressing process, especially the effects of embroidery on the fabric. This will allow them to create designs that are appropriate for each performer and enable them to create an instruction manual to ensure correct dressing methods are used for each individual costume.

5. Conclusion

There are four types of *Khon Lakhon* costume, hero, heroine, ogre and monkey. Each type has a different dressing method but all methods include the use of traditional embroidery. Temporary stitches made by costume artists with inadequate levels of expertise and experience cause the costume fabric to deteriorate. If the embroidery methods are slightly altered and traditional storage practices are followed, the costumes will last longer.

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Kidh Fabric: Product Development for Community Business Reinforcement

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Abstract

This research, Kidh fabric: product development for community business reinforcement was conducted with three main aims: 1) to study Kidh fabric history in northeastern Thailand; 2) to study problems and solutions related to processed fabric products; and 3) to study fabric product pattern design development for community business reinforcement. This qualitative study used a purposive random sampling technique, with samples including people involved with Tai Dam fabric products. Data were collected through structured interview, observation, focus group discussion and work shop. In addition, data reliability and validation tests were conducted with a triangulation method. The results show that Kidh Fabric production processes from three community business groups had the same points in keeping their unique designs and purposes to improve their own business and marketing. There needs to be coordination between community members in the production and design processes, as well as to increase product value by using new knowledge and technology. In conclusion, to develop Kidh fabric products for community reinforcement, all three communities need more support and cooperation from government units, private organization and community leaders. Moreover, these communities businesses need more knowledge and technological support to improve their production process, marketing, personalities in order to transform their community production units into strong and stable business groups.

Keywords: Kidh fabric, product development, community business, Northeastern Thailand

1. Introduction

Kidh fabric is one of the unique community products of northeastern Thailand, which requires special art techniques to create. This kind of art has been passed continuously from one generation to the next. Kidh fabric line patterns are created from personal technique and individual creativity and are woven onto fabric sheets. They reveal the traditions and wisdom of local people (Leesuwan, 1981)

Kidh fabric weaving used to be extensively known and used in northeastern Thailand. These days it seems to be less popular, even if cultural academics and developers have tried hard to support and promote Kidh fabric use, production and marketing. The researchers' opinion is that Kidh fabric still lacks support from both government units and private organizations in knowledge, technology and application.

2. Research Methodology

This research, Kidh fabric: product development for community business reinforcement was conducted with three main aims: 1) to study Kidh fabric history in northeastern Thailand; 2) to study problems and solutions related to processed fabric products; and 3) to study fabric product pattern design development for community business reinforcement. The investigation used a qualitative research method to study the background and present conditions of northeastern Thai communities and the Kidh fabric weaving process and traditions. A development method was used to study the development and application of Kidh fabric production networks for community business reinforcement. The researchers collected data form research, documents and field study by means of observation, interview, group discussion and workshop. The study began in October 2013 and lasted until February 2014. The sample included people involved in Kidh fabric in northeastern communities of Thailand, spanning 3 provinces: UdonThani, Nongbualamphoo and Loei by using a purposive random sampling

technique to create homogenous groups, these were: 34 key informants, 68 casual informants and 36 general informants. Data reliability and validation tests were conducted using a triangulation method and analyzed by content analysis, field notes and descriptive analysis.

3. Results

3.1. Background of KidhFabric in Northeastern Thailand

Baan Na Ka, Mueang District, UdonThani Province is a famous source of Kidh fabric production located in the north of UdonThani province. Mhee-Kidh or Kidh fabric weaving has been a community business supported by the office of UdonThani community development since 1957. Baan KhudHae, Na Klang District, Nongbualamphoo Province is the biggest Kidh silk production source in Nongbualamphoo Province. KhudHaeKidh silk is delicately crafted and the techniques used to create the fabric have been passed from one generation to the next. The most fabulous product is the Kidh pillow, which is made from 40 different patterns of Kidh silk. 'Thai-Loei local fabric' is the local product of Baan Kang Pla community business group, located in Tam boom Chaiyapruet, Mueang District, Loei province. Weaving is their traditional business, since the local industrial resource is cotton. The Kang Pla fabric identity is silver and gold thread patterns.

3.2 Problems and Solutions Related to Processed Fabric Products for Community Business

The production process of Na Ka fabric at Baan Na Ka, Mueang District, UdonThani Province is less complicated, faster and more varied than in the past. Moreover, the fabric can be transformed to make various products, for example clothes and household goods, due to the more varied patterns and colors. However, the community business group faces fabric pattern imitation problems that need to be solved as soon as possible by patent registration.

The KhudHae community weaving business group of Na Klang District, Nongbualamphoo Province focuses on producing the most distinguished woven kidh silk, which leads to the improvement of working capital. The products can be applied to various uses. Nevertheless, the community business group needs to improve the stability of product color, since the fabric preparation still uses traditional processes and natural dyes.

The community business group of Baan Kang Pla, Mueang District, Loei Province has improved its production process to be easier and faster. Additionally, their product variation and patterns have improved. Regardless, the community faces product imitation problems and a lack of production technology. These problems need time, cooperation and creativity to solve.

3.3 Fabric Product Pattern Design Development for Community Business Reinforcement

The researchers found that all three local communities have improved and applied their fabric patterns and products to be more suitable, stylish and unique in order to add product value. The communities have cooperated with funding and brainstorming in order to develop their products to meet the needs of the market and are more acceptable. Table 1 highlights the specific details of Fabric product pattern design development for community business reinforcement.

Table 1. Fabric product pattern design development for community business reinforcement

Production

1. Quantity of products: Sufficient for the market and community demand, could be reproduced and increased to meet the market and consumer demand.

2 Pattern, quality and added value: Improved product uniqueness and patterns to suit the needs of the market. Fabric quality, color stability and patterns retained.

3. Production networks: Development of production networks to work together in groups, creation of a consultation group to improve productivity, quality and standards. Establishment of a network to develop knowledge and share ideas.

Funding

1. Government funding support: The community received funding through the million fund bank loans from the bank of Agriculture and Cooperation and other banks.

2. Private organization: Stores and related companies promote budgets for pattern designs and increase the standard of Kidh fabric production.

3. Community funding: Funding from community members contributes to a strong community business group.

Personality

- 1. Community guru:** There are combinations of old and new concepts, but they are incomplete because there are many external factors involved.
- 2. Production network:** The community groups branched out to do their own individual work and then finally put their work together as a production network to create a quality community identity of Kidh fabric products.
- 3. Relative group:** Weaving Kidh is a system of participation between family members and groups of relatives.

Marketing

- 1. Community network:** Cooperation between community members builds stronger bargaining power in the market and brings more support from external organizations.
 - 2. External business network:** External business groups provide flexibility in the operation of all sectors, especially with trade and investment.
-

4. Conclusion

Bann Na Ka is a huge production and distribution source of Kidh fabric in UdonThani, since there are local weaving groups that traditionally weave Kidh fabric using local knowledge, maintaining Na Ka fabric identity and improving products to meet consumer demand. Woven Kidh silk of the KhudHae community is a traditional craftsmanship that came from local wisdom and has been passed down since ancient times. The first local people weaved Kidh fabric to use it to sew Kidh pillows but after the establishment of Kidh weaving groups, the community business groups started weaving for sale and sewing clothes. ‘Thai Loei local fabric’ is a traditional craft, which utilizes beautiful patterns created by the traditional knowledge of Kang Pla locals. The fabric is made from pure cotton, with lace inserted to add value.

The production of Na Ka Kidh fabric has been improved to be more expedient and prompt. Production has expanded to accommodate a larger market for both fabric and clothes. Moreover, the community business groups have improved the products to be more varied, colorful and stylish. The Kidh woven silk products of KhudHae are very unique and fabulous. Every piece of fabric produced increases profit. Kidh woven silk tends to be developed in terms of quality and according to a set of standards. The issue with production is that fiber preparation still lacks stability in quality, color and patterns. Kang Pla Kidh fabric in present day Loei Province has been improved to be more unique, since the community businesses focus on maintaining identity and quality, in addition to product development. The main problem encountered by community businesses is the instability of the community groups, due to unequal support within the community and from external organizations. Application of Kidh fabric to create new patterns and add value to the products has been improved from simple and undistinguished ideas to clearer, more beautiful and more unique designs.

5. Discussion

The development of Kidh fabric products for community business reinforcement in Baan Na Ka, Baan KhudHae and Baan Kang Pla needs more support from both government and non-government organizations. Moreover, it depends on the community leaders of each group to have methods and new ideas to lead the production process development, fabric design and quality improvement. According to the researchers’ opinion, the three community business groups need to improve the processes involving fabric production, so that production meets market demand in terms of design, quality, value and identity. Production and marketing networks must be created both inside and outside of the community. There must be additional funding support from the bank of Agricultural and cooperation, SML funds, non-government organization funds and community funds.

In conclusion, to develop Kidh fabric products for community reinforcement, all three communities need more support and cooperation from government units, private organization and community leaders. Moreover, these communities businesses need more knowledge and technological support to improve their production process, marketing, personalities in order to transform their community production units into strong and stable business groups. Elements of rural business management divide management into production management, marketing management, funding management, people management and general management. The key area of management is the process of planning, organizing and directing manpower and controlling performance. Besides, the proportions of work will depend on the size of company. The community businesses have the same goals, which are profits, growth and expansion, while continuing to increase their business value.

6. Suggestions

6.1 Practical Implementation of the Research Results

- The results of this investigation can be used to develop the northeastern community economies.
- The application of Kidh fabric weaving wisdom should be promoted as an example of community development to other communities across Thailand.
- Government organizations involved with community development should provide knowledge support such as seminars, conferences and workshops in order to promote community business improvement.
- Research journals could provide knowledge about applications of silk production for Northeastern community economic development.

6.2 Suggestions for Further Research

- Further research should concern the application of Kidh fabric impact on economic development.
- There should be a parallel study of the development of Kidh Fabric products between different communities in the same district or province to find models of economic development and Kidh fabric product applications using remaining indigenous knowledge.
- The application of local wisdom of Kidh fabric weaving should be studied to develop northeastern community businesses and promote the importance of traditional Kidh weaving, including ceremonial culture and traditions connected with Kidh fabric.
- The application of Kidh fabric local knowledge should be studied to develop of community economies in northeastern Thailand and preserve traditional local fabric.

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Suggestions for Enhancement of Cultural Tourism at the Candle Festival of Ubon Ratchathani

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Abstract

The aims of this qualitative research were to study the history of the *tien pansa* candle festival in Ubon Ratchathani and make suggestions to enhance cultural tourism. The research results found that the festival is based on the custom of offering candles as a method of worship. There are six reasons why the Ubon Ratchathani candle festival is able to continue in modern Thailand: a) Ubon Ratchathani is a Buddhist stronghold; b) the local people are accommodating; c) the city is surrounded by key resources for candle-making; d) the people of the city hold true to Buddhist values; e) there are many talented artisans; g) primary aims of promoting Buddhism and respecting traditions are upheld. Nevertheless, current organization of the festival suffers from some problems, notably increased consumerism and cultural displacement. The best solution is to encourage more local participation in festival development, planning and organization.

Keywords: candles, Isan, organization, conservation, participation, traditions

1. Background

Tourists are attracted by foreign and exotic culture. Cultural tourism is a product of this attraction and its main selling points are everyday life, customs and faith. To successfully manage tourism, it is imperative to focus on each of the aforementioned factors. Having said this, management must refrain from altering or influencing traditional culture in any way. Instead, tourism initiatives must highlight and exploit the considerable value of original local traditions (Wankaew, 2002). Foreign visitors must not alter the area they are visiting in any way. Instead, the locality must benefit from tourism, through conservation. This will generate the maximum possible revenue streams for the community.

Thai ceremonies are based on the individual identity of the local community, their everyday life, faith and traditional knowledge from which local peculiarities are derived. Global tourists consider these as imperative and for successful cultural tourism, they must be maintained. In light of this, the Thai government set out a development plan for tourism for the period 2012 to 2016. The of the plan was to increase tourism in Thailand, so to maximize potential income, value and growth (Ministry of Tourism and Sports, 2012, p. 1).

Isan is the common name for the vast Northeastern region of Thailand. The area is home to many interesting natural and cultural attractions, largely due to the melting pot of ethnic groups living within its boundaries. Local traditions are clear manifestations of ancient culture in the modern world (Jamrik, 2000, pp. 8-9). An increasingly narrow and more accessible world society has caused the emergence of a number of threats to the traditional cultural order, most notably, cultural dilution, homogenization and displacement by foreign cultures (Wankaew, 2002). Cultural diffusion is the byproduct of our modern world and is a direct threat to Isan traditions. The importance of local culture can be seen in its continued place in local life. Ancestral traditions are still practiced in Isan communities and are strongly associated with Buddhism. One such tradition, the candle festival of Ubon Ratchathani Province is a particularly large attraction for visitors. It responds to government policies regarding the preservation and maintenance of traditional local culture by providing an opportunity for communities to showcase the customs of their descendents and celebrate their unique local identity (Na Ubon, 2002).

Tien pansa, the Thai name for the candle festival, has developed rapidly in recent years and attracts large numbers of visitors – many more than in the past. The effect on the local economy is extremely positive. The festival is characterized by its parades, its beauty contests and its candle competitions. The festival lasts for 3 days. Despite the traditional groundings of *tien pansa*, recent versions of the festival have incorporated more technological developments, which threaten to completely replace the original customs. Attitudes regarding worship, funding and organization have also changed and now it is rare for locals to participate in day-to-day management of the festivities (Aneksuk, 2001). Recent evaluations of the festival have concluded that a number of areas are inadequate for a festival of its size and repute. Additionally, research has found the festival facilities, amenities and tourist provisions to be insufficient (Kawila, 2001; Pakdeepinit, 2007). Also, the local ethnic identity of the people and the festival must be upgraded to a focal point of the festival (Boonyanupong, 2001). Given this background, the research team conducted this investigation to design a model of conservation for the candle festival of Ubon Ratchatani Province.

2. Methodology

The aims of this qualitative research were to study the history of *tien pansa* in Ubon Ratchatani and make suggestions to enhance cultural tourism. The research lasted from July 1, 2012 until July 25, 2013. This is a qualitative research, for which Ubon Ratchatani was purposively selected as the research area, given its status as the only province to hold the *tien pansa* festival on such a large scale. The research sample was identified as 115 informants. The informants were divided into three groups: 20 key informants, 45 casual informants and 50 general informants. Documentary analysis and field study were both employed to collect data pertaining to the research objectives. Research tools were comprised of basic survey, observation, interview and focus group discussion. All collected data was validated by triangulation, according to date of collection, location, researcher and method. The data was classified according to the research aims and analyzed by typological analysis and analytic induction. The findings are here displayed in the form of descriptive analysis.

3. Results

The *Ka*, also known as *Suay*, or even *Kuay* were the first indigenous group to settle in and around present-day Ubon Ratchatani. These people were of Mon-Cambodian descent and their traditional practices and everyday lifestyle have played a large part in shaping the modern Ubon Ratchatani customs. From 1792 onwards, people living near *dong-oo-peung* used candles to display their faith and worship (*dong-oo-peung* relates to the location of present-day Ubon Ratchatani). Candles thus became sacred items used for worship. *Tien pansa* developed from local beliefs, known as the *heed sip song*. The *heed sip song* relates to intense monthly worship for the course of twelve months and is observed by the majority of Isan people. According to the beliefs of local people, candles create additional merit for those who use them. People now commonly offer candles to monks at times of worship, which are required by monks to light their temples throughout Vassa, a three-month holy period. *Tien pansa* was first celebrated as a ceremony when local Buddhists created bundles of small candles, tied together on a wooden splint. The bundles were then covered in colored paper, making a *don-tien* (candle trunk), which is known as *tien-mad-ruam*.

After 1952, candle creation was recognized as an art form. It took two distinct forms: *mad-ruam-dit-lai*, whereby the candles were wrapped and decorated with patterns and *dit-pim*, whereby the candles were decorated with print. Now, three styles are used: original covered and decorated candles, candles adorned with print and candles shaped by carving. During the 1957 *geung-puttakarn* festival commemorating the Buddha's lifetime, the candle festival in Ubon Ratchatani was granted higher sponsorship. Despite this bonuse, the candle competitions were stopped in 1967 because of complaints about corrupt and unfair judging in the previous annual festival. The locals missed the festival and vowed to organize the biggest and best incarnation of the event in living memory the following year. Consequently, carved candles first appeared in competitions during the festival of 1968. TAT (Tourist Authority of Thailand) observed the celebrations in 1976 and considered the event so valuable that from 1977 onwards, increasingly important and impressive *tien pansa* celebrations have been held. From 1977, many visitors have come to experience the beauty of the festival first-hand, promoting *tien pansa* to a position as the emblem of Ubon Ratchatani.

There are six reasons why the Ubon Ratchatani candle festival is able to continue in modern Thailand: a) Ubon Ratchatani is a Buddhist stronghold; b) the local people are accommodating; c) the city is surrounded by key resources for candle-making; d) the people of the city hold true to Buddhist values; e) there are many talented artisans; g) primary aims of promoting Buddhism and respecting traditions are upheld.

Some problems were found with festival development. Tourists have negatively affected local traditions. Belief in candles as objects for worship has been diluted and consequently the customs displayed during the festival are

not true to everyday practice. This causes the celebrations to be a show rather than a reflection of everyday life in the local communities. Moreover, there are insufficient numbers of craftsmen with the required technique and ability to create suitable candle designs to be used during the festivals. This means that artisans must be hired from elsewhere and diminishes local influence in the day-to-day management and content of the festival. Local participation has also been negatively affected by a shift in emphasis from worship to consumerism. Big businesses sponsor the festival and demand a bigger role in its management. Often the sponsors are not local residents and do not possess the required knowledge base to accurately reflect local lifestyle, customs and traditions. This has the side-effect of reducing community interest in the festival and thus causing the number of trained and interested candle craftsmen to diminish. Candles are made with the objective of winning prizes rather than worship. This, combined with the fact that temples create the candles as opposed to local people, contradicts the original aims of *tien pansa*. As temples must hire expert carvers to create their candles, the candle competition has become a privilege of wealthy communities. Those without adequate funding will be unable to compete and unlikely to enter in years to come. Additionally, the candles do not reflect or represent local identity. Nevertheless, the procession itself remains true to the stylistic traditions and postures of Ubon Ratchatani dance, although it is made too long by the high number of entrants.

With these problems in mind, the research team and informants devised the following solutions:

- The true essence of Ubon Ratchatani community life must be reflected by the ceremony.
- The festival host must be appropriate and advertising should be developed.
- There must be encouragement and incentives for young people to participate in and attend *tien pansa*.
- Conservation of local traditions must take the form of local events and could include candle carving training workshops at local schools.
- There needs to be an increase in the candle creation budget and a more developed network of sponsors.
- The importance of festival performances must be raised to reflect their popularity among foreign tourists.
- The role of the local community must be raised to be on a par with that of the government and the private sector.
- The parades and performances must start at 6pm.
- Pride and satisfaction must be sufficient motivation for entering the candle competition, rather than prizes.
- Judges must be fair, impartial and transparent in their interpretation of competition rules.
- There must be levels of prize to reflect the cost of the candle and increase the opportunity for communities with small budgets.
- There must be an additional category in the candle competition for ancient styles, in order to preserve former provincial traditions. North-eastern Thai styles must also be incorporated in designs.

The aforementioned concerns may result in the disappearance of local traditions and culture from Ubon Ratchatani communities. By implementing the suggestions given above and increasing emphasis on traditional practices in local education, they may continue under the guidance of future generations.

4. Discussion

Tien pansa is a strong cultural festival. Alfred Kroeber hypothesized that the ideas of one culture move into other cultures over time. Strong social cultures are absorbed by weaker cultures, displacing and altering them from within. *Tien pansa* in Ubon Ratchatani is the biggest of its kind in Thailand and has not been affected by other ceremonies from the local vicinity, which points to the conclusion that the candle festival is a strong culture (Kroeber, 1940).

The results here correspond to those of Sakchai Utito (2007). Utito found that designs for candles are influenced by everyday life, faith and traditions. The festival history determined by this investigation agreed with the findings of Busaba Kitjantaropat (2008), which recognized the value of candles for in local society and their place in ceremonies as offerings or gifts.

This study identified a number of problems with *tien pansa*. These include the increasing role of global culture. From 1977, many visitors have come to experience the beauty of the festival first-hand, promoting *tien pansa* to a position as the emblem of Ubon Ratchatani. However, the increased reputation and demand on the festival has led to incorporation of more technological developments, which threaten to completely replace the original customs. Attitudes regarding worship, funding and organization have also changed and now it is rare for locals to

participate in day-to-day management of the festivities (Aneksuk, 2001). Also, the local ethnic identity of the people and the festival must be upgraded to a focal point of the festival (Boonyanupong, 2001). These are all examples of cultural diffusion, yet consider *tien pansa* as a weak culture influenced by stronger social trends of the West (Kroeber, 1940). If *tien pansa* is to remain, there must be encouragement and incentives for young people to participate in and attend the festival. Yuwat Wuttimtee (1993) explained that the role of the local community must be raised to be on a par with that of the government and the private sector because community participation is imperative to the future success of *tien pansa* traditions (Boonjaeng, 2003; Boonyanupong, 2001; Panet, 1998).

By implementing the suggestions given above and increasing emphasis on traditional practices in local education, they may continue under the guidance of future generations. Therefore, the best solution is to encourage more local participation in festival development, planning and organization.

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The Future Management of Thai Musical Study

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Abstract

The two aims of this investigation were to study the management of Thai musical education and study the trends of Thai musical education management and improvement for the academic year 2013 to the academic year 2022. Data was gathered using a holistic approach between qualitative analysis and the Delphi method. For the Delphi method, 17 specialists were consulted. The results show that Thai music courses have been prescribed in 3 categories. Courses are assigned containing both theoretical and practical elements by letting the students choose at least one musical instrument as their skill. According to the results, Thai traditional music teaching and learning in the future should be changed to focus on self study. Moreover, information technology must be included in the teaching program in order to improve teaching results.

Keywords: musical education, administration, Thai music, tradition, students, curriculum

1. Introduction

Modern Thai music majors in graduate study can be divided into two categories: Thai musical instruction and Thai musical performance. Thai musical instruction majors are controlled and standardized by the rules of the Teacher's Council of Thailand, unlike the Thai musical performance majors, for which the course syllabus can be applied and developed to be suitable to local traditions and collage policy. The Thai musical performance majors are aimed at preserving and inheriting Thai traditional music by focusing on both theoretical and practical study. This research is concerned about the inheritance of Thai traditional music through graduate study of musical performance majors. This investigation aims to collect present data of Thai musical syllabuses and study the trends of Thai musical study improvement for the future.

2. Research Methodology

This investigation had two primary study objectives: to study the management of Thai musical education and study the trends of Thai musical education management and improvement for the academic year 2013 to the academic year 2022. Data was gathered using a holistic approach between qualitative analysis and the Delphi method. For the Delphi method, 17 specialists were consulted. The researchers selected the sample population group from Thai musical instructors in 23 government universities focusing on Thai musical performance syllabuses. The research sample was identified using a purposive sampling technique. Field data was collected by survey, observation and interview. All data was categorized according to the aims of the research and analyzed by typological analysis and analytic induction. The results are presented below as a descriptive analysis. This research began in June 2011 and was concluded in May 2012.

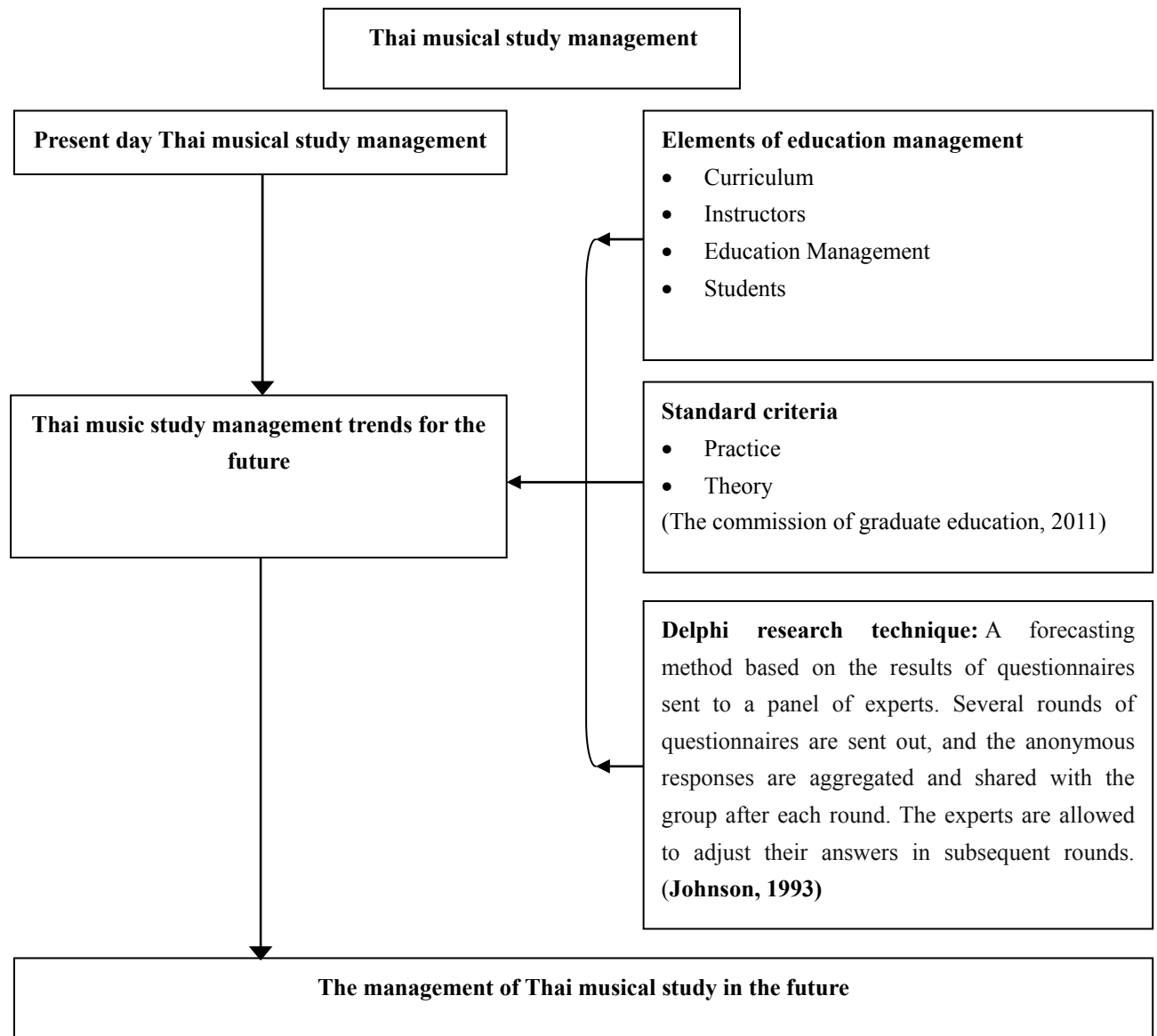


Figure 1. Research framework

3. Results

The Thai music study syllabuses focus on producing quality graduates, with high levels of knowledge and skill. There are five undergraduate Thai music degrees, three of which are equivalent to bachelors of arts, one is the equivalent to a bachelor of music and the fifth is equivalent to a bachelor of literature. Thai music courses have been prescribed in 3 categories: 1) Musical study including Thai traditional music as part of the course or a major, for example music majors or Thai and Eastern music majors; 2) Musical study prescribed as special Thai musical study, for example Thai music majors, Thai musical art majors and Thai musical instrument majors; 3) Musical study prescribed as Thai musical study as a part of a degree, for example musical study majors included in Thai dancing art department, called Thai music and dramatic arts. The courses are comprised of both theoretical and practical elements by letting the students choose at least one musical instrument as their skill. Moreover, some parts of the special Thai traditional musical classes have been standardized, since some songs and practices are too difficult to manage because of the different skills of individual students.

The study programs can be divided into 5 groups of subjects: 1) Aesthetic majors, for example the aesthetics of music; 2) Thai traditional theory majors, for example Thai musical theory, the nature and type of Thai traditional music and Thai traditional authorship; 3) Thai traditional music history majors, for example Thai music history,

Thai musical instrument history and development and Thai traditional music literature history; 4) Thai traditional music practice majors, including personal practice, for example Thai traditional musical instrument skills, and group practice, for example Thai traditional music orchestras; 5) Skill improvement subject groups, including Western traditional music theory and skills, for example standard western music theory, other musical instrument skills, for example chorus bands, musical technology skills, for example computers for music development, Thai music teaching skills improvement and Thai music research.

Thai music instructors should acknowledge musical theory, practical skill and teaching skill. Moreover, they should be good precedents for their students. However, the researchers found that a major problem is the lack of teaching staff. The Teacher's Council standards stipulate that curriculum requires at least 5 instructors, resulting in a teaching deficiency.

Modern education management is theoretical, practical and analytical. It includes workshops, self-study, exercises and research. The musical skill improvement has a number of major parts, including classical study, instrument demonstrations and skill exhibitions. The researchers classified Thai music students into 3 groups according to the student ability and knowledge: 1) Students of medium-level skill and ability (the largest group of students in Thai musical study majors.) These students have graduated from high school; 2) Students of high skill and ability. Almost all members of this group come from musical families and have inherited skills and techniques from their ancestors; 3) Students of advanced ability who have graduated from music school.

3.1 Thai Musical Education Trends for the Future

There are four elements to future musical degree curriculums, as determined by this investigation. Firstly the degree name may change to bachelor of orchestral science. Secondly, the curriculum aims must be to instill the graduate students with traditional Thai knowledge, interpersonal characteristics, information technology ability and expertise in Thai traditional musical instruments. Moreover, the graduates should have good moral principles. Thirdly, each course should have at least 131-135 cumulative credits. Fourthly, Thai musical education should focus on creativity and practice.

The amount of Thai traditional music instructors must increase to meet student demand. The number of musical researchers and developers must also be increased. Moreover, future music instructors should possess good interpersonal relations, creativity and morals. According to the results, traditional Thai music teaching and learning in the future should focus on self-study. Moreover, information technology must be included in teaching programs, in order to improve teaching results. Extra-curricular experience activities should be added to Thai musical curriculums, since these activities can not only improve student skill and confidence but also appeal to Thai society.

The Thai traditional music specialists suggested that Thai traditional music education should have benchmarks, which any educational institution could use as a set of guidelines to standardize their curriculums. This suggestion would provide a solution to the problem of student skill inequality.

According to the results, the number of students in Thai traditional music majors will decrease, due to the lack of career path. The traditional Thai music students should be interested in and acknowledge both traditional Thai music theory and practice. The specialists suggested that the candidates should pass skills assessments, for example in traditional Thai singing, traditional Thai musical instrument skills assessments, history and theoretical knowledge. The results show that evaluation of traditional Thai musical education should be concerned with equipment skill and accuracy, singing and application.

4. Conclusion

Conclusions from this investigation have been summarized in Figures 2 and 3 (Figure 2; Figure 3).

Curriculum	Providing both theory and practicing skill for student	<p>Curriculum name</p> <ul style="list-style-type: none"> • The course which includes both Thai and Western musical study • The special Thai traditional music course • The course including Thai traditional music, Thai traditional dance and performing art
	<p>Degree name</p> <ul style="list-style-type: none"> • Bachelor of Arts • Bachelor of Fine & Applied Arts • Bachelor of Fine Arts • Bachelor of Music • Bachelor of Arts <p>The course can be divided to 5 majors: aesthetics, Thai traditional music theory, Thai traditional music history, Thai traditional music practice, Character development</p>	<p>Course Structure</p> <ul style="list-style-type: none"> • Average cumulative credit 132.78 • General subject cumulative credit 30.57 • Special subject cumulative credit 95.96 • Elective subject cumulative credit 6.26
Instructors	Master degree graduated	According to the lack of Thai traditional music instructor, Thai traditional music expert invited to join the class
	Teaching skill improvement activities	<p>The Thai traditional music instructor characteristic;</p> <ol style="list-style-type: none"> 1. accepted skills and knowledge 2. Skilled at Thai traditional music instrument practice 3. Skilled at teaching
Educational management	<p>Theory teaching</p> <ul style="list-style-type: none"> • Lecture • Analysis • Excursions • Workshop • Self-study • Exercise • Filed study • Research project • Research methodology study 	<p>Practicing skill</p> <ul style="list-style-type: none"> • Classic similarly • Self-practicing • Optical learning and practice • Self-rendering
	<p>Admission</p> <ul style="list-style-type: none"> • College Skill assessment • Examination <p>The lack of Thai music interest The different in skill and knowledge</p>	<p>The students can be divided into 3 groups:</p> <ul style="list-style-type: none"> • Medium to moderately-skilled • Highly-skilled • Advanced
Students		

Figure 2. The management of Thai music studies

Curriculum	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%; padding: 5px;">Degree: Bachelor of music</td> <td style="width: 30%; padding: 5px;">Course structure Total cumulative credits: 131-135 units</td> <td style="width: 50%; padding: 5px;">Curriculum objectives Thai traditional music students should: <ul style="list-style-type: none"> • Know Thai traditional music history and theory • Be good at social skills • Be creative • Skilled at Thai traditional music instrument practice • Skill at research and research methodology • Connect music skills and knowledge with other social sciences • Understand moral and principle • Good at cognitive skill • Good at English and other language </td> </tr> <tr> <td colspan="3" style="padding: 5px;">Subjects: Thai traditional music practice; Musical creativity; Thai traditional music theory; Music composition; Aesthetics; Khong-Wong Yai practice; Thai traditional music master practice; Musical research; Music performance; Contemporary music; East-Asian music; Music technology; Computer and information technology; Musical business; Traditional music</td> </tr> </table>	Degree: Bachelor of music	Course structure Total cumulative credits: 131-135 units	Curriculum objectives Thai traditional music students should: <ul style="list-style-type: none"> • Know Thai traditional music history and theory • Be good at social skills • Be creative • Skilled at Thai traditional music instrument practice • Skill at research and research methodology • Connect music skills and knowledge with other social sciences • Understand moral and principle • Good at cognitive skill • Good at English and other language 	Subjects: Thai traditional music practice; Musical creativity; Thai traditional music theory; Music composition; Aesthetics; Khong-Wong Yai practice; Thai traditional music master practice; Musical research; Music performance; Contemporary music; East-Asian music; Music technology; Computer and information technology; Musical business; Traditional music		
Degree: Bachelor of music	Course structure Total cumulative credits: 131-135 units	Curriculum objectives Thai traditional music students should: <ul style="list-style-type: none"> • Know Thai traditional music history and theory • Be good at social skills • Be creative • Skilled at Thai traditional music instrument practice • Skill at research and research methodology • Connect music skills and knowledge with other social sciences • Understand moral and principle • Good at cognitive skill • Good at English and other language 					
Subjects: Thai traditional music practice; Musical creativity; Thai traditional music theory; Music composition; Aesthetics; Khong-Wong Yai practice; Thai traditional music master practice; Musical research; Music performance; Contemporary music; East-Asian music; Music technology; Computer and information technology; Musical business; Traditional music							
Instructors	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%; padding: 5px;">Sufficient number of instructors</td> <td style="width: 80%; padding: 5px;">Instructor characteristic: <ul style="list-style-type: none"> • Good understanding at teaching technology • Good at researching and practicing skill • Understand moral principle and believe in their career • Understand Thai traditional music theory and practicing • Have border vision and creative • Skilled at Thai traditional music instrument practice • Good at analytic and synthesis thinking • Enthusiastic • Good at interpersonal </td> </tr> </table>	Sufficient number of instructors	Instructor characteristic: <ul style="list-style-type: none"> • Good understanding at teaching technology • Good at researching and practicing skill • Understand moral principle and believe in their career • Understand Thai traditional music theory and practicing • Have border vision and creative • Skilled at Thai traditional music instrument practice • Good at analytic and synthesis thinking • Enthusiastic • Good at interpersonal 				
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Education management	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%; padding: 5px;">Teaching:</td> <td style="width: 80%; padding: 5px;"> <ul style="list-style-type: none"> • Teaching individually from easy to difficult part • Use more musical notation • Use more information technology in class • Decrease self by self teaching • Set target and goal of teaching • Every collage have same standard </td> </tr> <tr> <td style="padding: 5px;">Extra activities:</td> <td style="padding: 5px;"> <ul style="list-style-type: none"> • Extra activities with other educating departments and nearby community • Promote musical contest activities • Promote other musical learning activities • Support self experience • Promote Thai culture preserve activities • Promote experience exchange activities between student and communities • Promote modern study pattern • Promote traditional study pattern • Support self study • Promote musical workshop • Promote community learning and international learning • Promote Thai traditional music research • Interpolate moral principle in class and activities </td> </tr> </table>	Teaching:	<ul style="list-style-type: none"> • Teaching individually from easy to difficult part • Use more musical notation • Use more information technology in class • Decrease self by self teaching • Set target and goal of teaching • Every collage have same standard 	Extra activities:	<ul style="list-style-type: none"> • Extra activities with other educating departments and nearby community • Promote musical contest activities • Promote other musical learning activities • Support self experience • Promote Thai culture preserve activities • Promote experience exchange activities between student and communities • Promote modern study pattern • Promote traditional study pattern • Support self study • Promote musical workshop • Promote community learning and international learning • Promote Thai traditional music research • Interpolate moral principle in class and activities 		
Teaching:	<ul style="list-style-type: none"> • Teaching individually from easy to difficult part • Use more musical notation • Use more information technology in class • Decrease self by self teaching • Set target and goal of teaching • Every collage have same standard 						
Extra activities:	<ul style="list-style-type: none"> • Extra activities with other educating departments and nearby community • Promote musical contest activities • Promote other musical learning activities • Support self experience • Promote Thai culture preserve activities • Promote experience exchange activities between student and communities • Promote modern study pattern • Promote traditional study pattern • Support self study • Promote musical workshop • Promote community learning and international learning • Promote Thai traditional music research • Interpolate moral principle in class and activities 						

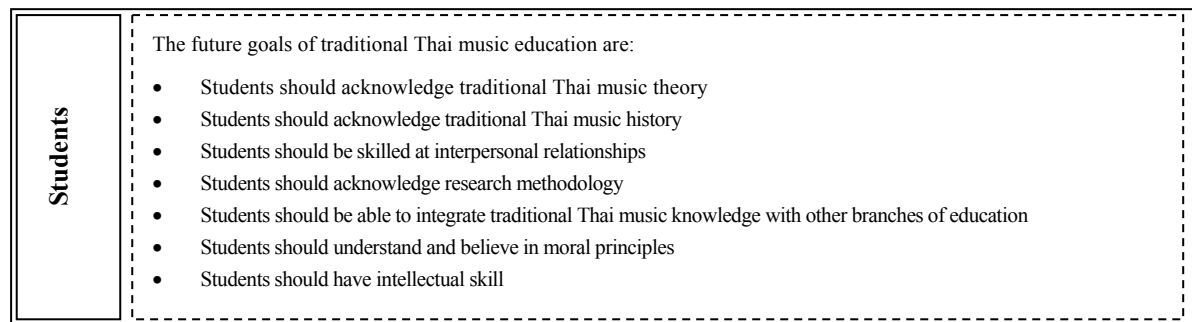


Figure 3. Future Thai musical education trends

5. Discussion

Thai traditional music education these days has different curriculum names in order to clearly define the course detail and distinctive points, which is connected with the trends of musical education in graduate study by Wathid Suwansomboon (2004). He said that the musical education in graduate study will branch and integrate with other sciences or majors. The Thai traditional music study is divided into 5 major subjects: aesthetics, Thai traditional music theory, Thai traditional music history, Thai traditional music practice and character development. The education standard criteria can be used only in some parts of education management and standardization. This agrees with Sudarat Chanlekha (2006), who said that the standardization of musical education can only be done in some parts of education management due to the lack of musical instruments, instructors and instruction media.

The Thai musical instructor qualifications state that they must be literate in Thai musical theory, skilled in Thai musical instruments and have good practical skill. This is related to the work of Nattinee Sriwongtrakol, who said that teachers should be masterly in his or her department. Moreover, they must always seek new knowledge and techniques. Thai musical teaching and studying has different techniques and patterns, for example lectures and excursions in order to match the study objectives. This is related to Thisana Khammanee (2009), who said that teaching is a process by which the teacher issues the learning activities according to the objectives in different ways and using varied techniques.

5.1 Future Thai Musical Education Trends

The future goals of traditional Thai music education are:

- Students should acknowledge traditional Thai music theory
- Students should acknowledge traditional Thai music history
- Students should be skilled at interpersonal relationships
- Students should acknowledge research methodology
- Students should be able to integrate traditional Thai music knowledge with other branches of education
- Students should understand and believe in moral principles
- Students should have intellectual skill

The number of instructors must increase in order to meet student demand. This relates to the research of Wathid Suwansomboon (2004), which found that Thai education trends must be enlarged and extended both in number and quality. The traditional Thai music instructor characteristics should be more researcher, academic and developer. Moreover they must be sanctimonious and good at interpersonal relationships.

Teaching management in the future should concern about instruction sequences from easy to difficult and use more technology to make the course easy to understand. The teaching goal is to decline the number of self-study, but increase the musical notation classes. Thai traditional musical study can also be divided by age of instructor, such as elder instructor, same-age instructor and young instructor. This is connected with the work of Chompoonuch Roumchat (2005), who said that education management in the next century will be concerned with the combination of theoretical study and practice.

The learning support activities should be focused on student skill expression, since these activities will enhance confidence and experience, for example traditional Thai music contests. According to *Comprehensive Musicianship* (Suthachrittra, 1993), experience causes understanding.

The Thai musical students should have at least basic knowledge and understanding of traditional Thai music theory and musical instrument practice. From the research of Kwanchai Hely (1990), the major problem of Thai music education is the lack of basic student knowledge. Thai music education in the future should focus on

contemporary music, which relates to Eva Georgii-Hemming and Maria Westvall (2010). The two scholars said that musical students are more interested in popular music than traditional music.

6. Suggestions

6.1 General Suggestions

- The research can be an information source for Thai traditional music curriculum development.
- The musical colleges can use the information as basic information in education policy setting.
- The research can be used as base information to standardize Thai traditional music education and development.

6.2 Suggestions for Further Study

Further study should consider:

- The trends of traditional Thai music special tract development
- Comparative management of traditional Thai music education in undergraduate and further education.
- The characteristics of traditional Thai music study, for example basic knowledge level, by conducting comparative study of traditional Thai music and education science.
- In-depth research about traditional Thai music education management and trends.

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Guideline for the Development and Management of Music and Performing Arts in Khwaeng Champasak, Lao PDR

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Abstract

In the years after 1975, the governmental system of Lao PDR was transformed into socialism. A main question is how music and performing arts in Khwaeng Champasak of Lao PDR adapt themselves to this change. The purpose of this research is to investigate the history, current situation and the method of developing management of music and performing arts in Khwaeng Champasak. The research method is qualitative research using the integration of documentary study and field study. Research instruments are an observation and an interview. The sample consisted of 40 people who are 5 experts in the field of management, 5 artists, 5 academics, 15 people concerning music and performing arts, and 10 general people. A qualitative research method is used for searching the findings. An research method is used for searching the findings. An observation and an interview are main instruments.

The research found that when Lao PDR was ruled by the monarchy, traditional Laos music was patronized by the king but the music in the form of Mor Lam, Mor Khab (folk singer performance), and tribal music was the entertainment for general people. The Lao government used the performances of Lam Som and Lam Sipandon (the two kinds of folk singer performances) as the media to publicize the policy, information, knowledge and to create social harmony.

The study of current situation has revealed that the state sector plays a role in preserving and carrying on the traditional music, tribal music, and various kinds of musical performances by organizing their performances in the important events. General private organizers also employ Mor Lam groups to perform in traditional fairs of communities.

As for the method of developing management of music and performing arts in Champasak, it has revealed that the state sector emphasizes the important of developing both state artists and private artists parallel to the tourism development. Thus, the artists have a good chance to develop themselves in order to please the audience and responded the policy of the government

Keyword: Guidelines, music and performing arts, khwaeng champasak, qualitative research

1. Introduction

The science and art of managing organization is necessary for all types and scales of organizations. The organizations performing art performances also need the efficiency of managements since it will enhance art performances succeed perfectly. The process of management involves all sections in each organization so all staff should learn to manage their works efficiently.

Lao People's Democratic Republic and Thailand have maintained a close relationship with each other for long time. Although both countries sometimes were ruled by the different regimes but the relationship did not change. Sine social development of both countries originated from the same mould that is Buddhism so many traditions and rituals are alike. In terms of music and performing arts, there are many differences in details between both countries (Mapecht, 2012)

The lower region of Laos such as the provinces of Savannakhet, Pak Sei, Don Khong, and Champasak have their own cultural identities especially in terms of music and performing arts that called Moe Lam. The art of Mor Lam performance has been transmitted among Thai and Lao people living in the both sides of the Mekong River Basin. Mor Lam or a folk-singer show has be popular among Thai and Lao people up to now. In the past this region was

under the Lan Xang Kingdom of Laos and afterwards the right side of the Mekong River Basin was under the Siam Kingdom of Thailand, thus Mor Lam performance performing in the left and the right sides of this region are different in some details (Attapaiboon, 2010)

Khwaeng Champasak or Champasak Province of the lower Laos has its own identity concerning music and performing arts. In the past, music and performing arts was divided into two types: the first was music and performing arts for performing in the royal presence and the second was for performing in public. The first one sometimes called The Traditional Lao Music and Performing Arts and the second one called The Lao Folk Music and Performing Arts. As for the second one, it is classified into many types such as Lam Som, Lam Si Pan Don, the two types of music and performing arts are still popular with Lao people at the present. Both Lam Som and Lam Si Pan Don are classified as a type of musical (Phikunsri, 2008)

The migration of Lao people to other countries has continued since 1975. Many of them are performers and musicians. As for performers and musicians still living in their country must adapt themselves to the policy of republic of the government. The musicals, musical performances, plays and other types of entertainment must respond to the requirements of the public or the special requirements of government. The regime changed from monarchy to republic so all of the elements of musical performances and plays also need some changes, the efficient management plays an important role for these performances. This research may suggest the appropriate ways for performing music and performing arts in Khwaeng Champasak, Lao PDR.

2. Purposes and Objectives

The purposes of this research were as the following:

1. To investigate the history of the management of music and performing arts in Khwaeng Champasak, Lao PDR.
2. To investigate current situation and the method of developing management of music and performing arts in Khwaeng Champasak, Lao PDR.

3. Materials and Methods

A methodology of qualitative research was used for this investigation. The elements of the research were as follows:

1. Research contents:
 - 1.1 the history or the management of music and performing arts in Khwaeng Champasak, Lao PDR.
 - 1.2 current situation and the method of developing management of music and performing arts in Khwaeng Champasak, Lao PDR
2. Research area:

Khwaeng Champasak, Lao PDR
3. Research sample:
 - 3.1 15 experts in the field of music and performing arts.
 - 3.2 10 performers
 - 3.3 5 managers or the leaders of musical and performing groups.
 - 3.4 10 general people consisted of organizers, the audience, and tourists.
4. Research instruments:
 - 4.1 observation
 - 4.2 a survey
 - 4.3 an interview
5. Research period
One year.

The first stage is a documentary investigation, the researchers searched dissertations and documents concerned for understanding and answering all research purposes. These dissertations and documents were gathered and categorized as a base of knowledge for this research. An observation form, a survey form and an interview form were based on information from this base.

The second stage is a creation of research instruments, an observation form, a survey form and an interview form were created in this stage. All forms were examined by the experts and then these forms were improved according to the advice of the experts.

The third stage is a field study, after all appointments had been already made, the researchers began to conduct a field study according to the dates of appointments in Khwaeng Champasak of Lao PDR. This field study period was about 12 months. The data were collected for responding all research purposes.

The fourth stage is a data correction and research synthesis, the data were examined and corrected by using a triangulation technique. This technique used for examining the relation between situations and dates, situations and places, and situations and persons. When everything was corrected, the researchers began to make a research report until it had been finished.

The fifth stage is a presentation, the researchers presented a research report in the presence of research committee. A descriptive analysis was presented through multimedia. Afterwards, the research report was published by the university press.

4. Results and Discussion

In terms of the history of the management of music and performing arts in Khwaeng Champasak of Lao PDR, it has revealed that in the past traditional Lao music and performing arts were supported by the king, all people under the patronage of the king were the people of honor and had adequate property so everything they presented, they did it for the king and royalties. Thus, the leader and manager of each performing art group tended to manage everything according to requirements of the King and the royalties. All of the leaders and managers managed all elements of their groups by themselves, for example; groups' budgets, staff's duties, staff's salaries, groups' materials and machines, and performing elements. Furthermore, songwriters and play writers wrote their works in order to extol the virtue of the king and most works concerning chronicles or historical records. Lao PDR changed its regime from monarchy to republic on December 2, 1975 and proclaimed to use the policy or NEM (New Economic Mechanism) throughout the country in 1986 so the leaders of musical and performing groups performed and managed themselves under the policy of the government. A culture of performance has responded to the public and the government since then. The method of management and the pattern of performance like this also diffuses to the musical and performing groups living in northeast Thailand. This is consistent with Fritz Graebner (1911), he said that culture traits developed in just a few key areas of the world, these culture traits of various civilizations then diffused out to other cultures in geographically concentric circles. It is also consistent with Supattra Supap (1989), she pointed out that cultural diffusion could diffuse from a group originating it to other groups both internal and external society.

As for music and performing arts for entertaining general people, the leader or manager of each group tended to adjust everything according to general people's requirements. Songs, performing patterns, and stories concerned were adapted in order to be congruent with the way of life of the people. The famous performing arts called Lam So Phan Don and Lam Som were popular with Lao people, especially the Lao people living in Khwaeng Champasak. Both types of performing arts were folk musicals which created an interactive atmosphere between performers and the audience. The two kinds of performing arts are cultural heritage handed down to Champasak people and some of them can sing some verses to exchange actively with performers singing verses on the stage. The interaction between the audience and the performers enhances funny atmosphere for each performance. This is consistent with an ideal of Somsak Srisantisuk (2001) which suggested that when social context was changed, some parts of culture also needed to change in order to maintain the whole of society.

Current situations of music and performing arts are affected by the flow of globalization. All of musical and dramatic performances are responded to the republic policy of the government and the requirements of organizers. All of artists and performers both work for state and private organizations, they still maintain these types of performing arts by transmitting them to the next generation. At present, artists, performers, and persons concerned can lead their life by these occupations happily because cultural tourism in Laos is being popular with foreign tourists. The foreign tourists want to see traditional Lao musical or performing arts such as Mo Lam (Lao folksinger band), Dontri Lao Doem (traditional Lao orchestra) and other Lao performances, especially the tourists who aim to study traditional Lao performing arts. This is consistent with the research result of Tinnakorn Attapaiboon (2011), it has revealed that music and performing arts tend to adapt their performing patterns to the tourism policy of the government and the flow of globalization, including the high competition among travel agents both internal and external the country. The competition among travel agents in Laos and outside of Laos is still intense so musical and performing groups in Khwaeng Champasak must adapt themselves to this change in order to be chain units of a tourism network of Laos.

As for the method of developing management of music and performing arts in Khwaeng Champasak, both state and private sectors cooperate to develop the management of music and performing arts systematically. In terms of personnel, a new generation interested in these fields are trained for the future performers, music and performing arts is one of all subjects on the national curriculum. In terms of budget management, each performing group has its own system of budget management which covers all expenses and each item of the expenses can transparently examine, the time table of performances is systematically set, and the government often organizes activities of tourism promotion by supporting some budget for performing groups which participate in the activities. In terms of machine and material management, each performing group tends to hire a truck service when it wants to carry performers, stage sets, light and sound equipment, and others concerned instead of buying it at a high cost. Most of Lao performing groups still use a close relationship in a form of kith and kin for making interna solidarity; for example when someone want to receive some financial help, he or she can ask the manager to support him or her and all members participate in solving this problem. Moreover, a strategy of put the right man on the right job is used for developing the management of performing groups. This is consistent with Thirarat Lilalertsurakun (2011), she has indicated that each Isan folk singer band adapted itself to social change and a flow of globalization by improving its management in order tom maintain the organization for a long time among many changes, this improving covers man, material, machine, and money.

5. Conclusion

The organizations concerning art and cultural affairs can adapt the results of this research to their affairs. Guidelines for the development and management of music and performing arts in Khwaeng Champasak, Lao PDR may be a model for improving organizations concerned in other countries. Certainly, cultural and social context of each country is different but some useful tips from this research may benefit persons or organizations that carry on a cultural affair.

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The Moderating Effects of Self-Efficacy on the Relationship Between Stress and Cigarette Smoking Behavior Among Adolescents in Kerman, Iran

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Abstract

This paper aims to examine the relationship between the individual factor of stress and cigarette smoking behavior and also determine the moderating effect of self-efficacy on the relationship between stress and cigarette smoking behavior among adolescents in Kerman, Iran. A quantitative research method was employed. The samples included three hundred current smoker adolescents between the ages of 15 to 18. The data were collected by means of self-administered questionnaires and then analyzed by AMOS software. The direct structural model was employed to determine the path relationships between the individual factor of stress and cigarette smoking behavior. In addition, a multi-group analysis approach was applied to assess the moderating effect of self-efficacy on the relationship between stress and cigarette smoking behavior among adolescents. The results of testing the structural equation model revealed that there is a positive significant relationship between the individual factor of stress and cigarette smoking behavior. It was also found that self-efficacy significantly moderates the effects of stress on the cigarette smoking behavior among adolescents. The paper proposes some suggestions in order to prevent cigarette smoking behavior among adolescents.

Keywords: stress, cigarette smoking behavior, self-efficacy, adolescents

1. Introduction

Cigarette smoking has been identified as a major public health problem worldwide (Eftekhari, Nassr, & Sallehi, 2007; Sarafzade, Boshtam, & Tafazoli, 2004). Many negative consequences have been attributed to cigarette smoking, which is a major global contributor to death from chronic diseases (Center for Disease Control and Prevention, 2006; Emmeree, 2003; Nichols, 2006). Studies have revealed that a majority of the patients who suffer from lung cancer (87%) are smokers (Nichols, 2006; Emmeree, 2003). Based on the World Health Organization reports, it is estimated that 5.4 million people die annually because of cigarette smoking. This figure is expected to rise to 10 million by the year 2025 (WHO, 2008). Smoking is the sixth cause of death in the world and if the trend remains the same until 2030, the number of smoking-induced deaths will increase to eight to ten million (WHO, 2008).

Initiation of cigarette smoking occurs almost exclusively during adolescence (Ziaaddini, meymandi, & Zarezadeh, 2007; Sally, 2009; Poorasl et al., 2011; Poorasl, Fakhari, & Shamsipour, 2011). Reportedly, more and more adolescents show an increasing tendency to smoking and it has become an ordinary habit among a considerable number of adolescents (Hiemstra et al., 2011; Pouresmlami, 2008). Although cigarette smoking among adults has steadily declined over the past decade, empirical evidence reveals that cigarette smoking among adolescents has risen sharply and now it is a global problem (Diane et al., 2005; Kear, 2002). Center for Disease Control and Prevention (2003) warns that adolescent smoking rates remain unacceptably high. Only in the United States, over five million adolescents are estimated to be cigarette smokers (Centers for Disease Control and Prevention, 2003; Mee, 2009; Nichols, 2006). Studies have identified that the initiation of cigarette smoking habits almost always occurs in high

schools, suggesting that if adolescents can be kept smoke-free during their high school time, it is more likely that they will never start smoking (Deborah, 2006; U.S. Department of Health and Human Services, 2000).

Many international studies have shown that about 85 to 90% of heavy smokers start smoking before the age of 20 (Nakhaee, Divsalar, & Bahreinifar, 2011; Pouresmlami, 2008). More than one-third of those who experienced smoking before the age of 18 will become daily and about two-thirds of them will become regular smokers (Centers for Disease Control and Prevention, 2000; Ramezankhani, Sarbandi, & Masjedi, 2010; Sally, 2009). Usually with a simple smoking experience (1 or 2 puffs), the adolescent will become regular smokers. Persons of all ages choose to ignore public health warnings related to smoking, but adolescents and young adults have the highest smoking rates. Adolescent cigarette smoking commonly paves the way towards drug use (Mee, 2009; Sally, 2009; Ramezankhani, Sarbandi, & Masjedi, 2010; Poorasl et al., 2011). In addition to more frequent use of illicit drugs, youths who consistently smoke throughout adolescence are at significantly greater risk of consuming and getting addicted to marijuana, alcohol and other drugs (Guizzetti, 2008; Mark et al., 2006; Ramezankhani, Sarbandi, & Masjedi, 2010; Vega & Gil, 2005).

Smoking has been described as an epidemic in developing countries (Rozi, Butt, & Akhtar, 2007; World Health Organization, 2008). There are about 1.3 billion smokers in the world and approximately 80% of them live in the developing countries (American Cancer Society, 2006; Rozi et al., 2007). The World Health Organization has reported prevalence of smoking among adolescents in the Eastern Mediterranean as following: 26.6% in Iran, 20.9% in Kuwait, 17.2% in Iraq, 10.1% in Pakistan and 15.9% in Saudi Arabia (WHO, 2009).

Among the other developing countries, Iran has one of the youngest population profiles in the world (Ziaaddini et al., 2007; pouresmlami, 2008). Studies in Iran indicated that most people start smoking under the age of 19, during their adolescence (Ramezankhani, Sarbandi, & Masjedi, 2010). Approximately, 71% of Iranian smokers reported that their first smoking experience was in their adolescence (Kelishadi, Ardalan, & Gheiratmand, 2006; Pouresmlami, 2008; Ziaaddini et al., 2007). The high availability and legality of cigarette smoking is the main reason for annually about 50,000 deaths in Iran (Pouresmlami, 2008). Unlike other forms of addiction, such as alcoholism, smoking cigarettes is not outlawed by religious edicts. In Iran, addiction to cigarettes is not considered to be as serious as addiction to drugs (Eftekhari et al., 2007). In contrast to other addictives, cigarettes are more available. Thus, cigarette use among adolescents needs to be taken into account and studied (Mee, 2009; Nakhaee & Divsalar, 2009; Ramezankhani, Sarbandi, & Masjedi, 2010; Rigotti et al., 2005).

In the light of the previous findings, stress and self-efficacy as individual factors, are posited to play a role in cigarette smoking behavior (Breslau, Kilbey, & Andreski, 1999; Hiemstra et al., 2011; Sally, 2009; Savioli, 2005).

Stress is an individual significant risk factor contributing to negative outcomes of adolescents' health. Stress is reported to be related to cigarette smoking behaviors since cigarette smoking is known as a way of coping with stress among adolescents. As smoking is viewed as a stress reliever, adolescents will smoke more to reduce stress (Yaris, 2010; Giesler, 2005; Feldner et al., 2007). Based on the theories and literature, stress has been reported as the best predictor of adolescent smoking behavior (Novy & Donohue, 1985). In addition, self-efficacy is another individual factor that is significantly associated with cigarette smoking among adolescents, which increases the likelihood of cigarette smoking behavior (Hiemstra et al., 2011). A lot of studies have investigated the direct relationship between self-efficacy and cigarette smoking behavior. But, no research has examined the moderating effects of self-efficacy in the process of stress and cigarette smoking behavior among adolescents. So, in order to fill the research gap, in the present study, the interactive effects of a moderating variable (self-efficacy) with the individual factor of stress influencing on adolescent smoking behavior will be examined in a sample of adolescent smokers'.

The present study was proposed to examine the relationship between individual factors of stress and cigarette smoking behavior and also investigate the moderating effects of self-efficacy on the relationship between stress and cigarette smoking behavior among adolescents in Kerman, Iran.

2. Methodology

2.1 Sample Procedure and Sample Profile

The study sample comprises adolescents' cigarette smoker between the ages of 15 and 18 years old in high schools in Kerman. Twenty-two schools were selected for the study using a cluster sampling technique (ten schools from Zone One and twelve schools from Zone Two). In order to determine the sample size, G-Power statistical analysis program developed by Erdfelder, Faul and Buchner (1996) was used. After setting the values of .1 for effect size, a power of .95 and alpha .05, the regression was selected as the data analysis method. The ideal sample size calculated by the software for this method was $n = 270$. However, to enhance the accuracy of the findings, 300

samples were collected. In addition, the sampling method used for the selection of respondents (current cigarette smokers) was convenience sampling.

2.2 Instrumentation

Stress Scale: Stress was measured by Perceived Stress Scale (PSS) (Cohen et al., 1983). PSS scale is a ten-item self-report questionnaire designed to measure an individual's level of perceived stress in the past month. The questions in the PSS ask about feelings and thoughts during the last month. This Scale rated on a five-point Likert scale, ranging from (0 = Never to 4 = Very Often). Higher scores indicate higher level of perceived stress and vice versa. The reliability assessment of the perceived stress scale in the present study, after removing three items (because of the low values of their internal reliability coefficients), yielded an alpha coefficient of 0.77.

Self-Efficacy Scale: Self-efficacy was measured by eight items adapted from the Smoking Self-Efficacy Questionnaire (Etter, Bergman, Humair, & Perneger, 2000). This instrument had a five-point Likert-type scale (Not at all sure (1) to absolutely sure (5)). Higher scores indicated high levels of self-efficacy and vice versa. The internal reliability test of the questionnaire in the present study yielded an alpha coefficient of 0.82.

Cigarette Smoking Behavior Scale: Cigarette smoking behavior was measured with questions refined from the national high school YRBS questionnaire (Centers for Disease Control and Prevention, 2000). This scale is a 5-item self-report questionnaire designed to measure cigarette smoking behavior and is rated on a seven-point Likert scale. If respondents opt for 'smoked 10-30 days in the past 30 days and less than five cigarettes each day', they are regarded as light current smokers. Additionally, smoking '10-30 days in the past 30' and 'five or more cigarettes each day' means heavy current smoker. Finally, having smoked 1-9 days in the past 30 days means that the respondent is an occasional current smoker. In this research the reliability of the Cigarette Smoking Behavior Scale was 0.77.

3. Results and Discussion

3.1 Descriptive Statistics

The descriptive analyses of the respondents' demographic background, such as age, gender, level of education, and monthly spending money, is presented in Table 1. This Table shows the frequencies and percentages of respondents' demographic background. The data were collected from 300 adolescent respondents.

The age of the adolescents, as reported by the respondents, ranged from 15 to 18. Their mean age was 16.5. The Majority of the respondents (53%) belonged to the age group of 17-18 year-olds. Regarding gender, 65% of the adolescents were male and 35% were female. In terms of education, the largest part of the subjects in this study belonged to the third grade of high school; that comprised 26.7% of the whole subjects. Table 1 also illustrates that the majority of the respondents' (66.3%) monthly spending money was between 0-130 thousand Tomans (around \$40).

Table 1. Frequencies and Percentages of Respondents' Demographic Background

Variables	Number (n=300)	Percentage (%)
Age		
15 years	69	23.0
16 years	72	24.0
17 years	80	26.7
18 years	79	26.3
Mean=16.5		
Level of Education		
First grade	69	23.0
Second grade	72	24.0
Third grade	80	26.7
Pre-university	79	26.3
Gender		
Male	195	65.0
Female	105	35.0
Monthly spending Money (Thousand Toman)		
< 130	199	66.3
> 130	101	33.7

3.2 The Inferential/Structural Equation Modeling (SEM) Results

The multivariate technique of Structural Equation Modeling was employed to test the validity of the instrument, based on the collected data and the underlying research hypothesis. In this section, the results are presented in three phases based on the practical step in SEM analyses. The steps include: (i) Individual Confirmatory Factor Analysis for each latent variable, (ii) the measurement model or overall CFA model which comprises the latent variables in the study, and (iii) the structural models to test the research hypotheses based on the research framework of study.

3.2.1. The Confirmatory Factor Analysis Models

Prior to the Structural Equation Modeling, it is necessary to confirm convergent validity and construct validity (i.e., the study constructs individually fit the model).

3.2.1.1 Stress Individual CFA

Stress was assessed by 10 items. The individual CFA for stress was specified using the items. The model has been portrayed in Figure 1. The results demonstrate that the model fits the data for this construct, for two reasons: (i) four of the goodness of fit indices fall between an acceptable value and meet the criteria for showing a good fit including GFI = .962, CFI = .981, IFI = .981, TLI = .972, and (ii) the other two goodness of fit indices including RMSEA = .083 and Relative χ^2 = 3.063 are too close to their related cutoff point; the cutoff point for RMSEA is the value between 0.03 and 0.08 and cutoff point for relative χ^2 is any value less than 3 while less than five is also acceptable according to Ho (2006). Therefore, all goodness of fit indices confirmed a good fit for the stress CFA model.

The next step was to assess the convergent validity of construct through investigation of factor loadings, average variance extracted, and constructs reliability. The indicators of this assessment have been reported in Table 2. The results regarding standardized factor loadings show that all items exceed the cutoff point of .5 and even as demonstrated in Figure 1, all items have a value above .8 supporting high levels of factor loadings. The average variance of stress construct was .67 which also exceeds the cutoff point of .5. A very high level of construct reliability (.934) was obtained for stress construct. Thus, it could be concluded that the stress construct was measured using valid and reliable items and demonstrate a convergently valid construct.

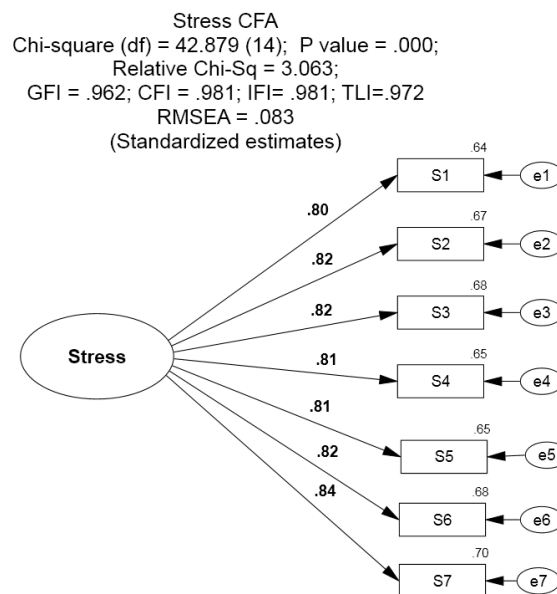


Figure 1. Stress CFA Model

Table 2. The Result of Stress CFA Model

Variable/dimension	Items	Standardized Factor loading	Average Variance Extracted (AVE)	Construct Reliability (CR)
Stress	S1	.803	.67	.934
	S2	.821		
	S3	.824		
	S4	.807		
	S5	.809		
	S6	.822		
	S7	.838		

3.2.1.2. Self-Efficacy Individual CFA

The self-efficacy construct was measured using eight items. Using these items the individual CFA model was specified. The model is shown in Figure 2. The results of model fit assessment for the self-efficacy construct confirmed that the model was fit for the data according to the following goodness of fit indices: Relative $\chi^2=2.772$; GFI = .954, CFI = .973, IFI = .973, TLI = .963, RMSEA = .077 except chi-Square ($\chi^2(20) = 55.440$, $p = .000$). The reason has been discussed in pervious individual CFA. Consequently, it could be said that goodness of fit indices support a good fit for the model.

Next, the construct was assessed for its convergent validity through factor loadings, average variance extracted, and construct reliability. The results of convergent validity assessment have been reported in Table 3. Based on these results, the standardized factor loadings for the self-efficacy construct range from .697 to .853, all acceptable values, above the cutoff point of .5. The average variance extracted for the self-efficacy construct was .57, which was satisfactory as was greater than the required value of .5. The construct reliability of the self-efficacy construct was tested and a high value of .91 was achieved which exceeds the acceptable value of .7. Consequently, the convergent validity for the self-efficacy construct was confirmed through assessment of three indicators, including standardized factor loading, average variance extracted, and construct reliability. It could be concluded that the self-efficacy construct in this study was measured through valid and reliable items.

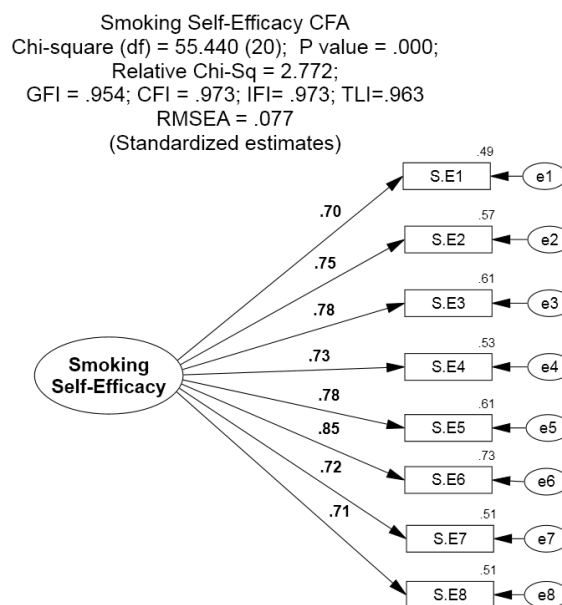


Figure 2. Self-Efficacy CFA Model

Table 3. The Result of Self-Efficacy CFA Model

Variable/dimension	Items	Standardized Factor loading	Average Variance Extracted (AVE)	Construct Reliability (CR)
Self-Efficacy	S.E1	.697	.57	.91
	S.E2	.752		
	S.E3	.780		
	S.E4	.726		
	S.E5	.779		
	S.E6	.853		
	S.E7	.717		
	S.E8	.711		

3.2.2. The Structural Equation Model

After specifying the individual CFA and the measurement model of the study (to test the validity of the instrument based on the collected data), the structural model of the study was designed. The direct structural model was employed to answer the objectives and test the hypothesized path relationships between the variables based on the conceptual research framework.

H_{A1}: There is a positive relationship between individual factor of stress and cigarette smoking behavior.

The result showed that there is a positive significant relationship between the individual factor of stress and cigarette smoking behavior ($\beta = .120$, C.R= 3.637, P= .000) (Table 4). Therefore, the hypothesized path relation between individual factor of stress and cigarette smoking behavior was supported in this study. It indicates that stress is associated with cigarette smoking behavior.

Table 4. Regression Weights based on the Structural Model

Path Hypothesis		Estimate	S.E.	Standardized Regression Weights	C.R.	P
Stress	→ Cigarette Smoking Behavior	.304	.084	.120	3.637	.000

3.2.3 Test of the Moderating Hypothesis (Self-Efficacy)

As presented in the above section for individual CFAs in this study self-efficacy was measured through 8 items as a latent variable. Therefore, in order to test the moderating effects of self-efficacy it was necessary to recode and categorize this variable in two levels including low and high self-efficacy respondent. Thus, the data elicited by the first eight items (as all of them were validated based on CFA model for this variable) were analyzed; the mean was calculated, and finally based on the mean scores the respondents were divided in two groups.

In order to test moderating effects of self-efficacy as the main objective of this study on the path relation between the variables the advanced technique of multi-group Structural Equation Modeling analysis was employed. The multi-group analyses technique was followed by using AMOS software. The system produced two variant/unconstrained and invariant/equal group models (Hair et al., 2006, 2010). According to the unconstrained group model, different regression weights were estimated for low and high self-efficacy respondents, whereas based on the invariant group model it was estimated that the path relationships of interest would be constrained to be equal among respondents with low and high self-efficacy.

H_{A2}: Moderating effects of self-efficacy on the path relationships between the individual factor of stress and cigarette smoking behavior

The results showed that self-efficacy moderates the path relation between stress, as an individual factor, and cigarette smoking behavior since the path relations between stress and cigarette smoking behavior for respondents with low self-efficacy was significant ($\beta = .151$, C.R= 4.197, P= .000). Still it was not significant for those

respondents with high self-efficacy ($\beta = .085$, $C.R. = 1.174$, $P = .240$). Therefore, the moderating effect of self-efficacy is supported on this path (Table 5 and 6).

Table 5. Regression Weights based on Unconstrained Structural Model for Low Self-efficacy Respondent

Path hypothesis	Estimate	S.E.	Standardized Regression Weights	C.R.	P
Stress → Cigarette Smoking Behavior	.370	.088	.151	4.197	.000

Table 6. Regression Weights based on Unconstrained Structural Model for High Self-efficacy Respondent

Path hypothesis	Estimate	S.E.	Standardized Regression Weights	C.R.	P
Stress → Cigarette Smoking Behavior	.185	.158	.085	1.174	.240

4. Discussion

This study focused on the role of the individual factor of stress and cigarette smoking behavior, and examined the moderating effect of self-efficacy on the relationship between stress and cigarette smoking behavior among adolescents in Kerman.

The results showed that cigarette smoking was associated with the individual factor of stress, indicating that an increased level of stress significantly raises the risk of cigarette smoking behavior among adolescents. The present finding supported the earlier studies done by Booker et al. (2007), Fields et al. (2009), Yaris (2010) and Slopen et al. (2013) who found positive relationships between stress and cigarette smoking behavior and stressed that higher levels of stress would increase the risk of cigarette smoking in adolescents. These results also supported, the social cognitive theory introducing adolescence as a problematic period of heightened stress in life. It was also found that stress has direct influence on behavioral changes and is a significant risk factor that contributes to negative consequences for health and development in the adolescence (Bandura, 1986).

Smoking as a risky behavior often occurs after stressful events or in stressful situations. A recent review of smoking motives estimates that 80% of adolescents as well as adult smokers smoke cigarettes when feeling stressed or worried (Parrott, 1992; Wilson, 1997). In fact, smoking has been cited as a means of dealing with stress among young smokers as well as among adults (Savioli, 2005). Research suggests that smoking does nothing to relieve stress and can only contribute to it (Parrott, 1999). Moreover, an adolescent, who has learned that smoking is a method of coping with stress, will develop positive schemas about smoking, which will make it easier for the adolescent to smoke or attempt to smoke (Bektas, Ozturk, & Armstrong, 2010; Cote, Godin, & Gagne, 2004; Harakeh, Scholte, & Vermulst, 2004; Martin & Bush, 2000; Sussman, 2005).

Self-efficacy is another individual factor that is significantly associated with cigarette smoking among adolescents, which increases the likelihood of cigarette smoking behavior (Hiemstra et al., 2011). Self-efficacy is one of the important aspects of social cognitive theory of Bandura. Bandura explains that self-efficacy "refers to beliefs in one's capabilities to organize and execute the courses of action required to manage prospective situations" (Bandura, 1995; P.2). Research has demonstrated that the effects of self-efficacy on behavior are pervasive (Ando & Asakura, 2007; Bandura & Adams, 1977; Barling & Beattie, 1983). Self-efficacy has been found to be a relevant predictor of susceptibility and also is negatively associated with vulnerability in adolescents (Fagan et al., 2003). Those low in self-efficacy are more likely to be susceptible than those high in self-efficacy (Epstein, Williams, Botvin, Diaz, & Ifill-Williams, 1999; Harrell, Bangdiwala, Deng, Webb, & Bradley, 1998; Laborde, 2007).

Researchers stress that self-efficacy influences the problematic behaviors like cigarette smoking (Diane et al., 2005; Fagan et al., 2003; Hiemstra, Otton, De Leeuw, Schayck, & Engels, 2011; Von, Ebert, Ngamvitroj, Park, & kang, 2005). They suggest that cigarette smoking behavior is significantly associated with the level of self-efficacy. The outcomes of a number of studies revealed that those who smoked more cigarettes had lower self-efficacy scores and were less confident in their ability to avoid smoking than those who smoked less (Ehrhart, 2005; Fagan et al., 2003; Sterling et al., 2007).

A wealth of studies examined the direct relationship between self-efficacy and cigarette smoking behavior. This was the first study that examined the moderating effects of self-efficacy in the process of stress and cigarette smoking behavior among adolescents. The findings regarding the moderating effect of self-efficacy showed that self-efficacy moderated the relationship between stress and cigarette smoking behavior.

From this finding, the important role of self-efficacy on the rate of cigarette smoking behavior becomes more obvious. Having a high level of self-efficacy is effective in controlling negative behaviors like cigarette smoking. In fact, adolescents with a high level of self-efficacy are able to cope with problems in a better way and are less likely to display negative behaviors such as smoking. They are less likely to smoke than adolescents with a low level of self-efficacy.

5. Conclusion and Implication

The findings of the present study confirm that stress is linked with cigarette smoking behavior among adolescents in Kerman, Iran. These findings reveal that stress plays a significant role in cigarette smoking behavior among adolescents. Therefore, there is the need that educators provide programs that teach adolescents how to cope with stress and also their stress management and problem solving skills, by focusing specifically on what adolescents worry about. The results also proved the moderating effect of self-efficacy on the relationship between stress and cigarette smoking behavior among adolescents. The results showed that there was a stronger impact of stress on cigarette smoking behavior in adolescents with low self-efficacy than in those with high self-efficacy. This implies that adolescents with higher self-efficacy are less likely to be affected by stress and to start negative behavior such as cigarette smoking. Therefore, having a high level of self-efficacy is effective in controlling negative behaviors like smoking. This makes the implications for educators even more obvious, given the important role of self-efficacy in the rate of cigarette smoking behavior among adolescents.

Therefore, it is important that educators provide programmes to enhance self-efficacy. Prevention programs focusing on self-efficacy may be effective ways for reducing the frequency, initiation and amount of cigarette smoking among adolescents. Prevention programs can have remarkable effect on adolescents' confidence and their abilities to say no. Such programs can also help adolescents observe positive social outcomes from refusing to smoke.

It is suggested that effective smoking prevention programs for adolescents should include strategies to enhance self-efficacy. These strategies should include social skills initiatives such as understanding one's emotions-anger control, determining one's positive and negative aspects, learning how to cope with problems, being able to say no, problem-solving, time management and defending one's rights. Also, improving adolescents' self-efficacy through training programs can help adolescents cope more effectively with stress in their lives, particularly when stressful situations are difficult to control.

It is also important that policy makers take action to deter cigarette smoking behavior and also provide and develop more programs to equip adolescents as well as their families with proper skills and knowledge about cigarette smoking behavior; the education should also cover self-health and refusal skills.

To prevent or to decrease the rate of cigarette smoking behavior among adolescents, all the involved social sectors should focus on the enhancement of students' self-efficacy and provide skills on parenting training, social resistance and stress management, in order to enforce the family policies on cigarette smoking behavior. For this, school and family educators and initiatives in the managerial and policymaking levels should be geared towards strengthening the above-mentioned characteristics.

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Abu Dhabi-Saudi Territorial Negotiations (1970-71): And the End of Britain's Dominance in the Gulf

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Abstract

The subject matter of this paper is the examination of the UAE-Saudi territorial negotiations from 1970-1971. This study discusses Britain's mediation role in the Abu Dhabi-Saudi negotiations. Of particular note is Britain's role, which focused on managing the dispute instead of settling the Abu Dhabi-Saudi border disputes. This serves as an example of Britain's wish to avoid damaging its economic interests and political relations with either the UAE or Saudi Arabia. In line with this, the paper will examine King Faisal's proposal of 1970, Shaikh Zayid's position towards it and Saudi Arabia's and Abu Dhabi's negotiation strategies and tactics in settling the disputed areas. The paper offers a full explication of the major factors that hindered the dispute's resolution before Britain officially withdrew from the Gulf.

Keywords: Twin Pillar policy, neotiations, strategy, tactics, Abu Dhabi Petroleum Company ADPC, Exclusive Agreement

1. Introduction

Despite the fact that scholars have studied the British period extensively, there is a fairly large gap in existing literature related to UAE-Saudi Arabia territorial negotiations 1970-1971. There is a reason for this: only recently have enough government documents have been de-classified and released to the public to enable scholars to reassess the subject. In the absence of Saudi and Emirati governmental records, this study has had to rely heavily on British governmental records. Most British documents on the Abu Dhabi-Saudi border dispute used in this study were declassified only a few years ago and so period from 1970-71 is relatively unstudied field. Declassified British government documents have been available to the public only for a few years, since 2009. A selection of the most important documents was subsequently edited and Schofield in *Arabian Boundaries, 1966-1975* (2009), Volumes 10 to 16. This important selection of documents has enabled me to examine the territorial negotiations of 1970-71 between the UAE and Saudi Arabia, an area that has been somewhat overlooked and should be addressed.

Britain's mediation in order to settle the border dispute between Abu Dhabi¹ and Saudi Arabia during its last two years in the Gulf is examined, focusing on its "honest broker"² role. It examines Britain's position towards the boundary question, which focused on its own interests in the disputed areas. This paper also examines how Abu Dhabi's position in the negotiations with Saudi Arabia weakened substantially when British played the honest broker role, while Saudi Arabia's position was strengthened considerably by the US government's Twin Pillar policy. This analysis will take place in reference to Shaikh Zayid's resistance to the British mediation role, and the Saudi proposal and is undertaken in order to answer one of the research questions: to ascertain what form Britain's role as mediator took and how it shaped the boundary question between Abu Dhabi and Saudi Arabia and their respective positions.

This paper has been divided into six major sections. Section one examines Britain's mediation in the boundary question between Abu Dhabi and Saudi Arabia and its implementation practices. In section two, King Faisal's proposal of 1970 will be examined, with reference to the disputed areas. This extends to an illustration of Shaikh Zayed's position towards King Faisal's proposal. Section three will examine how British interests, represented by the Abu Dhabi Petroleum Company's activities in the Zararah oilfield, played a vital role in directing Britain's policy towards the UAE-Saudi border disputes. Section four will analyse the factors involved in the context of the Abu Dhabi-Saudi border dispute, the question of the UAE federation and the Twin Pillar policy that complicated the boundary question and negotiations intended to take matters forward. Section five will analyse

the Saudi-Abu Dhabi negotiation strategies and tactics that used in order to settle the border issue. The final section concludes, presenting the relevant analysis of all the examinations.

2. Britain's Mediation Role

On 4 May 1970 King Faisal offered to solve the issue of the disputed areas (Al-Ain/Buraimi³, Khor al-Udaid⁴, Liwa Oasis) region with Abu Dhabi by proposing a referendum on Al-Ain/Buraimi region in exchange for having sovereignty in South Liwa and Khor-al Udaid.⁵ In the negotiations concerning territorial dispute between the UAE and Saudi Arabia, this was a crucial date, since the King's offer would remain Saudi Arabia's firm negotiating position until the signing of the Saudi-UAE Treaty of Jeddah on 21 August 1974. The Foreign Office attempted to persuade Shaikh Zayid that, since Abu Dhabi was soon to become an independent state and because he was unlikely to get a more favourable deal than King Faisal proposal after British withdrawal from the Gulf, the disputed areas should be settled while Britain was still present in the region. To that end, Britain's appropriate course of action in the future would be consistent with its chosen role as an "honest broker" in dealing with Abu Dhabi-Saudi dispute. A Foreign Office official speculated that, in response to British oil company activity in the disputed Zararah/Shaybah region, Saudi Arabia would be "likely as a result of these drillings, [to] call off the current attempts, in which we are acting as 'honest broker' between the two sides, to negotiate a frontier settlement."⁶

The "honest broker" role suggests that there were at least some British officials who saw Britain as a neutral mediator in dealing with Abu Dhabi-Saudi border dispute. However, this study reveals that the honest broker role was declared as a way of protecting the company's interests in the disputed areas: "we have an interest in seeing that profitability of this British company [ADPC] is not adversely affected by political difficulties over the boundary."⁷

Following Saudi Arabia's settlement offer on 4 May 1970, British officials discussed Britain's role as mediator in the territorial dispute between Abu Dhabi and Saudi Arabia. For example, in June 1970 Sir Stewart Crawford, the Political Resident in Bahrain, argued:

We ought not to be involved in details of possible territorial concessions, but I doubt where we can stay out of this subject...it is true that the more involved we are the more we may be criticized for our role in the conclusion of any compromise settlement which [Zayid] may later regret, but I doubt whether this could be as damaging for British interests as a dispute between two Arab states.⁸

In the context of the British role as "honest broker", if Thomas Princen's typology of the mediation role⁹ is applied in the British case, it could be said that Britain acted as a "principal mediator" in the Abu Dhabi-Saudi border dispute because of its direct interests and involvement in the disputed areas — such as the Abu Dhabi Petroleum Company in Zararah oilfield.¹⁰

Some British officials could not agree about their support for the "honest broker" role. For example, Sir Francis Vallat, a former Foreign Office legal adviser, stated: "to some extent HMG was in an ambiguous position in that it was on the one hand responsible for the conduct of [Shaikh Zayid's] foreign affairs and on the other was seeking to act as a mediator between the Ruler [Shaikh Zayid] and King Faisal."¹¹ And in June 1970, the British Ambassador in Jeddah wrote an assessment of Britain's historical role in the Abu Dhabi-Saudi border dispute: "we are basing ourselves only on our own view of the legal justification for our action in 1955, which has never been accepted by the Saudis."¹² The past history played a role that impacted on the development of current negotiations.¹³ As for the Saudis, they might not have trusted an honest broker at this stage, due to past history related to the Anglo-Saudi negotiations 1934-1955 that had led British unilaterally to enforce the Saudi frontier in 1955. Notwithstanding Saudi expectations of an honest broker, there were in practice two reasons why it would have been difficult for the British to apply an "honest broker" approach. First, a British oil company was drilling in the area affected by King Faisal's proposal of 1970, and secondly, the Exclusive Agreement of 1892¹⁴ remained in effect and the British still had an obligation to protect Abu Dhabi's interests.

An important question is what support Shaikh Zayid expected to receive from the British role in 1970 and 1971? According to a UAE diplomat, Shaikh Zayid had not expected that the issue of the disputed areas would remain unresolved by the time Britain withdrew from the Gulf in late 1971.¹⁵ As Crawford wrote to the FCO in May 1970, Shaikh Zayid was certain that "no solution could come to this problem simply from Abu Dhabi/Saudi negotiations and that HMG would in fact have to play a big role"¹⁶ in settling the dispute.

3. King Faisal's Proposal and Shaikh Zayid's Reaction

When it occurred to Shaikh Zayid that Britain was not prepared to take an active part in finding a settlement for the disputed areas, he tried to arrange for regional mediators, and during the negotiation process from 1970 to 1971 attempted to enlist various states to intervene, especially after it was conceded that the British mediation was not effective. As his scheduled meeting with King Faisal on 6 May 1970 approached, Shaikh Zayid, without consulting the British, tried to recruit Kuwaiti officials as mediators to smooth things over with King Faisal. However, his first attempt was not successful. When Kuwaiti officials told King Faisal that Shaikh Zayid would use the meeting to discuss the disputed areas, King Faisal indicated that he was prepared to listen to Shaikh Zayid's views on his proposal.¹⁷ However, before Shaikh Zayid travelled to Jeddah, the British learnt about the Kuwaiti mediator through the British Ambassador in Kuwait, and Shaikh Zayid was told not to discuss the dispute but instead to use the meeting to talk about the proposed federation of nine emirates.¹⁸ As a result, when Shaikh Zayid met King Faisal on 6 May 1970 and acted as the British had advised him, the talks promptly broke down, because King Faisal said that he would not support any federation without first settling the disputed areas.¹⁹

Unfortunately, the conversation between King Faisal and Shaikh Zayid at the meeting on 6 May 1970 is redacted from the FCO document cited in the *Arabian Boundaries* documents. However, King Faisal's brother, Prince Fahd Al Saud, confirmed King Faisal's proposals when he stated that: "the boundary problem can be compromised by a package that I would regard as saleable on our side; abandonment (with suitable face-saving) of territorial claims on the whole Buraimi oasis in return for concessions on the western and southern boundary [of Abu Dhabi] which could take account of established oil company interests."²⁰ Basically this represented King Faisal's proposal of 1970. At the meeting, King Faisal also demanded that drilling by ADPC should be suspended until a settlement for the disputed areas had been found.

In this context, when the outcome of the meeting did not meet King Faisal's expectations, Kamal Adham, Saudi consultant to King Faisal, declared that King Faisal, who was critical of Shaikh Zayid for not discussing the border dispute as the Kuwaitis had said he would, might resort to using force against Abu Dhabi.²¹ On 19 May the British Embassy in Kuwait reported that, according to the local Kuwaiti press: "Saudi Arabia is planning to take back the Buraimi oasis after British withdrawal in 1971."²² The report seemed credible to the Foreign Office because, after King Faisal and Shaikh Zayid had met, Ambassador Morris reported King Faisal's comment that: "one way or another [the disputed areas] must be settled before the British left, and if not by negotiation then by other means."²³

Furthermore, when ADPC continued its drilling operations after Shaikh Zayid's visit to Jeddah, King Faisal declared "if drilling was not stopped the Saudis might use force to remove the company's equipment. The ruler [Shaikh Zayid] was given until the end of June to reply to these demands."²⁴ (See Figure 1). Shaikh Zayid was well aware of the much greater power of Saudi Arabia compared with Abu Dhabi, but was determined to resist Saudi territorial claims against Abu Dhabi. A British telegram of 31 May 1970 recorded Shaikh Zayid's view of King Faisal's proposal in the Indian newspaper *Blitz*; Shaikh Zayid said: "we are weak and they are strong but if they push us this will create resistance."²⁵

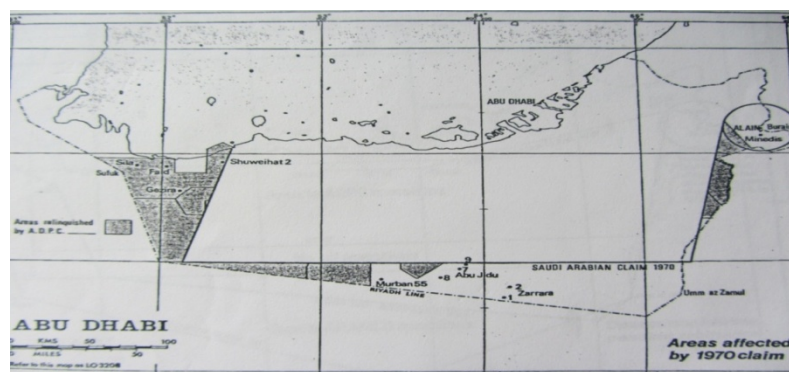


Figure 1. Location of Wells in Zararah Oilfield, South of Abu Dhabi

Source: Abu Dhabi Petroleum Company map showing location of oil field at Zararah in relation to Saudi claims of 1970. FCO/8 1338, in *Arabian Boundaries*, vol.11, 1970. p. 498.

Bahrain was the second mediator, but its role was not successful either. Shaikh Isa bin Khalifa, the Ruler of Bahrain, expressed his anxiety about the instability that the Abu Dhabi-Saudi territorial dispute could bring to the Gulf. He told King Faisal that: "his attitude to Abu Dhabi could ruin the [Federation]"²⁶

British government officials strongly opposed the involvement of both Kuwait and Bahrain²⁷ in the negotiation process between Abu Dhabi and Saudi Arabia.²⁸ In fact, although the British had failed to advocate on Shaikh Zayid's behalf under the Exclusive Agreement of 1892 against Saudi demands, they wanted to control the involvement of mediators, and interfered with Shaikh Zayid's attempts to arrange for mediators under the Exclusive Agreement. In addition, on 19 June 1970, the Foreign Office sent a telegram to the Political Residency in Bahrain:

We are glad that [the Political Agent in] Abu Dhabi has persuaded [Shaikh Zayid] not to approach the [US] state department at this stage. We must certainly consider carefully what role the Americans could play, but it should be for us on [Shaikh Zayid's] behalf and not [Shaikh Zayid] himself to bring them in as regards enlisting the services of intermediaries from the Gulf area [...] we doubt whether such intermediaries could play a particularly significant role at present.²⁹

The British had informed the Americans that they should keep out of the boundary question since the British were having a hard time dealing with King Faisal.³⁰ Here it is unclear why Shaikh Zayid would have considered asking the Americans to mediate in the Abu Dhabi-Saudi border dispute. The FCO documents cited in *Arabian Boundaries* are not helpful in this regard, so one can only speculate based on the available evidence. Certainly the United States had direct interests in aiding Aramco and protecting American military contracts with Saudi Arabia, and as partners with Saudi Arabia, the Americans could push the Saudis to make a reasonable concession.

3. The Britain's Interests in the Disputed Areas

In response to King Faisal's demands for ADPC drilling at Zararah to stop, the British took security measures in the Batin region, where the oil operations were located, to discourage any possible Saudi aggression south of Liwa.³¹ Shaikh Zayid also suggested relocating a squadron of the Abu Dhabi Defence Force from Al-Ain/Buraimi to the Umm al-Zamul area.³² In this context, the Saudi use of force might be not directed against all of Abu Dhabi's territories, but against ADPCs drilling operations in the south of Abu Dhabi only.

At the same time, British officials had drafted a suggested response for Shaikh Zayid to King Faisal's demand, which stated the following:

I believe that there must have been a misunderstanding between us about the outcome of our discussion in Riyadh. When we discussed drilling in the Batin [where is Zararah oilfield located], I had intended that my undertaking to your majesty should be confined to well one at Zararah only. In accordance with that undertaking, I gave instructions that drilling there should be halted...As your majesty will be aware, the oil company concerned is engaged in an extensive and important programme of exploration which it would be unreasonable to delay in view of the heavy expenditure which the company has already incurred. I have every hope that this programme will help in due course not only bring much needed development to the area but also to promote stability there.³³

The draft reflects how British interests would be affected should ADPC have to suspend its activities and remove its equipment, which would cause considerable losses for the company. In fact, drilling was temporarily suspended on Zararah well no.1 but was shifted for drilling to continue on Zararah well no.3. [see Figure1.] When King Faisal learnt about the continuation of drilling, he demanded that it must stop in all the territory in question.³⁴ Despite King Faisal's possible use of force to remove the company's equipment,³⁵ an executive of the Abu Dhabi Petroleum Company wrote to the Foreign and Commonwealth Office requesting the British government to take steps to ensure the continuation of the ADPC's concession rights.³⁶

British officials also promoted the settlement of the dispute as being both financially important for British oil companies and socially important for the people living in the areas. Correspondence between the Foreign Office and the Abu Dhabi Petroleum Company suggests that King Faisal's demands that ADPC's activities should be stopped meant that ADPC's interests were at stake, as the following telegram suggests:

As the Saudi government will be aware, the Abu Dhabi Petroleum Company has for some time been engaged in a programme of exploration for oil resources, including drilling test wells, in what H.M Government and His Highness the ruler of [Abu Dhabi] regard as the southern part of Abu Dhabi territory. Some of these operations are in an area which his Majesty King Faisal has proposed should be regarded as Saudi territory in the proposals which he made to His Highness Shaikh [Zayid] on 4 May, 1970. Shortly after that date certain of the company's operation were temporarily suspended while his Majesty's proposals were being examined. However,...any delay in operations to explore and exploit such resources not only involves the company in considerable financial loss but, more important, postpones the day when the people of the area can benefit from these resources.³⁷

This letter was written in July 1970, two months after King Faisal had demanded an end to ADPC drilling at the Zararah oilfield. It is interesting because it aligns British interests with the economic development of the area while attempting to limit ADPC's potential financial losses. However, King Faisal continued to pressure Shaikh Zayid and the British, beginning with a demand that drilling should stop at Zararah no.1. Shaikh Zayid had agreed to King Faisal's first demand at their previous meeting on 6 May 1970, but King Faisal later told the British that his demand had also included Zararah wells nos. 2, 3 and 4.³⁸ Drilling operations had been continuing sporadically since May 1970 at a time when King Faisal's anger was escalating. The FCO reported that:

King [Faisal] accused Shaikh [Zayid] of allowing the Abu Dhabi Petroleum Company (ADPC) to drill in [Zararah] area just north of the modified Riyadh Line³⁹...which was regarded as Abu Dhabi territory but which, under the King's proposals, would become part of Saudi Arabia. He asked Shaikh Zayid to order ADPC to suspend drilling forthwith and threatened to remove their rig by force if this was not done.⁴⁰

In light of this report, it is obvious that the major impediment to negotiations moving forward was that the Saudis and the British had different perspectives of the frontier lines on which their negotiations were based. The Saudis wanted drilling activities to be suspended in term of King Faisal's 1970 proposal. However, the limit of the Abu Dhabi Petroleum Company's concessions was drilling within the modified Riyadh line, which the Saudis had never recognised in the first phase of the Anglo-Saudi negotiations from 1935 to 1949.

In addition to protecting ADPC's interests as mentioned earlier, a proposal by William Luce included the creation of blocked accounts. Profits from oil production would be put into these blocked accounts and none of the money would be paid out "until Saudi Arabia and Abu Dhabi agreed to reach an agreement. Even if the sovereignty of Zararah is transformed [to Saudi Arabia] at any time in the future would not be impacted on [company's] right as a concessionaire."⁴¹ King Faisal and Shaikh Zayid both rejected Luce's proposal, and not long afterwards, C. J. Treadwell, the Political Resident, informed the Foreign Office that: "[Shaikh Zayid] thought that our advice to him on settling [south of Liwa] was coloured by our wish to protect our own political as well as British commercial interests."⁴² The Foreign Office acknowledged: "that [Luce's] proposal would not be in the interest of Abu Dhabi and Saudi Arabia even if they could be persuaded to accept it and that it might cast doubt in [Zayid's] mind on HMG's motives."⁴³

It is important to note that Saudi Arabia's attempt to draw the British to its side by promising to protect the sovereignty rights of the ADPC's concessions over the disputed areas would be transferred to Saudi Arabia. Documented evidence in *Arabian Boundaries* strongly suggests that the British worked hard to protect the Abu Dhabi Petroleum Company and to satisfy the Saudis. According to a Foreign Office minute from October 1972, British officials secretly received assurances on at least three occasions that Saudi Arabia would honour the British oil company's concessions in the disputed areas. The correspondence between the British and the Saudis was dated May 1970, and Kamal Adham, King Faisal's advisor, also gave these assurances in June and in August. For example, on 22 August 1970, King Faisal told Sir William Luce: "the rights of existing oil concessionaries onshore and offshore would be preserved in any territory ceded by Abu Dhabi to Saudi Arabia", while Kamal Adham confirmed that British companies would keep the concession rights in their areas and would not be affected by any Abu Dhabi-Saudi Arabia border changes.⁴⁴ In that context, the British were being prepared for a change in sovereignty over the disputed areas, namely in Zararah oilfield. Of course, these assurances encouraged the British to persuade Shaikh Zayid towards an agreement based on King Faisal's proposal.

4. The Abu Dhabi-Saudi Border Disputes in Context of the Federation Question and the Twin Pillar Policy

The initial plan for a federation of nine Gulf States⁴⁵ failed for a number of reasons, most notably the conflicting interests of the states themselves, along with Saudi Arabia's refusal to take a position on supporting a federation of nine states until the disputed areas with Abu Dhabi had been resolved. Later, seven states would unify as the United Arab Emirates. In term of the Abu Dhabi-Saudi border dispute the British were concerned about the future of a federation of the emirates, and in April 1971, the Political Agent in Abu Dhabi, C. J. Treadwell, wrote to the Political Resident in Bahrain:

There is a little hope for a union of nine. One unknown factor is the attitude of Saudi Arabia towards a federation of seven states including Abu Dhabi. Saudi Arabia's claim against Abu Dhabi territory might cause [Saudi Arabia] to hesitate before agreeing to recognise any federation of seven.⁴⁶

Saudi Arabia's linking of dispute resolution to recognition of the UAE placed Shaikh Zayid in an extremely stressful position. In July 1971, the British Embassy in Jeddah suggested to the Foreign Office that "if it becomes clear that King Faisal will continue to oppose a Union until the boundary question is solved, it might be possible to persuade [Shaikh Zayid] that it would be worth making further territorial concessions."⁴⁷ By linking its support for a federation to the resolution of the disputed areas, Saudi Arabia simply complicated the question of the boundary. Hussam Al-Ulama has commented that by linking the settlement of territorial dispute to diplomatic recognition of the future new federation, King Faisal wanted to weaken Abu Dhabi's negotiating position by making the matter into a heavy burden.⁴⁸ In doing this, Saudi Arabia employed tactics of psychological warfare. According to Fisher and Ury, psychological warfare puts the threatened party under stress and thereby produces a subconscious desire to end the dispute by accepting the other party's demands.⁴⁹

As far as the Foreign Office was concerned, the future United Arab Emirates was obliged to establish good relations with Saudi Arabia and Iran in order to ensure its own survival. In June 1970, the British Foreign Office declared:

We fully recognise Saudi Arabia's interest in the political stability of the Gulf. We recognise that Saudi Arabia and Iran will be the natural guardians of that stability after our military withdrawal... it is necessary that all three parties [the Emirate Rulers, the Saudis, and the Iranians] should agree among themselves. All this we say to the rulers, the Saudis and the Iranians, in the belief that this is also the best way of looking after our own considerable interests after 1971.⁵⁰

Saudi Arabia's position was strengthened in terms of the Twin Pillar policy, even though that policy remained problematic in terms of Abu Dhabi's future relations with both Iran and Saudi Arabia. In fact, Abu Dhabi had an outstanding territorial dispute with the Saudis, and at the same time, Sharjah and Ras al-Khaimah had territorial disputes with the Iranians over three islands in the Strait of Hormuz.

In addition to Saudi and British pressure to accept King Faisal's proposals, Shaikh Zayid also faced pressure from Iran. According to US government analysis of the Gulf region in August 1970, Iran's ambassador to Great Britain announced in London that Iran would not recognize or cooperate with a federation unless Iran was recognized as having sovereignty over the three islands claimed by Sharjah and Ras al-Khaimah.⁵¹

The Twin Pillar policy depended on Saudi Arabia and Iran to provide security for the Gulf. Like Great Britain with the Abu Dhabi-Saudi border dispute, the US was similarly positioned, and in significant ways was subordinated to its Twin Pillar policy. However, the Americans blamed the British for not pushing Shaikh Zayid hard enough towards a settlement and for not having played an effective mediation role in the early stages of negotiations. According to a State Department memorandum dated 27 September 1970:

The British have not been putting any serious pressure on [Shaikh Zayid] of Abu Dhabi to resolve his boundary dispute with the Saudis even though [King] Faisal for the last year has seemed unusually amenable to a settlement. The British do not believe this problem will prevent the formation of the proposed Trucial States Federation. We are not so confident; we doubt Faisal will recognize the federation so long as the boundary problem is unresolved.⁵²

4. Saudi Negotiation Strategy and Tactics

From a close reading of the relevant documents in *Arabian Boundaries*, it is clear that in negotiating, the Saudis used a control strategy in which one party uses its power to dominate another negotiator.⁵³ In theoretical terms, 'control strategy' is described from the winner's perspective as opposed to 'accommodation strategy', which is described from the perspective of the loser.⁵⁴ This study shows that the Saudis successfully applied a control

strategy using contentious tactics, and this strategy, which was employed by Saudi Arabia throughout the negotiation process, appears to have been characterized by “dirty tricks”. The dirty tricks include ‘take it or leave it’, refusal to negotiate, extreme demands, overt anger, harassment, fixed positional commitments, and threats (including threats of use of force).⁵⁵ Dirty tricks do not allow negotiations to proceed peacefully towards outcomes associated with mutual concessions.

The British archival records make it obvious that in implementing a control negotiation strategy the most aggressive tactics used by the Saudis were ‘take it or leave it’ and refusal to negotiate over King Faisal’s proposal of May 1970. Jim Treadwell states: “any attempt to re-negotiate on the basis of Faisal’s Take it or leave it would be quite useless.”⁵⁶ The Saudis made Shaikh Zayid’s acceptance of King Faisal’s terms a precondition for negotiations to proceed. For example, in August 1970, months before the plan for a conference in Dammam was dropped, Ambassador Morris reported to the Foreign Office about a conversation he had had with King Faisal, in which the King confirmed that there was no point in continuing the negotiation process unless Shaikh Zayid accepted his proposal.⁵⁷

King Faisal also warned that if Shaikh Zayid did not accept the Saudi offer, he would retract it and return to Saudi Arabia’s 1949 claim to 80 percent of Abu Dhabi’s territory, including the Al-Ain/Buraimi oasis region.⁵⁸ Furthermore, he threatened to resolve the disputed areas with or without negotiations. In addition there are many reports that hint at the possible use of force by the Saudis if the disputed areas were not resolved on King Faisal’s terms and prior to completion of the British withdrawal from the Gulf in late 1971.

Interestingly, not all the Saudi pressure on Shaikh Zayid came from King Faisal and the Saudi central government. Late in June 1970 the governor of Saudi Arabia’s Eastern Province wrote to Shaikh Zayid, complaining that:

We have been informed by our patrols that patrols belonging to your government have entered Saudi territory on a number of occasions and have stationed themselves at water wells, which have been dug by ARAMCO. In particular there was a patrol in the early part of this month commanded by an English captain.⁵⁹

The governor’s letter represents the tactic of harassment, which involves actions designed to annoy the other negotiating party to gain compliance with demands.⁶⁰ In response to that particular instance of harassment, Abu Dhabi denied the Saudi claim and apparently nothing further came of it; however, the incident illustrates Saudi efforts to keep direct pressure on Shaikh Zayid. By mentioning that a British officer was in command of an Abu Dhabi patrol, the Saudis also indirectly pressured the British.

An informant in Beirut also told the British that King Faisal had lost his temper with Shaikh Zayid for failing to accept his proposal.⁶¹ Importantly, anger can signal a negotiator’s unwillingness to move from a positional commitment,⁶² and suggests that from May 1970 onwards this might have been King Faisal’s aim.

I could not find any statements or even a hint in the documents cited in *Arabian Boundaries* that the Saudi tactic of ‘take it or leave it’ and/or the Saudi refusal to negotiate over King Faisal’s proposal were in any way responsible for hindering progress on the negotiations. The Saudis insisted that Saudi sovereignty over the disputed areas claimed by King Faisal was non-negotiable. However, their contentious tactics produced mixed results. On the one hand, Shaikh Zayid met many of King Faisal’s demands,⁶³ but resisted making territorial concessions on the basis of the Saudi offer of 4 May 1970. On the other hand, the desire not to upset King Faisal gave the British another reason to push for a quick settlement, regardless of possible negative outcomes for Shaikh Zayid.

Given Saudi Arabia’s strength in comparison with Abu Dhabi, and Britain’s belief that the dispute should be settled quickly as King Faisal wished, it is not surprising that the Saudis never dropped their control negotiation strategy or the contentious tactics that supported it. Due to Saudi Arabia’s power advantage, Shaikh Zayid did not have the necessary resources to punish Saudi Arabia effectively for its use of dirty tricks; nor did the British provide Abu Dhabi with those resources. Instead, they advised Shaikh Zayid to accommodate Faisal’s demands.

4.1 Playing the Al-Ain/Buraimi Card

Historically both Abu Dhabi and Saudi Arabia had attached great importance to Al-Ain/Buraimi region, as John Duke Anthony discussed in 1975:

For Zayid, Buraimi has always been a very special oasis...in the center of the emirate’s Eastern Province where, at Al-Ain, he spent most of his formative years prior to becoming Ruler. Until quite recently [Al-Ain/Buraimi] was also a major source, even though 90 miles away, of much of [Abu Dhabi’s] water supply. For Faisal equally, the dispute over Buraimi was of special significance. To him, it was an issue of pride and honor, a reminder of past Wahhabi glories, and more recently,

of a humiliating defeat inflicted by Zayid and the British when the Trucial Oman Scouts drove Saudi forces from the area in 1955.⁶⁴

On 15 May 1970, the British Foreign Office reviewed a report on the status of claims on Buraimi oasis made by Abu Dhabi and Saudi Arabia. The Foreign Office noted that Saudi Arabia had never dropped its claim to the Al-Ain/Buraimi oasis region. Furthermore, according to Foreign Office minutes, “[King Faisal] feels that his own personal honour and the prestige of Saudi Arabia are deeply involved and can only be satisfied by Abu Dhabi and the Sultanate's acceptance of the Saudi claim.”⁶⁵

Although the Foreign Office continued to receive reports of King Faisal's extreme anger over the failure to settle the dispute, by August, Dr Rashad Pharon, a senior Saudi official, had told Morris that: “if [Shaikh Zayid] would accept the Saudi proposals for the southern and western boundaries as they stand, then he thought that [King Faisal] would accept this as a settlement of the ‘Buraimi problem’ and drop his claims to the oasis without referendum or ascertainment.”⁶⁶ In a subsequent telegram to the Foreign Office, Morris recommended that: “we should immediately use all our powers of persuasion to get [Shaikh Zayid] to tell us he would acquiesce in the deal proposed by Dr. Pharon.”⁶⁷

In view of Saudi resentment at Britain's past history of humiliating Saudi Arabia and expelling Saudi forces from Buraimi in 1955⁶⁸, the offer which they were now making to drop their claim to Buraimi was clearly seen by them as a major concession. The move was also interpreted by the British as a significant concession. Thus, the British urged Shaikh Zayid to accept King Faisal's terms.

The view from Abu Dhabi and Oman, however, was different. The Ruler of Abu Dhabi and the Sultan of Oman had been jointly administering the Al-Ain/Buraimi oasis region since 1869, after they had expelled Saudi forces.⁶⁹ Their sovereignty over the region was temporarily disrupted in 1952, when Saudi Arabia occupied Hamasa. It could in fact be argued that, by playing the Al-Ain/Buraimi card through publicly maintaining a claim on the oasis during the 1970s and onwards, and informing the British of the possibility of dropping the claim, the Saudis were perhaps responding to the political reality of Abu Dhabi's sovereignty over Al-Ain/Buraimi. As early as 3 June 1970, C. J. Treadwell, Political Agent in Abu Dhabi, reported that: “the Saudis should be discouraged from thinking that the oasis might be negotiable. Political and strategic considerations aside, [Shaikh Zayid] would encounter the strong opposition of his family if he admitted that the Saudis had a right to be heard on this issue.”⁷⁰ There were also “hawks” in Shaikh Zayid's government who strongly opposed both major territorial concessions by Abu Dhabi, and disagreed with Britain's advice to Shaikh Zayid about settling the dispute.⁷¹ In the UAE perspective, the Saudi offer to drop the Al-Ain/Buraimi claim was more a recognition of reality than a significant concession.

Playing the Al-Ain/Buraimi card could be interpreted as a negotiating tactic aimed at creating the impression that the Saudis were engaged in making mutual concessions in the negotiation process. Compromise and concession, according to Cohen, are dishonourable in Arab culture unless compromise and concession are mutual.⁷² Thus, using the Al-Ain/Buraimi card in the negotiation process may have given an impression that the disputing parties were actually involved in a mutual process to resolve their dispute peacefully. This study concludes that playing the Al-Ain/Buraimi card was a Saudi attempt to appear reasonable and legitimate.

5. Abu Dhabi's Negotiation Strategy and Tactics

During the negotiation process Shaikh Zayid, who wished to keep Abu Dhabi territory in the West and South, had no clear negotiating strategy, largely because he had depended on British mediation as a factor that would improve Abu Dhabi's position. Instead, the British pushed him to settle the dispute on King Faisal's terms with the result that he found himself almost exclusively on the defensive against Saudi “take it or leave it” tactic and British persuasion. Abu Dhabi was too weak to make effective use of any “tit-for-tat”⁷³ tactics to reward cooperative Saudi behaviour or punish competitive Saudi behaviour, and because he was discouraged by the British from making any counter-offers, Shaikh Zayid initially began to yield to Saudi demands.

Regarding the “tit-for-tat” strategy, Pruitt and Carnevale note that when one party to a dispute does not cooperate in negotiations, the other party is perceived as forceful. As a result, the first party may decide to choose collaboration over non-cooperation, with the possible risk that the second party might exploit the first party's collaboration, although it is felt that the second party is unlikely to try to take an advantage of the first party.⁷⁴ Unfortunately, this explanation overlooks the central role of power in the “tit-for-tat” strategic model, since for such a strategy to succeed, the party that employs it must have enough power to punish or reward the other party's actions.

In the context of the “tit-for-tat” model proposed by Pruitt and Carnevale, Shaikh Zayid could have expected cooperative behaviour from King Faisal. However, Saudi Arabia consistently exploited Abu Dhabi’s collaborative behaviour and took advantage of Shaikh Zayid’s positive response. For example, following King Faisal’s May 1970 proposal, Shaikh Zayid gave the impression that he “would not reject the Saudi proposal out of hand.”⁷⁵ As noted previously, King Faisal requested Shaikh Zayid to stop drilling at Zararah, and on 18 May Shaikh Zayid sent a letter to King Faisal reporting that: “following my discussion with your Majesty on the 4th of May, I wish to inform your Majesty that there is now no drilling at [Zararah well] no. 1 and that I and my advisors are giving careful consideration to your Majesty’s proposals.”⁷⁶ In this context, Shaikh Zayid’s actions were consistent with a negotiator who was eager to establish a cooperative negotiation process.

However, on 25 May, Ambassador Morris in Jeddah informed the Foreign Office that Aramco had sent two aerial photography missions to verify Shaikh Zayid’s claim that drilling had indeed stopped at Zararah well no.1. This mission had verified Shaikh Zayid’s claim, but had also brought back aerial photographs of rigs going up at Zararah well no.3. Aramco officials then “directed King Faisal to issue the policy of [sus]pending drilling in the whole [Zararah] area not only on well no. one.”⁷⁷ Thus, the Saudis responded to Shaikh Zayid’s cooperative gestures by escalating demands for a halt to ADPC’s activities in the whole area.

As defined by Pruitt and Carnevale, trust, as an “expectation that the other party will cooperate in the future”⁷⁸ was missing right from the beginning of the negotiation process. The Saudis did not trust Shaikh Zayid’s word about stopping drilling at Zararah well no.1 and relied on Aramco to verify that the Shaikh had told King Faisal the truth. After the Saudis shifted their focus from one oil well to all ADPC activity in the Zararah area, Shaikh Zayid had less reason to trust the Saudis as well. By September 1970 Mr. Coles, Political Agent at Dubai, was reporting to the Foreign Office that Shaikh Zayid believed “if [King Faisal] was given an inch he would want an ell”⁷⁹ and it was therefore better to begin by offering very little.”⁸⁰

Churchman states that negotiators who do not want a reputation for making negotiable offers will make small concessions, often at no cost to themselves.⁸¹ In this context, and according to Mana Saeed al-Otaiba, the former UAE Oil Minister, Shaikh Zayid’s offer suggested that he did not trust the Saudis and had begun by making only small concessions, since he had not developed a dominant consensus within Abu Dhabi that favoured conceding substantial territory to the Saudis.⁸² By April 1971, Shaikh Zayid had offered to concede access rights to Khor al-Udaid to the Saudis.⁸³ Otaiba told the Political Agent in Abu Dhabi that Shaikh Zayid had been eager to make the Saudis an offer but had not yet convinced all the other Shaikhs in Abu Dhabi to agree to territorial concessions in either the west or the south.⁸⁴ But on 28 October 1971, Sir William Luce wrote to I. S. Winchester in Jeddah to say that Shaikh Zayid had told him that: “the most he was prepared to offer the Saudis was an oil profit sharing zone, with joint sovereignty, and a strip of his southern border twenty kilometres wide at its widest point.”⁸⁵ By this time, the British were aware that King Faisal had absolutely rejected any settlement involving shared revenues or joint sovereignty.

Regarding the issue of a neutral zone, a senior Saudi official explained that the Saudi experience of a neutral zone with Kuwait had created problems. When the Saudis rejected proposals that included joint sovereignty or the creation of a neutral zone, official analysis by the British supported the Saudi case. For example, creating a neutral zone was thought to be a problematic issue that concerned the rights of American and British oil companies with existing concessions, and the different perspectives of the British and the Saudis towards the definition of the south eastern frontier lines.⁸⁶

The Saudis had previously experienced problems of this kind in the administration of the neutral zone with Kuwait, and in November 1970, the Foreign Office had told the Bahrain Political Residency that: “the Saudis were not prepared for such problems to be raised again in the Abu Dhabi/Saudi Arabia context.”⁸⁷ However, as a result of Saudi inflexibility the British now had to focus on Abu Dhabi’s approach to negotiating the dispute.

6. Conclusion

One of the major factors that hindered the dispute’s resolution was the British role. This study concludes that the British mediation role was definitely passive for Abu Dhabi. In the early 1970s, official British policy declared Britain’s new role of “honest broker” or neutral mediator in dealing with the dispute. From the beginning, it was, in practice, an unlikely role for Britain to play since the British had substantial direct interests in the disputed areas, specifically in Zararah oilfield with respect to the activities of the ADPC. The involvement of British interests in the disputed areas restricted the role of the British to managing the dispute and carrying messages from Saudi Arabia to Abu Dhabi, which did not help to move the negotiation process forward. The records for 1970-71 included in *Arabian Boundaries* make it clear that the Saudis expected the British to pressure Abu Dhabi into accepting Saudi Arabia’s terms, and that the British attempts to influence Shaikh Zayid to accept King Faisal’s

proposals failed. It was a significant failure, since a high priority for Britain had been either a temporary settlement, or, if possible, any solution at all to the matter of disputed areas, prior to British withdrawal from the Gulf in late 1971. The reason underlying Britain's reduced involvement in the dispute was due to its refusal to make any serious commitment to its obligations to Abu Dhabi under the Exclusive Agreement of 1892 that might damage its relations with either Abu Dhabi or Saudi Arabia.

The second factor that hindered the dispute's resolution was the Saudi control negotiation strategy. It concludes that Saudi Arabia entered negotiations with the fixed strategic goal, presented in King Faisal's proposal of 1970, of obtaining recognition of claims to territory in the southern and western areas of Abu Dhabi. To implement that goal, the Saudi government used control strategy, employed inflexible positions and a range of negotiation tactics that fall into the 'contentious tactics' and "dirty tricks" categories. The only concession beyond King Faisal's May 1970 proposal was the dropping of the claim to the Al-Ain/Buraimi region. In contrast, Shaikh Zayid's position and Abu Dhabi's negotiating strategy and tactics seem to have become somewhat confused due to the limited role of the British. By 1970-71, the British were attempting to persuade Shaikh Zayid to settle the dispute on King Faisal's terms, with the result that Shaikh Zayid found himself on the defensive against Saudi Arabia's control strategy and British persuasiveness.

As British withdrawal from the Gulf approached, no settlement has been found to the disputed areas. Ambassador Morris in Jeddah had told the Foreign Office that: "our difficulty has always been to persuade [Shaikh Zayid] to meet [King Faisal's] demands in the south and west."⁸⁸ The Ambassador's remark reflected a consensus that had developed among British officials by 1971 that Shaikh Zayid was the major obstacle to the settlement of the disputed areas. When the British withdrew officially the disputed areas remained unsettled because the gap between Abu Dhabi and Saudi Arabia remained as wide as ever.

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¹ Author's Note: The term Abu Dhabi has been applied somewhat interchangeably in the text. Historically (1820-1971) the border dispute was between the Emirate of Abu Dhabi and Saudi Arabia. However, following Britain's military withdrawal from the Gulf on 1 December 1971, and because the United Arab Emirates become an independent state on 2 December 1971, I have used UAE when referring to the border dispute with Saudi Arabia after that date.

² Foreign Office Minutes by J. M. Edes, 'Abu Dhabi/Saudi Arabia Frontier Dispute,' 23 September 1970, FCO8/1340, TNA, London, in *Arabian Boundaries*, vol. 11, ed. Schofield, p. 698. In practice the role of honest broker was an unlikely one for Britain to play, because the British had direct and substantial interests in the disputed areas, namely the Zararah oilfield in Liwa oasis. Their passive role reflects an intention to avoid their obligations to Abu Dhabi under the Exclusive Agreement of 1892, which would remain in effect until 30 November 1971.

³ Al-Ain/Al-Buraimi oasis region consists of nine oases/villages, seven of which — Al-Ain, Al-Jaheli, Al-Qattarah, Al-Muwaiji, Al-Hill, Al-Masudi, and Al-Muhtaredh — are today under Abu Dhabi's control, while the remaining three, namely Hamasa, Sa'ara and Buraimi, today belong to the Sultanate of Oman.

⁴ The term in Arabic means an inlet from a large body of water. Khor al-Udaid is a shallow inlet located on the eastern side of the base of the Qatar peninsula. A coastal inlet at the intersection between modern-day Abu Dhabi, Qatar, and Saudi Arabia

⁵ King Faisal had initially offered a referendum over Buraimi, but offered to drop his claim to Buraimi in June 1970.

⁶ Foreign Office Minutes by J. M. Edes, 'Oil Company Drilling in Abu Dhabi,' 11 November 1970, FCO8/1314, TNA, London, in *Arabian Boundaries*, vol.11, ed. Schofield, p.771.

- ⁷ A. Reeve & S. L. Egerton (Abu Dhabi) to (Foreign Office), “Abu Dhabi/Saudi Arabia: ADPC Drilling at Zarrara”, 8 March 1971, FCO8/1613, TNA, London, in *Arabian Boundaries*, , vol.12, ed. Schofield, pp. 259-260
- ⁸ Sir S. Crawford (Bahrain), to (FCO), 10 June 1970, FCO8/1335, TNA, London, in *Arabian Boundaries*, vol. 11, ed. Schofield, p. 252.
- ⁹ Thomas Princen, *Intermediaries in International Conflict* (Princeton University Press, 1992), p. 23.
- ¹⁰ See Figure. 1, p 143
- ¹¹ Letter No DD/Sep D. Nixon, Withers, (London), to J. M. Edes, (Foreign Office), 29 December 1970, FCO8/1341, TNA, London in *Arabian Boundaries*, ed. Schofield, vol. 11, p. 844.
- ¹² W. Morris (Jedda) to (FCO), 12 June 1970, FCO8/1335, TNA, London, in *Arabian Boundaries*, vol.11, ed. Schofield, p.256.
- ¹³ L. N. Rangarajan, *The Limitation of Conflict: a Theory of Bargaining and Negotiation* (London: Croom Helm, 1985), p 84
- ¹⁴ The Exclusive Agreement of 1892 would expire on 30 of November 1971, though it was still in effect when Shaikh Zayid attempted to act independently of the British.
- ¹⁵ UAE diplomat, Interview, Washington, 25 November 2010.
- ¹⁶ Sir S. Crawford (Bahrain), to (Foreign Office), 29 May 1970, FCO8/1334, TNA, London in *Arabian Boundaries*, vol. 11, ed. Schofield, p.127.
- ¹⁷ A. C. Goodison (Kuwait), to (FCO), “Shaikh Zayid’s visit to Riyadh”, 6 May 1970, FCO8/1332, TNA, London, in *Arabian Boundaries*, vol. 11, ed. Schofield, p. 846.
- ¹⁸ W. Morris, British Ambassador in Jeddah (Deleted in yellow) (Jeddah), to (FCO) 6 May 1970, FCO8/1332, TNA, London, in *Arabian Boundaries*, vol. 11, ed. Schofield, 1970, p. 848.
- ¹⁹ W. Morris (Jedda), to (Foreign Office), 6 May 1970, FCO8/1332, TNA, London, in *Arabian Boundaries*, vol. 11, ed. Schofield, p. 848.
- ²⁰ Foreign Office minute by A. A. Acland, Abu Dhabi –Saudi Arabia, 15 June 1970, FCO8/1337, TNA, London, in *Arabian Boundaries* , vol. 11, ed. Schofield, p.365.
- ²¹ Mr. Jim Treadwell (Beirut) to (Foreign Office), 31 May 1970, FCO8/1334, TNA, London, in *Arabian Boundaries*, vol. 11, ed. Schofield, p.141
- ²² Mr. Goodison (Kuwait), to (FCO), 19 May 1970, FCO8/1334, TNA, London, in *Arabian Boundaries*, vol. 11, ed. Schofield, p.945.
- ²³ W. Morris (Jedda), to the (FCO), 6 May, 1970, FCO8/1332, TNA, London in *Arabian Boundaries*, vol. 11, ed. Schofield, p. 849.
- ²⁴ N.J. Barrington (Foreign Office), to P.J.S Moon, 28 May 1970, FCO8/1334, TNA, London, in *Arabian Boundaries*, vol. 11, ed. Schofield, p. 118.
- ²⁵ Mr. Jim Treadwell (Beirut) to (Foreign Office), 31 May 1970, FCO8/1334, TNA, London, in *Arabian Boundaries*, vol. 11, ed. Schofield, p.141.
- ²⁶A. J. D. Stirling (Bahrain) Agency to, Sir S Crawford Bahrain Residency, ‘Abu Dhabi/Saudi Arabia,’ 16 May 1970, FCO8/1334, TNA, London in *Arabian Boundaries*, vol.11, ed. Schofield, p. 71.

²⁷There were other regional mediators involved in the UAE-Saudi border dispute — for example, Jordan, Pakistan, Egypt, etc. from 1970 to 1974. The activities of these regional mediators were interrupted by British attempts to control mediator involvement. After the Britain withdrew its military from the Gulf in December 1971 and granted independence to the emirates, the UAE relied almost exclusively on Qatari mediation.

²⁸ A. J. D. Stirling (Bahrain) Agency to Sir S Crawford, Bahrain Residency, 'Abu Dhabi/Saudi Arabia', 16 May 1970, FCO8/1334, TNA, London, in *Arabian Boundaries*, vol. 11, ed. Schofield, p. 71.

²⁹ (Foreign Office), to (Bahrain) Mr. Stewart, Bahrain Residency, 19 June 1970, FCO8/1337, TNA, London in *Arabian Boundaries*, vol. 11, ed. Schofield, p. 380.

³⁰ Mr. Stewart (Bahrain), to (Foreign Office), 16 May 1970, FCO8/1332, TNA, London in *Arabian Boundaries*, vol. 11, ed. Schofield, p.892.

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³⁶Letter, C. M. Dalley (Abu Dhabi Petroleum Company Ltd), to the (Foreign Office), enclosure: paper on scope and extend of ADPC's operations in the territory of Abu Dhabi, 2 June 1970, FCO8/1335, TNA, London, in *Arabian Boundaries*, vol. 11, ed. Schofield, p.197.

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³⁸ Morris (Jedda) to (Foreign Office), 28 May 1970, FCO8/1334, TNA, London in *Arabian Boundaries*, vol. 11, ed. Schofield, p. 97.

³⁹ The British offered a modified Riyadh line that came close to the Abu Dhabi coast and included the Sufuk wells (which bordered the Saudi line 25 miles to the west of Abu Dhabi) as Saudi territory.

⁴⁰ Foreign Office Minutes by J.M. Edes, "Oil Company Drilling in Abu Dhabi", 11 November 1970, FCO8/1341, TNA, London, in *Arabian Boundaries* , vol. 11,ed. Schofield, pp.769-772.

⁴¹A. A. Acland (Foreign Office), to C. J. Treadwell (Abu Dhabi), 'ADPC and Zarara,' 25 March 1971, FCO8/1614, TNA, London, in *Arabian Boundaries*, vol. 12, ed. Schofield, p.289.

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⁴³Foreign Office Minutes by A. Reeve, 'ADPC and Zarara', 23 April 1971, FCO8/1614, TNA, London, with Additional Minutes by S. L. Eggerton, 25 April 1971", in *Arabian Boundaries*, vol.12, ed. Schofield, p.326.

⁴⁴ Foreign Office Minutes by J.P. Bannerman, 'Rights of Oil Concessionaries and the Abu Dhabi/Saudi Frontier Dispute', 4 October 1972, FCO8/1813, TNA, London, in *Arabian Boundaries*, vol. 13, ed. Schofield, pp.

520-521.

⁴⁵The federation of nine was intended to consist of Qatar, Bahrain and the seven Emirates (Abu Dhabi, Ajman, Dubai, Fujairah, Ras al-Khaimah, Sharjah, and Umm al-Quwain and Ras al-Khaimah).

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⁵⁹ Letter C. E. Morgan (Abu Dhabi) to T. Brant (Foreign Office), 9 July 1970, FCO8/1338, TNA, London, in *Arabian Boundaries*, vol. 11, ed. Schofield, p. 496.

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⁶¹ Mr. Jim Treadwell (Beirut) to (Foreign Office), 31 May 1970, FCO8/ 1334, TNA, London, in *Arabian Boundaries*, vol. 11, ed. Schofield, p.141.

⁶² Churchman, *Negotiation: Process, Tactics*, p. 10.

⁶³ For more details on this, see *Abu Dhabi-Negotiation Strategy and Tactics*, p.9-10.

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- ⁶⁷ W. Morris (Jedda), to (Foreign Office), 8 August 1970, FCO8/1338, TNA, London, in *Arabian Boundaries*, vol.11, ed. Schofield, p.554.
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The Tradition of Consecrating Rice in Pangandaran Sub-District

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Abstract

This research, entitled The Tradition of Consecrating Rice in Pangandaran Sub-district, is excerpted from my dissertation, *System of Tools and Technologies for Environmental Conservation with Exocentrism Approach: the Case of Pangandaran Sub-district*. Due to the complex nature of the research object, namely its complicated, dynamic and meaningful social situations, it uses qualitative method which, according to Sugiyono (2007:292), is the customary method to address unclear research object. The research aims to describe and understand the social behavior of the Pangandaran sub-district community in treating rice as their source of life starting from its planting, harvesting and, finally, consuming. Data are collected through (a) participatory observation, (b) interview, (c) library research and (d) triangulation. Participatory observation and interview are means to collect primary data from direct sources whereas library research and triangulation are to obtain secondary data from secondary sources and to obtain credible data, respectively. The research finds that (1) rice is believed to be the manifestation of Dewi Pohaci, thus, it has to be treated with full respect, (2) community members in Pangandaran belong to the society who respect their ancestors highly and are fully committed to practicing what have been taught by them, particularly, the tradition to cultivate, (3) rice consecrating ritual in Pangandaran is a part of Sundanese elders' tradition that teaches to highly value rice as the main staple food and to conserve it accordingly.

Keywords: consecrating rice, environmental conservation, exocentrism approach

1. Introduction

Consisting of thousands of islands, spanning from Sabang to Merauke, Indonesia is famous for its green image because of its vast forests in the equatorial line that play a role as the world's lungs and is, therefore, dubbed as 'the emerald of the equator.' Additionally, it is also called a prosperous nation of *gemah, ripah loh jinawi*; the land so fertile that every plant species grows well. Satjadibrata (2010:233) goes even further, calling it *gemah ripah rea ketan rea keton, tanahna lendo lir bangawan Gangga*. *Ketan* is Sundanese for 'is sticky rice, the type of rice, from which most Sundanese would make culinary products such as *opak, ranginang, wajit* and *leumeung*. As for 'keton', meaning money, it equals to Rp. 3.15 (Satjadibrata, 2010:198). Thus, *rea ketan, rea keton* can mean that the country is blessed with abundant crops and financial wealth.

The fertile land provides valuable resources for the people, most of whom are farmers and, thus, makes Indonesia also known as an agrarian country. Living a very simple life and relying solely on crops makes Indonesian farmers become more than close to nature. Their acquaintance with nature is evident, for example, in the fact that they get plentiful amounts of water from natural springs to water their paddy fields but without excessively exploiting them. They believe in a local genius concept, known as '*pamali*,' a taboo which is aimed at protecting nature. *Pamali* is equivalent to a prohibition set by the *karuhun* or ancestors (Satjadibrata, 2010:277) that would lead to a bad ending, such as punishment from supernatural beings, when the prohibition is violated. *Pamali*, then, results in forbidden forests called *leuweung larangan* which the people may enter only with permission and cannot be exploited without wisdom—a concept that help support nature preservation.

Such general phenomenon specifically occurs in Pangandaran where wisdoms of the ancestors are highly valued and upheld. Methods in farming have become traditions of the people in Pangandaran for generations. They believe in consecrating rice, their main staple food, by taking at least three traditional considerations, namely (a) perfect timing to plant the rice, (b) humane treatment for the rice, and (c) extensive rituals for rice cultivation. It is all related to the system of beliefs inherited from the ancestors. Pangandaran elders understand that rice is the manifestation of *Dewi Pohaci* whose death is highly appreciated. It is said that, from the ground under which she was buried, plants grew robustly—a palm tree grew from where the tombstone was planted; red rice and white rice grew from her right and left eyes, respectively;

whereas bamboo grew solidly from her bone joints and grass from her hair. This explains the necessity to treat rice humanely for rice is originated from the body of a human being. In doing so, *selamatan*, a celebration for expressing thankfulness is held to appreciate the paddy at times when rice begins to completely fill its husk (*pare keur reuneuh*, literally means ‘rice in pregnancy’); when rice is harvested; when rice is stored (*ngadiukeun pare*, literally means ‘to make the rice seated’); and when the rice is to be firstly consumed, or called *nganyaran*.

Such rituals, however, have recently shifted due to several factors, to name but a few (a) Pangandaran’s openness to the outer world as it now turns into tourist destination site, (b) rapid information flow, (c) extensive art, science, and technology development, (d) and, lastly, the changing lifestyle of the youth. Those factors gives daring consequence to the shift in the people’s paradigm and view on farming tradition and its methods, which leads to the shift in valuing local geniuses inherited by their ancestors and in treating their surroundings. Science and technology, all in all, have desecrated nature, in a sense that nature with its sacredness and magic-religious powers as well as mystery is now dissected by reason and, therefore, lost its mysterious contents and values.

In order to address the unfortunate phenomenon mentioned in the above, research on the consecration of rice and inventory of farming tradition in Pangandaran is conducted.

2. Analysis

2.1 Pangandaran Sub-District, Pangandaran Regency

Pangandaran is the name of a village, a sub-district, and regency in West Java Province. The subdistrict consists of eight villages, namely Pangandaran, Pananjung, Wonoharjo, Pager Gunung, Babakan, Sidomulyo, Sukahurip, and Purbahayu. As for Pangandaran Regency, with Parigi as its capital, it used to be a part of Ciamis prior to regional spin-off on October 25, 2012. This newly developed regency consists of ten sub-districts, namely Pangandaran, Parigi, Cijulang, Cigugur, Cimerak, Langkaplancar, Sidamulih, Padaherang, Mangunjaya, and Kalipucang.

Pangandaran Regency is geographically strategic—sharing borders with Ciamis Regency and Banjar in the north, Cilacap Regency in the east, and Tasikmalaya Regency in the west, and is adjacent to the Indian Ocean in the south. The sub-district is geographically surrounded by Sidamulih Sub-district in the north, Sidamulih in the west, and Kalipucang in the east. Similarly, it is adjacent to the Indian Ocean in the south.

Speaking on its etymology, Pangandaran consists of two words, *pangan* and *andar*, and one affix *-an*. *Pangan* is Sundanese, meaning food, whereas *andar*, when repeated *andar-andar*, means traveling. The affix *-an* nominalizes the combined words and emphasizes location. Etymologically similar, *pangreureuhan*, from the word *reureuh*, Sundanese: to rest, means resting place. Or, *pangeureunan*, from the word *eureun*, Sundanese: to stop, means the place to stop. Thus, Pangandaran can be translated into the place for tourists to get foods or source of food. The topography of Pangandaran consists of land and water—forests and beaches. Sloping gently, Pangandaran beach has mild waves that attract tourists and give numerous advantages for fishermen. Similarly rewarding, the land is suitable for growing various species of plants, such as rice, cassava, and all kinds of vegetables. Palm trees, known for their multiple uses, are popularly grown the south. This is considered as valuable asset by the people of Pangandaran, most of whom choose to be farmers as their livelihood. Methods in farming are traditionally taught from generation to generation, if not derived through enculturation process or trainings from the Office of Agriculture.

2.2 Tradition of Consecrating Rice

2.2.1 System of Belief and Knowledge

The belief in Goddess Sri, or widely known as Dewi Pohaci in Sundanese regions, was exclusively considered as common knowledge and guidance to performing rituals that would lead to successful farming. According to Suryalaga (2010:8), Sundanese rituals are performed as an order of life that carries cultural values, guiding the people to have a high moral ground.

Almost all Sundanese have strong characters, relying on traditional customs when performing rituals that are full of meaning. For them, treating rice is equal to treating a respected woman for they believe that rice is the manifestation of Dewi Pohaci. They believe that rice must be constantly entertained and comforted. It must not be made upset or hurt. In treating rice, therefore, there are rules, if not prohibitions. The rules state that (a) only women can take peeled rice from where it is stored (*padaringan*). Men are completely forbidden even to come near the silo; (b) it is forbidden for the women to speak or make any noise while taking rice from *padaringan*; (c) it is forbidden that rice is wasted, even a tiny grain of it. When a grain of rice is wasted, it will cry. And its tear will anger Dewi Pohaci; (d) male farmers must not whistle near *leuit* (silo for husked rice) and *padaringan* (silo for peeled rice). The rules continue as they also prohibit children to (1) *nodong dulang* or to eat directly from *dulang* (rice basket) where cooked rice is let cool by fanning; (2) step across *centong* or a ladle to scoop rice; (3) take cooked rice outside the house without covering it; (4) splatter rice when eating it; and (5) *ngokoh* or to leave rice on the plate uneaten.

Furthermore, farmers must carefully organize the timing—finding the right hours to actually start planting. Farmers in Pangandaran recognize bad and good timings by seeing *dawuh* or time unit. According to them, one day farming consists of 12 hours and 30 minutes, and 5 dawuh or time units, each of which is 2 hours and 30 minutes. The timing is divided as follows

Table I. Time unit division or *dawuh*

DAWUH	HOURS
<i>Dawuh kahiji</i> (first time unit)	5.00-7.30
<i>Dawuh kadua</i> (second time unit)	7.30-10.00
<i>Dawuh katilu</i> (thirds)	10.00-12.30
<i>Dawuh kaopat</i> (fourth dawuh)	12.30-15.00
<i>Dawuh kalima</i> (fifth dawuh)	15.00-17.30

Source: Alil, 75 years old from Pager Gunung 2013.

Dawuh is used to determine the perfect timing for planting or harvesting. For example, harvest is to be done on Thursday *Kaliwon* (Javanese day). Thursday has 8 points, so does *Kaliwon*. The addition of the values is 16. When divided by 5 dawuh, there is one remainder. This, then, is counted randomly or *dikerecek*, just like playing *congklak* or a mancala game, using small objects or short sticks or matches. After carefully counted, the result is as follow:

Table II. How to find perfect *dawuh* for farming

DAWUH	POINTS
Kahiji 5.00-7.30	<i>Dua</i> (two)
Kadua 7.30-10.00	<i>Genep</i> (six)
Katilu 10.00-12.30	<i>Genep</i> (six)
Kaopat 12.30-15.00	<i>Hiji</i> (one)
Kalima 15.00-17.30	<i>Hiji</i> (one)

Source: Alil, 75 years old from Pager Gunung, 2013.

The table shows that the perfect *dawuh* for harvesting is the second and third *dawuh* for they have the greatest points. Harvesting at those hours will give good and plentiful crops (*beuneur, teu hapa*).

Besides deciding what time unit would be good for harvesting, days can also be calculated. The calculation is made by summing the points of a day (*Senen, Salasa, Rebo, Kemis, Juma'ah, Saptu, Ahad*) and the points of its double or *Rankepan*, which is day names in Sundanese five day week or *pasar*an (Manis, Pahing, Pon, Wage, *Kaliwon*). Afterward, the number is divided into four in accordance with the number of the keywords i.e. *NYEKSREK, NOYEK, JEMBLONG, KOSONG*. *Nyeksrek* and *noyek* are considered excellent for this will result in good crops whereas *jemplong* and *kosong* will give a result otherwise, if not crop failure.

Table III. How to find the right day for farming

DAYS	POINT	RANGKEPAN	POINT
<i>Senen</i> (Monday)	4	<i>Manis</i>	5
<i>Salasa</i> (Tuesday)	3	<i>Pahing</i>	9
<i>Rebu</i> (Wednesday)	7	<i>Pon</i>	7
<i>Kemis</i> (Thursday)	8	<i>Wage</i>	4
<i>Juma'ah</i> (Friday)	6	<i>Kaliwon</i>	8
<i>Saptu</i> (Saturday)	9	—	—
<i>Ahad</i> (Sunday)	5	—	—

Source: Alil, 75 years old from Pager Gunung, 2013.

The table is used as reference to determine good day for farming or harvesting. For example, if you are harvesting on *Kamis Kaliwon*, the total points from the addition of the two days' points are 16. After divided by four, which is the number of the keywords, the calculation falls on *kosong* or empty and, therefore, harvesting on *Kamis Kaliwon* not at all recommended as it will only give bad crops, *hapa teu beuneur*.

2.2.2 Plowing the Field

The most important process of cultivating is plowing, which is immediately followed by *tebar*, or direct seeding. Prior to direct seeding, the seeds must be carefully chosen from the previous harvest or bought from sellers, of which quality is controlled by the government. *Tebar* or seeding begins with drying the seeds thoroughly and directly under the sun before stored in a *gebog* and soaked in water at a pond. Afterward, the seeds are taken out of the water and stored in a closed container (*dikekeb*) and warmed up but not directly under the sun. Some other farmers use different method, i.e. covering the seeds by *kapol* leaves which can enable temperature increase of the seeds. In two days, tiny buds or sprouts will grow and ready to be planted in the field, or *pawinian*.

Pawinian is a piece of land in or outside the rice field used to grow rice seeds/sprouts. The land for seeding is prepared by, first, clearing the land from weeds and grass using *parang* (machete) or *pacul* (hoe). Afterward, before spreading dried husks (*huut badag*) over the *pawinian*, the land is plowed or dugged up using the hoe so that it would easily be planted with sprouts. The husks can make the soil fertile as they can play a role as organic fertilizer once they decompose.

The sprouts are carefully removed from the container and evenly planted and covered with soil to keep them from birds or pests. If the seeds are planted in the swampy (*leutak*) paddy field, they do not have to be covered with soil to protect them from birds or pest for the wetland plays as another means of protection. This process takes 18 to 25 days. Premature seeds when planted will only result in weak sprouts for they contain too much water and cannot grow perfectly. Similarly, seeds that are too old cannot grow well.

Some handful seeds then plucked (*didawut*), selected, and bundled using thread made of *awi tali* (bamboo). Each handful of the seeds is called *sagindel*.

Besides covering the seeds with soil, farmers build *seseg* or a thin wall made of bamboo surrounding the seeds for protection. Other than building *seseg*, protection can also be obtained by calculating the day to plant the seeds on which birds or other pests would not come and plague the field. They calculate the days by adding the points each normal day (*Senen, Salasa, Rebo, Kemis, Juma'ah, Saptu, Ahad*) has to the points of its *rangkepan* (*Manis, Pahing, Rebo, Kemis, Juma'ah, Saptu, Ahad*). Afterward they count total points in accordance with the number of keywords i.e. TIKUS, RIUNG, KADAL, and ULA. If the remainder falls on TIKUS, the seeds will be entirely consumed by rats. When the remainder falls on RIUNG, this means worse for the field will plagued by all kinds of pests. But if the calculation falls on KADAL or ULA, the plants will be free from pests. For example, if a farmer wants to plant seeds on *Juma'ah Pahing*, the total score is 15 points. The calculation will, then, fall on KADAL, which means that farming should continue because the seeds he/she plants will not be consumed by pests.

Furthermore, superstition also occurs when it comes to efforts of making pests go away. Farmers in Pangandaran believe that rats should never be named or mentioned. When they refer to rats, they would use other names, such as *nu geulis jeung nu kasep*, literally meaning 'the beautiful and the handsome.' If all efforts to keep crops from failing because of pests are not successful, farmers should begin to self-introspect and see if they have behaved poorly or said unwise words. To overcome this, another ritual called *nguyuh* has to be performed. The ritual requires that the farmers prepare offerings consisting of *endog hayam kampong* (boiled eggs), *kupat keupeul* (rice cake), *kupat salamet* (rice cake), *tangtang angin, kopi pait* (black coffee), *kopi manis* (coffee with sugar), *teh manis* (sweet tea), *teh pait* (black tea), *rurujakan* (fruit salad), and *congcot* (coned rice), all of which are served in a *sanggar*, a box made of woven bamboos where those offerings are presented, at the corner of the rice field or in a *saung leutik paranti neundeun puncak manik, waktu mimiti dibuat* (Satjadibrata, 2010:343). *Puncak manik* is coned rice with a boiled egg on top (Satjadibrata, 2010: 309).

Once the offerings are served, the farmers burn incenses and, immediately, ask for apologies. Mang Tis, one of the interviewees who provide information for this research, admitted that once performed the ritual and was given a vision through a dream the night after. In his dream he met a handsome man who said to him that his stomach was full he was going home, "*panggih jeung jajaka kasep, nyarita "geus wareg, isuk mah rek mulang!"*". According to him, no rats had returned ever since.

Following *pawinian*, when the seeds are ready to be planted, another process, called *tandur*, takes place. *Tandur* is believed to be a word contracted from *ditata bari mundur*, which refers to the process of planting rice in a very

organized manner, making straight lines from side to side, from the front to the back. After *tandur*, weeding or freeing the rice field from weeds has to be carried out to keep the ground friable on day 10, 20, 30, and 40.

As the rice grows bigger, the farmers analogize it to pregnancy and, therefore, organize another *syukuran*, a ceremony of thankfulness. Dewi Pohaci is now pregnant as the husk is filled with rice (*pare keur reuneuh*). This ritual starts as the male farmers find logs or tree trunks of *sulangkar*, *pacing* and *kawung* leaves to be planted at the corner of the rice field. At the same time, the women offerings that consist of clothing and cosmetics that include *kebaya*, *karembong* or carrying cloth, sandal, hand-mirror, facial powder, lipstick, and perfume. Foods are also served; *kupat* (rice cake) *keupeul*, *kupat salamet*, *kupat tantang angin*, *bubur merah* (red porridge), *bubur putih* (white porridge), seven fruit salads or *rurujakan*, two rice cones or *congcot*, boiled eggs, black coffee, coffee with sugar, black tea, water, and a piece of white cloth or *boeh*. When the offerings are complete, the farmers burn incenses and say prayers.

Following *syukuran*, as rice begins to ripe, another ceremony, called *nyangkreb*, is held. This ceremony normally starts at four in the afternoon and ends right before it gets dark. The ritual is similar to that of *syukuran* Dewi Pohaci. The difference lies only in tying seven straws of rice with its leaves. Afterward, the farmers burn incenses and say the following mantra:

Bul kukus acitanana
Pangukusan Dewa Anta
Dewa Anta pangukusan Nyi Pohaci
Huriiip kang langgeng aja kena owah

Kemba wurung kemba rupa
Aja ngaruksak gawe manusa
Nini colongok aki colongok
Aja ngaruksak gawe ingsun
Huriiip kang langgeng aja kena owah

Adi bali buta ari-ari
Buta bang buta kekawah
Sri sawiji ilang sawiji
Tempa aken nama sira
Sukma anu nyangkreb(ena), sukma anu dicangkreb(ena)
Nyi Bagawa Sang Sri, Ki Bagawa Sang Sri
Ulah gimir ulah reuwas dipipit waktu sadawuh
Huriiip kang langgeng aja kena owah.

After saying the mantra, they take seven steps while holding breath. They continue walking clockwise around the rice field and reciting the last part of the mantra. Upon arriving at one corner of the field (*juru kotakan*), one of the farmer must stop and tie two adjacent trees to each other (*nyangreudkeun dua daun pare nu padeukeut*) while saying:

Tutup kunci gedong nabi
Ditutup ku Kangjeng Nabi Muhammad
Huriiip kang langgeng aja kena owah

The same ritual is repeated every time they reach another corner of the field.

On the following day, prior to harvesting the field, another ritual called *mimiti* is held. This ritual that has to be performed on the right day and date is to make sure that the harvest will give good crop of rice. Spelling the following mantra is part of the *mimiti* ritual:

Adi bali buta ari-ari
Buta bang buta kekawah
Sri sawiji ilang sawiji
Tempa aken nama sira
Sukma anu mipit(ena), sukma anu dipipit(ena)
Nyi Bagawa Sang Sri, Ki Bagawa Sang Sri
Ulah gimir ulah reuwas dina gedong pasadaran
Huriiip kang langgeng aja kena owah.

After saying the mantra, the farmer must cut with a sickle the seven straws of rice tied during the *nyangkreb* ritual. The next group of straws must be cut accordingly in groups of fifteen or seventeen. The rice straws firstly harvested in this ritual are called *indung pare* (the mother of rice), which is said to be able to predict the success of the harvest. If the rice straws are covered by whitish layer, the harvest will give extra crops to the farmers. But if the straws are not covered by the whitish layer, the harvest means otherwise.

The *indung pare* must now be covered with dirt from the paddy field. The farmers, however, must not use their hands to cover the straws. They are only allowed to take the dirt using his left big toe and, immediately, cover the straws using their right hands. The straws are then wrapped with *sulangkar* leaves, tied with *kawung* leaves, and brought home to be stored at *leuit*.

The rice that has just been harvested has to be dried out under the sun so that the rice has longer durability before it is stored in a silo made of bamboo or wood. Storing husked rice in the *leuit* is assigned to male farmers and storing peeled rice in the *padaringan* is the female farmers' responsibility. The process of storing rice in *leuit* and *padaringan* is called *ngadiukkeun pare* or *ngadiukkeun beas*—another process that also requires mantra as follow:

Adi bali buta ari-ari
Buta bang buta kekawah
Sri sawiji ilang sawiji
Tempa aken nama sira
Sukma anu ngadiuk(ena), sukma anu didiuk(ena)
Nyi Bagawa Sang Sri, Ki Bagawa Sang Sri
Ulah gimir ulah reuwas dina gedong pasametan
Huriiip kang langgeng aja kena owah.

Mimiti is followed not long afterward by *nganyaran*, a ritual of cooking rice from the very first cycle of farming and harvesting (*sapanyambut*). Rice and side dishes are served; offerings and incense are prepared. When everything is completed and guests have arrived, a feast to show gratefulness begins.

Nganyaran actually begins when rice is placed (*ngadiukkeun beas*) in *padaringan*. The process of placing the rice has its own rituals, beginning with the female farmer puts on *kemben* (shoulder cloth) or *karembong* (carrying cloth) and kneels, showing respect to Dewi Pohaci. She then puts down the rice. On top of the rice, she pours water into a glass and serves *congcot*, *endog hayam kampung*, and *hihid* (a fan made of woven bamboo). While fanning the rice and the offerings with *hihid*, she says the following mantra:

Adi bali buta ari-ari
Buta bang buta kekawah
Sri sawiji ilang sawiji
Tempa aken nama sira
Sukma anu ngadiuk(ena), sukma anu didiuk(ena)
Nyi Bagawa Sang Sri, Ki Bagawa Sang Sri
Ulah gimir ulah reuwas dina gedong padaringan
Huriitip kang langgeng aja kena owah.

It is believed that the rice is fatigued and sweltered and, therefore, has to be given water and cooled down with fanning. Just like Dewi Pohaci, the rice stays longer in the *padaringan* for it feels comfortable, it is very likely that it will stay longer in the *padaringan* and will not disappear easily (*longlongan*).

There is this popular saying among farmers, *saeutik mahi, loba nyesa*, which means that the crop may be small but it can still feed the entire family. If some farmers face economic hardship and have to sell some rice to deal with the situation, they will take some from *leuit* and sell it. However, while selling it, the farmer will bid a sad farewell, as if he/she is letting his/her own children go on a journey, and say *saeutik mahi loba nyesa semet jalan balik deui* (small is enough, a lot remains, hopefully you can find your way back home). Some consider this to be a little bit too hyperbolic, but, this also signifies a strong belief that rice is truly alive with feelings and senses just like human beings.

Sundanese live an organized life. They, too, build strong relationship with god the creator through prayers and rituals and with other human being by caring and giving. They understand that human beings “*kudu daek nulung kanu butuh nalang kanu susah, mere maweh ka sasama*” (have to have the willingness to help each other, caring for each other), which has become the main principle of most Sundanese who aim to implement a society that is “*Luhung Elmuna, Jembar Budayana, Pengkuh Agamana, Rancage Gawena*” (knowledgeable, cultured, devout, and diligent).

3. Conclusion

Based on the analysis, this research finds that:

- 1) The people of Pangandaran believe that rice that gives them the strength they need is the manifestation of Dewi Pohaci. Thus, it is compulsory that rice be treated with respect. It has to be taken care of, examined, and made comfortable through a number of rituals.
- 2) The people of Pangandaran, too, respect their ancestors, which is evident in their commitment to following traditions, especially that of farming.
- 3) The ritual of consecrating rice in Pangandaran is a significant part of the Sundanese elders’ teaching on farming. It stands on a moral ground that guides the people to appreciate rice as their staple food and never waste it. Crop failure will give negative impacts not only to the farmers but to the society of Pangandaran at large.

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Karnen, 60 years old, resides in Pager Gunung

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The Shanghai Art School: Relocating Chinese Art Teaching from The Private Studios To The Public Education System, 1913-1937

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Abstract

This article examines the role of modern art educational institutions that emerged in the early 20th century China in transforming Chinese artists and their art, by comparing the manner of art teaching and other artistic activities in the traditional literati master's private studio and those found in the Shanghai Art School, an early and important art school in Republican China. The research draws upon a wide range of primary sources as well as secondary documents. It shows that when teaching in the public institution of the School, artists' teaching techniques were enriched, and their teaching psychologies were restructured. This article finally contributes towards an improved understanding of "modern" artists and "modern" art in China.

Key words: the Shanghai Art School, modern Chinese artists and art, public sphere

1. Introduction

For several decades the study of Chinese art history has focused upon exploring "modernity" in Chinese painting. Earlier scholarship examined the way that Western painting and culture were imported to China by returned Chinese artists and visiting Western artists. Scholars branded those Chinese paintings that incorporated more or less Western artistic elements as "modern". Conversely, paintings that followed the literati tradition were viewed as conservative or "traditional" (Kao, 1972; Sullivan, 1996). In the 1990s, a new perspective was used to examine the influence of the art world on its products which embraced "modern" artistic features. A consensus has been reached among art historians that the major transition in 20th century Chinese art did not lie solely in the nature of the art itself, but also in the art world: institutions including magazines, museums, schools, dealers and auction houses that served the artists and their patrons, through which "modernity in its various guises" should be recognized ("Abstract of the 1999 AAS Annual Meeting" March 11-14, 1999). Jason C. Kuo points out that "the mass-produced calendar-posters from the 1930s and 1940s in fact embody Chinese modernity better than traditional Chinese painting" (Kuo, 2000, p.195). Julia F. Andrews and Kuiyi Shen note, "What it meant to be an artist in China was radically transformed" (Andrews & Shen, 2002). Using this approach, a rising number of art historians have been exploring the Shanghai press or the publishing world and the mass circulated printed matters that they produced, such as books, magazines, periodicals and newspapers. Other articles examine the connection between Shanghai's urban social conditions and modern art (Hay, 2001, pp.61-101; Lee, 1989, pp.223-231; Andrews & Shen, 2007, pp.79-94) and activities in the Shanghai art world (e.g. art societies and exhibitions) (Croizier, 1993, pp.135-154).

This research explores the art school that has hitherto attracted relatively limited scholarly interest as a medium of transformation in what it meant to be an artist. I have argued elsewhere that modern art schools played an important role in hastening artists' achievement of fame, deeply incorporating artists into the modern economic system and art market, and transplanting literati painting education from the private space to the public school system, resulting in a semiotic exhausted type of painting, *guohua* (traditional Chinese style painting) (Zheng, 2007; 2008; 2010). This article focuses on the teaching and administrative structure in art schools and compares artists' teaching styles and other related activities in private studios in the literati tradition and that found in modern art schools regarding the aspects of artists' art teaching purposes and skills, teaching psychologies and work capabilities. In terms of the traditional mode, this research uses Wu Changshi (1844-1927), Wu Hufan (1894-1968) and Feng Chaoran (1882-1954) as the main cases for comparison. These contemporaries of artists teaching in the

Shanghai Art School were recognized as the most accomplished artists in the Republican Shanghai art world and they preserved the traditional literati style of life, painting and teaching at home. Based on the comparison, this research takes a further step to explore the influence of the transition of the milieu, from the private to public domain, on artists' art teaching and art practice. It examines the functions, artistic styles, techniques and subject matter of artworks. The research uses the Shanghai Art School (Shanghai Meishu Zhuanmen Xuexiao) (Note 1), an important early art school in China, scrutinizing the first half of the school's history in the Republican period. It draws widely on primary sources, including school archives and personal interviews, in addition to secondary materials (e.g. newspaper articles and published paintings), to shed light on the transformation of artists and their art. This article comprises four sections. The first section discusses the changes in artists' teaching styles and skills. The second section examines the transformation of teaching psychologies. The third is concerned with the impact of school administrative duties on artists' working capabilities and on society. The final section examines the transformations in artists' paintings related to artists' new roles in the public educational institution.

2. Restructuring Teaching Styles and Techniques

In the pre-modern era, private domestic spaces were the main venues of the Chinese artist's activities, including art practice, art teaching and private art gatherings with personal friends. Artists indulged in literati style painting as a means of escape from the chaotic political world (Fong, 1993, pp. 43-54). The increasing prosperity of the art market from the late Ming and Qing period had drawn artists into the public sphere to a degree with the selling and distribution system. Their art teaching and practice, however, was still confined to their private spaces. This situation changed with the emergence of modern art schools. In this section, I argue that the transition of the milieu of art teaching from private studios to the public art institution led to significant changes in artists' teaching styles and skills.

First of all, the School discarded the random and unscheduled teaching style of the master's private studio and developed a well planned, step-by-step teaching syllabus in order to benefit students' learning. In a master's private studio, there was no scheduled class. The time table depended on the master's living habits, leisure time and moods. For instance, the master Feng Chaoran painted only at midnight and slept in the daytime (Lu, 1986) 13. Therefore, students sometimes went to Feng in the early morning before he went to bed and sometimes at midnight (Private interview with Mr. Xu Lantai, Dec. 20, 2001). Also, there was no clear teaching procedure. Lu Yanshao (1909-1993) recalled that when he first began his study with Feng Chaoran, Feng lent him a painting by Dai Jing (1388-1462) to copy at home (Lu, 1986, p. 13) (Note 2) instead of beginning by explaining brush and ink techniques or copying methods. This teaching method sometimes defeated the aspirations of students not sufficiently talented or not favored by the master. By contrast, the School established its own step by step teaching method with clear teaching goals to give students appropriate guidance (*Meishu*, 1918, p.12). In *guohua* teaching for example (Note 3), different teaching schedules that covered the basic *guohua* techniques and painting principles were discussed at the academic affairs meeting in the Chinese Painting Department in 1925. The agreed proposal was that three academic years would provide three stages of learning, from elementary to advanced. The Year One course included double sketches (*mobi shuanggou*) in the first semester, and washes and ink (*shui mo*) in the second semester. In the second year, students learnt how to copy masters' works from prior dynasties in fine and delicate brushstrokes (*gongbi linggu*) (semester one); and spontaneous brushwork (*yibi linggu*) and color application (semester two). In the third year, students were free to express themselves (SMZDA, Q250-1-40, 1925) (Note 4). The School teaching structure also included a feedback mechanism to make sure that students had really learned what the School expected. According to the School's regulations in 1924, students' studies (including painting practice, theory and history) were examined by the director of each department and each student was graded as "pass" or "fail" every week (SMZDA, 1924, p.69). In the final score report, four grades of A, B, C, and D (Note 5) were given.

Whereas excellence in drawing or painting was sufficient for an artist in his private studio, it was not enough to qualify as an art instructor in the art school. In other words, art teaching was more highly valued than simply the ability to paint well and all successful art instructors were versed in both teaching and painting skills. Pan Tianshou (1898-1971) for instance, achieved wide popularity in the School because of his talent in teaching (Liu, 1989, pp.25-29). Xie Gongzhan (1885-1940) also enjoyed a good reputation for teaching. Xie's peers commented that "No student will be poor at painting if he/she follows Mr. Xie. I do not only admire his paintings but also his talent in teaching" (Sun, 1918, p.4). Innovative teaching techniques in the School included demonstrating painting techniques, magnetic speaking techniques, body gestures and other public communication skills for educational purposes.

The demonstration of procedures in painting practice and techniques was not a major teaching technique in a master's private studio, and instruction to a great extent, depended on the master's mood. When privately taught by

Feng Chaoran, Lu Yanshao went to Feng's house twice a month, showing Feng his copied works for Feng's comments. "When my works aroused his interest, he would correct several strokes for me" (Lu, 1986, p.12). Even when the student had a chance to stay at the master's home, it was still difficult for him to see the master painting, particularly during the first and second years. Wang Geyi (1897-1988) lived at Wu Changshi's as a private tutor of Wu's grandson Zhiyuan. He stayed on the ground floor, while Wu's living room and studio were located upstairs. Wu normally did not go down stairs and Wang was occupied with teaching affairs. "Only in very exceptional circumstances was I able to see Wu painting. I usually didn't go upstairs. In addition, I was there not for long and not as an acquaintance, so I did not have many chances to see him painting. In the presence of outsiders, he did not paint" (Wang, 1982, p. 39). By contrast, the School's education aimed to demystify painting techniques and to make each point clear enough for students to follow. Teachers in the School extensively employed the teaching technique of demonstrating painting techniques in didactic drawings. Lü Fengzi (1887-1970) (Note 6) for instance, liked to demonstrate brush techniques to students. When he painted, all the students gathered to observe. From the first stroke to the last, he painted while explaining the principles (Zheng, 1993, 208-212). He Tianjian (1891-1977) also considered this to be an effective way for students to understand the brush strokes (*cun fa*) in different classical schools of practice:

I demonstrated the repertoire of brush strokes from the bending stroke (gou zhe) of the Tang period to those developed in the Ming and Qing periods for comparison. I once asked the students if these (paintings practiced to show to students) could be viewed as living painting history? This helped students to understand different types of brush strokes (He, 1962, p.22).

Pan Tianshou was also a teacher proficient in using this teaching technique to inspire his students. Song Bingheng (1912-?), a graduate of the College, recalled a lesson in which Pan showed students the way to paint a floating spider web with faintly discernible curved lines. The gossamer in the spider web looked "both slender and light, which flies with the wind, discernible at one moment and gone at the next" and "all the students were stunned" (Song, 1989, pp.61-63). This teaching technique was also used to teach Western style painting. When Ni Yide (1902-1969) taught Guangdong students who were unable to understand his Shanghai Dialect, he mainly relied on the technique of demonstration. He was greatly respected by his Guangdong students (Ni, 1999, p. 144).

Moreover, in order to accurately convey points to students, language, body gestures and other methods which would have had little significance in the teaching in private studios, were frequently employed by school teachers. Liu Haisu's (1896-1994) free lectures once or twice every week were favored by students,

There was a wide range of topics: from art ideologies to artists' critical biographies, and from the Six Laws to Impressionism. Sometimes he also mentioned his personal experience in painting practice or the aim of running the school, seriously but with humor. Every student was deeply impressed by his lectures. When in an elated mood, he would keep on talking for two or three hours without appearing tired (Liu, 1981, p.97).

Xie Haiyan (1910-2001) was another art teacher who with vivid descriptions attracted his students in the first class. He used slide projection and gave detailed explanations of Greek mythology and Bible stories (Xu, 1988, pp.18-27). Jiang Danshu (1885-1962) was good at using gestures. When teaching Anatomy, he not only demonstrated using pictures, but also his own chest, arms and feet to give vivid lessons (Xie, 1991, p.5). By contrast, Wang Yuanbo (1905-1957), an eminent painter with Western style painting techniques, established personal style and a sound academic background in the Ecole Des Beaux-Arts, but attracted the least number of students to his classroom because he spoke little during his class, primarily due to his reserved character (Cai, 1999, p.14). Also, artists' other personal talents (e.g. calligraphy, poems and literature) were originally forms of intellectual entertainment in the literati tradition, but they began to have a communicative function in education. Students sometimes requested their teachers to compose colophons for their paintings and teachers improvised poems to stimulate students' interest in learning painting. Wu Fuzhi (1900-1977), for instance, composed poems as gifts to his students (Zhang, 1992). Lü Fengzi would delightedly compose comments for praising and glorifying students who had made good progress, urging them to study even harder (Zheng, 1993, pp. 208-212).

When art education moved from the masters' private studio to the public school, a new style of teaching was developed through the School. It was characterized by a well planned teaching schedule providing clear, step by step guidance and enriched teaching skills, which made art education more accessible to the public.

3. Reformulating Teaching Psychologies

In the modern educational institution, artists' teaching psychologies were reformulated. Having a teaching position in the School enhanced the confidence of young artists as teachers and the teacher-student relationship and the inter-teacher relationship were re-formulated under the new working conditions in the public system.

At the school organizational level, young artists (young art teachers) who might not have been able to establish themselves as accomplished artists outside the School because of their limited social experience and youth were able to establish their reputations in the School. For instance, Liu Kang (1911-) on his return from Paris was only 23. Too young to recruit private students; he was engaged by Liu Haisu as an instructor at the School. To begin with, Liu Haisu worried whether students who might be older than Liu Kang would accept his instruction (Liu, 1981, pp. 95-104). However, the teaching position gave him the chance to demonstrate his talents and teaching capabilities and he won the respect of his students.

On another level, the original ethics-based, master-pupil relationship was restructured in the school system, resulting in a new teacher-student relationship. In the private master-pupil mode, there was a stable and life long relationship between the master and his students as the saying goes, "One day being your teacher, the whole life being your father". Students living at the master's home, like Wang Geyi, were accepted as family members. Wang even took care of Wu Changshi's daily life (Wang, 1982, pp. 50-52). The majority of the essays written by students who personally followed masters recorded their unusual excitement when being accepted and showed deep respect and gratitude toward the master. Shi Chongpeng (?-?) recalled the experience of being accepted by the famous landscape master Xiao Zhiquan (?-?) (Note 7). After his graduation from the School, he hoped to pursue his landscape studies by following an outstanding landscape master. He was told that ordinary landscape artists in Shanghai were not always good painters; while eminent landscape painters would never accept students casually, so he felt unusually fortunate and happy when accepted by Xiao (Shi, 1948, p. 6). However, at the art school, it seemed that everything came as a matter of course. Students took the opportunities for granted and showed far less excitement and gratitude. If the teacher-student relationship did not continue in a personal mode after graduation, the relationship ended. Therefore, Jiang Danshu stated:

We teachers are just like wet nurses at nursery schools. When babies wish to suckle milk, they climb to our arms. Once they can eat rice, we are soon forgotten. After they grow up to be adults, perhaps they would not recognize who the old lady is. This is what Meng Zi called a trouble that people make for themselves if they like to be teachers of others. Therefore, as for the teacher-student relationship, I just let it run its own way. Zhuang Zi said, "Call me bull, I will answer as a bull; call me horse, I will answer as a horse". Logically, it is fine if you take me as your teacher and also fine if you do not take me as your teacher (Anon., 1947, p.6).

These words would have been incredible in the non-school era and it might have been the reason why many artists, although teaching a huge number of students at art schools were very cautious when taking private students. For instance, Lü Fengzi, famous for "Indulging in self-admiration" and "being above the vulgar", in his entire life adopted only one student, Xu Xingzhi (1904-1991), in spite of the large number of students he had taught at various art schools (Xu, 1986, pp. 32-36).

Also, the learning requirements were now not set solely by masters but were also influenced by students' reactions. In the master-pupil model, masters had absolute power in guiding students' learning; even if the comments were harsh, students and their parents dared not complain (Jiang, 1991). However, in the art school, responsible but strict teachers like Zhang Xian (?-1936) were criticized by students outside class: "Cold face, scolded me so severely!" "Yes, I lost my mood several days ago. It could have been tolerated even though my work was not good enough, but he criticized my work in this and that: everything was poor – it should be redone. What an inhumane person!" "This semester, Composition will be tested – this was also suggested by him. He even brushed aside others' opposing opinions. Now, we follow the same as students in Tokyo and Paris; we have to submit one more work: Composition" (Anon., 1933, p.4). These comments suggest that the original master-oriented, personal, emotional and ethically balanced relationship was changed in the School to a relationship, more open, but influenced by the public system which sometimes decreased the human kindness usually found in traditional Chinese ethics.

In addition to changes in the teacher-student relationship, the masters' inter-relationships were also restructured. Private friendship among masters (typically embodied in the literati's art and poetry gatherings) was now replaced by a public relationship characterized by cooperation and competition. In the group working environment, it

became important for masters to be less occupied in displaying their personal talents, rather, giving more attention to cooperation with others. For instance, not all the teachers had the chance to give major courses; some artists taught minor courses. Jiang Danshu, for example, always taught minor courses, but this suited his purpose (Jiang, 1991, p.3). Others like Wang Yinqiu (?-?) and Ma Yulin (?-?) also taught minor courses such as handicraft at the School for 13 years (up to 1937). It is obvious that competition did exist among teachers. There was a case in the Western Painting Department where students selected the teachers they wanted to learn from and joined their studios thus creating competition among teachers in attracting students.

In summary, an artist's status was established by the school organization. The teacher-student relationship was regulated by the public system and the inter-masters' personal friendship was replaced by a public relationship. Based on these findings, the School reformulated artists' teaching psychologies.

4. Conclusion

This article aims to explore whether the transition of the teaching milieu from the private to the public domain influenced artists' teaching, teaching related activities, and their art, and if so, how. It compares the style of teaching art in the private studios of the literati with that in the modern school of art, using the Shanghai Art School as the case for study. It shows that when adapted to the new purpose of teaching, Chinese art teaching in the School was well organized and artists' teaching techniques were enriched: painting demonstration, body gestures and vivid explanations were used to convey teaching points. Teaching psychologies underwent change: young artists gained greater access to opportunities for becoming teachers, but the master-pupil bond featuring deep personal respect from students was cut, and the inter-master relationship was also transformed from private friendship to a cooperative and competitive relationship among colleagues. Based on these findings, this research argues that the teaching and administrative structure of the School played an important role in adapting artists to the public education system, enhancing teaching and social communication functions of their artworks and partly changing their artistic expression.

Thus, this research has served to improve the understanding of modern Chinese artists and their art. It confirms the argument of art historians such as Julie Andrews and Jackson Kuo that the main transformations lay in the art world in addition to artworks, and the art world embodied "modernity" to a greater extent than artworks. Modern art schools changed the purpose and the way of Chinese art education from teaching according to the whims of masters in their private studios to teaching for the public with greater accessibility of art education. This transition also involved the conversion of art from being the source of private, creative enjoyment for the literati in their studios, to a resource serving public institutions. In this sense, being "modern Chinese artists" means more than actively learning Western style painting, but is the adaptation to a new social structure and the needs of the public. Likewise, "modernity" in Chinese painting cannot simply be understood as the Western influences on Chinese painting styles and techniques. Rather, the emergence of some new functions or stylistic features was more often resulted from certain conditions of a restructured art world, as well as the new roles of artists. Complementing other arguments that I have presented elsewhere, i.e., the role of art schools in "modernizing" artists and art, this article particularly highlights the function of the teaching and administrative structure of the School in this aspect. Based on this, a set of newly recognized characteristics of Chinese artists and their art (e.g. teaching with a variety of effective skills, carrying out multi-administrative duties, and the social communication functions of Chinese paintings) can be understood as "modern", and closely associated with the teaching and administrative structure of art schools.

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Notes

Note 1. The Shanghai Art School changed its name seven times during its history. Its final official title was "the Shanghai College of Fine Arts" (Shanghai Meishu Zhuanke Xuexiao). Its popular name from 1917 to 1931 was the Shanghai Art School (Shanghai Meishu Zhuanmen Xuexiao), adopted in this article. The School was founded by Wu Shiguang (1885-?). Liu Haisu became the School president from 1919 to 1952. He is famous for an open dispute with the Warlord of Sun Chuanfang in the Nude Model Incident of 1926.

Note 2. Lu Yanshao was a private student of Feng Chaoran and later switched to Wu Hufan. He became an established artist with high reputation in contemporary Chinese art world.

Note 3. There was Chinese Painting Department that taught *guohua* and Western Painting Department teaching painting along the Euro-American academic lineage.

Note 4. "The record of the academic affairs meeting in the Chinese Painting Department on March 30, 1925", SMZDA, Q250-1-40. [SMZDA is abbreviation of Shanghai Meizhuan Dangan (Archives of the Shanghai Art School). They are collected in the Shanghai Archive House. The number followed is the archive number.]

Note 5. In Chinese, "*ja, yi, bing, ding*", SMZDA, 1925, Q250-1-103.

Note 6. Lü Fengzi taught in the College, from 1921 to 1922, before Chinese Painting Department had been set up. Lü taught in the Western Painting Department and he also gave advice to students who were interested in *guohua* practice after class (Xu, 1986, pp.32-36).

Note 7. Xiao Zhiquan was a famous landscapist in the late Qing and Republican period. He participated in the earliest modern school art education in China for several decades. But he taught a very limited number of private students.

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Madness in Vernor Vinge's *the Rainbows End*

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Abstract

The major objective of this study is to analysis the concept of madness in Vernor Vinge's *The Rainbows End* by using Michel Foucault's theory of madness. It is true that Michel Foucault in *Madness and Civilization* wishes to show us madness in different decades in the past. Having this in mind, I take Foucault's theory of madness as a starting point for analysis of Vinge's *The Rainbows End* of madness and reason. Furthermore, Vinge manifests the function of madness in 2025. The point is that the concept of madness has a crucial role in our understanding human potentiality during centuries. And Vernor Vinge exercises madman such as Robert who using the language of madness to manifest truth.

Keywords: Michel Foucault, Vernor Vinge, madness, reason, alzheimer, dementia

1. Introduction

"I had been mad enough to study reason; I was reasonable enough to study madness." Michel Foucault

Foucault by stating this sentence offers that there is no boundary between reason and madness. In his book *Madness and Civilization*, madness is observed as positive, an object of science, and as a disease. Taking into account that madness called as disease; therefore, they created institutions to the care of mad, in modern age madness has become the object of medical perception. That is the madness is curable. In the novel when Robert awakens from a twenty-year sleep in the year of 2025, with Alzheimer's disease that takes him out of action and much of his physical and mental frailties cures due to new medical research. It is technology that Gu must confront in this case Robert is kept in a clinic in order to be normalized.

Vernor Vinge is a contemporary mathematician, computer scientist, and science fiction writer who focuses on the future world, and he successfully depicts senses of madness and a vast resource of computer power throughout the novel. The researcher chooses Vinge since his work is the outcome of his deep perception of science, and computer power which he manifests in 2025 and Vinge explains how they influence people's life in the next decades. Foucault in *Madness and Civilization* intends to show us madness in different decades in the past while Vinge displays madness in the next decade. By reading these two works of Vinge's *the Rainbows End* and Foucault's *Madness and Civilization*, we perceive the world of mad in different centuries. In this sense, it is argued that the work of Vinge is influential in Michel Foucault ideas. Therefore, the researcher must keep a careful eye on how madness, in a way that Foucault defines, turn out to be productive and make new social behaviors emerge in the character. It is also worth mentioning that regarding productivity of madness, the researcher would take to careful consideration whether those signs of abnormality are apparent on Robert as a technophobic protagonist who finds computers hard to understand and resists against those norms in 2025.

2. Methodology

Michel Foucault, a French philosopher, a social critic, a historian, and he is one of the foremost thinkers of the twentieth century. His theories address the relationship between power, knowledge and how they are used as a form of social control through social institutions. He is a main thinker informing the construction of critical theory of new historicism. New historicism frequently addresses the critical theory based upon power. In this respect, the new historians seek to find example of power and how it is present and represented in the text (O'Farrell X).

The methodology is concerned with historical concepts madness in Vinge's *The Rainbows End*. It is examined in detail through which the researcher opens a horizon for the reader for better understanding of madness which is

exercised by Robert Gu in 2025. The researcher desires to examine how individuals become categorized as normal and abnormal.

3. Research Questions

This thesis deals with questions below:

- 1) How does Robert's resistance toward computational power, bring a kind of misunderstanding?
- 2) Does Robert's unwillingness in defining his relationship with technology intensify his resistance against the relation of power and control?
- 3) According to Foucault's definition of madness, is it a positive characteristic of a person or negative one in 2025?

4. Findings and Implication

According to Michel Foucault madness has a meaning in different centuries, for instance in Renaissance madness was precious because it spoke of truths, and it interposes between life and death; Madness was a key theme in Shakespeare's works and it plays like a mask for characters such as Hamlet or Katherine in *the Taming the Shrew* that no one can understand whether they are mad or not. From Foucault point of view, in the very next sentence Vernor Vinge in the *Rainbows End* pushes the concept of madness by stating: "Robert's been in deep Alzheimer's for almost four years, he's one of the late cures" (97).

Vinge in the novel speaks the language of Foucault's madness that we can see in Robert who is a famous poet and he has inspiration, alienation and posses the Muse that explain as a form of madness, and it seems there is link in his madness and his being a poet, they have united. Robert Gu the one who cured Alzheimer's disease rebels against the Dean Blount who wants to shred the books in library and Gu called them mad and their actions madness. Therefore, in this part the researcher encounters with sane/ insane binary opposition.

4.1 Madness in the *Rainbows End*

Michel Foucault in *Madness and Civilization* describes "madness begins where the relation of man to truth is disturbed and darkened". According to the different forms of access to the truth, there will be different types of madness. The first type is deliria, which alter that relation to the truth takes shape in perception, it is "general delirium of the mental faculties, in which the diseased perceptions are taken for realities"; the second type is hallucinations, that is the real objects are falsely represented, and the last type is dementias, which without abolishing or altering the faculties that afford access to truth weaken them and diminish their power (104). And in the *Rainbows End* Robert's behavior does not accord with time and what is common at that times according to Foucault description of madness, he has regarded mad as what Vinge writes in the novel; "Robert was down in the middle of the night, pounding on the door, He thought he was stopping Alice murder. However, he finds it's a false alarm" (161). And his son, Bob figures him tried to beat up Alice. These are the symptoms that display Robert's relation to reality is disturbed, and it manifests his madness as Alice states, "he was a crazy old man, crazy old men have to go to the bathroom all the time" (171).

It appear to exist Robert Gu suffered from dissociative disorders, it is mental disorders. According to Kendra Cherry psychological disorders, also known as mental disorder, are pattern of behavioral or psychological symptoms that impact multiple area of life. As she indicates impulse- control disorder is one of its symptoms that are those involve an inability to control impulses, a resulting in harm to oneself other (3). Robert may experiences anxiety, panic attacks, sleep disorder, obsessive compulsive behavior in the novel which are symptoms of dissociative disorder. Vinge states that "His tongue felt all sticky, his voice hoarse. It suddenly occurred to him that with all the mumbling and darkness maybe he hadn't spoken in some time. And there was something else that was even more strange, who are you? Robert, I'm Miri. I'm your grand--" ... (16). Robert reached forward, and her hand was warm in his. "Oh. Cara. It's good to see you." (19).

While Robert comes back from Alzheimer's disease it seems he travels to new situation, and then he may assume a new life. Therefore, he cannot remember significant person or personal information, and the world around him seems unreal. His feeling toward everyone and everything was uncertain like looking at a strange, and his memory and conscious mind have been disconnected from real world.

There are some changes in Robert, he becomes like child. This can be another symptom of his madness, as Foucault argues: "Madness is childhood. Everything at the retreat is organized so that the insane are transformed into mirror." They are regarded as "children who have an over abundance of strength and make dangerous use of it". They must be given immediate punishment and rewards; whatever is remote has no effect on them. A new system of education must be applied, a new direction given to their ideas. They must be subjugated and encouraged, then applied to work and this work made agreeable by attractive means, for a long time already. The law had

regarded the insane as mirrors. Great emphasis was placed on the concept of “family” which organized the community of insane and their keepers at the retreat. Apparently this family placed the patient in a both normal and natural; in reality it alienated him still more (Foucault 252). As Vinge manifests in the novel, “The Radners’ betting pool on Gu’s punishment had been bought out by some guys in LA, Lucky for the twins. The trouble with instant fame was that there was always something new coming to distract everyone’s attention” (70).

Vernor Vinge Presents an old man who begins retrain at Fairmont High with his thirteen years old granddaughter and also his partner nine years old Juan Orozco for learning how to live in today’s society that he has not recognize because due to the Alzheimer’s disease some of his personalities have changed, acting like different, and strange people, including child like behavior.

4.2 *Dementia in the Rainbows End*

Marianne Smith in *Behaviors associated with dementia* declares that “Alzheimer disease is the most common type of dementia” (43). Although impaired memory and cognitive disturbance are characteristic of all dementias, the specific cognitive, emotional, and behavioral deficits the person with dementia stage of disease, and individual factors, moreover, one or more causes of the older adult suffering from both Alzheimer disease and vascular dementia and causes a mixed symptomatology, in which characteristic losses of more than one disease are seen (41). The term dementia has been related to psychological incompetence. However, the symptoms and explanation of dementia have changed throughout the history.

This explanation has been identified by Vernor Vinge in the *Rainbows End*, “coming out of years of dementia. Some mornings, his mind was awash with ideas... Yet none of these morning brainstorm contained poetical detail. He had the ideas. He had concepts down to the level of verse blocks. But he didn’t have the words and phrases that made ideas into beauty. Making the words sing was the highest, purest talent” (31).

Robert suffered from anxiety disorder which is in the category of dementia. Anxiety disorders are those that are characterized by excessive and abnormal fear, worry, and anxiety which according to Cherry these are symptoms of disorders which occurs to Robert as well. Robert has a sense of detachment from his emotion because due to the Alzheimer’s disease he was forgetting his talent and learned skill.

According to what Vinge writes in the novel, we can interpret madness is not a negative force but rather it is a positive force in the story, as Foucault noted that the term “insanity” not as reflecting a single characteristic, but rather a complex variety of psychological reactions. He did not think that insanity could be defined in absolute terms, but rather that it was define in “relativistic terms,” depending upon the perceptions of society at a particular time. The term was thus a social construction defined by society according to a flexible series of criteria. Foucault did not regard insanity as a negative characteristic because he felt they those defined as mad often possessed insights into the human condition that could be useful and productive. One difficulty with Foucault’s understanding of “insanity”, sometimes referred to as the “sociology of knowledge perspective,” is that it can lead to a form of relativism. In other words, when we view knowledge as merely constructed by society, then there ceases to be a precise definition of insanity, leaving only a range of definitions depending upon the perception of society at that time (Oliver 89). It seems that Vinge was very much aware of Robert’s disease by stating: “sometimes dementia softens a person up. There was a year or so, when Robert was nearly helpless, but he could still recognize people and remember our years together, there was a time when he was tractable... And then they figured how to cure Robert’s brand of dementia. By then your grandfather had declined from tractability into a kind of veggie state (110).

For Michel Foucault madness is a term with many layers of interpretations and here in this novel the madness of Robert is a chance to see the truth which is a new success and conquest. Likewise Foucault himself argues that madness is not negative characteristic of a person because Foucault perceives that those who define as mad possessed insight into the human condition frequently which is productive and valuable.

4.3 *Madness as a Self to Truth*

The literary expression of madness serves both to confront madness and to protect man from it. For the humanist poets and philosophers madness is linked not to the world and its “subterranean” forms, but rather to man, to his weakness, his dreams, his illusion (Sheridan 20), that means madness is a deliverance, redemption and emancipation which is generate in humans heart. That kind of madness is novelty since it is not experience before and further more it is not remain the same. As Vinge describes his intentions by stating these sentences in the novel; “There was truth in all that, but for Robert there was another explanation, something weirder and almost as unsettling” (304).

Pascal’s reflection is that “men are so necessarily mad that not to be mad would be another form of madness.” On the one hand, there is a “mad madness” that rejects the madness proper to reason and which, by doing so, doubles itself and falls into the simplest, most enclosed, most immediate form of madness; and, on the other, a “wise madness” that

welcomes the madness of reason, allowing it to permeate its whole being, and in doing so protects itself from the real madness that obstinate rejection would bring (21). As we can observe there is a sharp difference between Robert's attitudes at the beginning of the novel which he loses sight of where he is, who he is and it appears to us he is misplaced, in fact he loses his control over life and became untrue to himself. While in the rest of novel, actually at the end of it, he has become true to himself as he mentions at the end of the story "I am happy with the new me" (309). Robert has epiphany by uttering this sentence, he encounters with self-awareness and self-knowledge.

5. Conclusion

As Daniel Riha mentions technology is related with both power and knowledge because cyberspace is a social network where people share information with each other and economic strategies play a good game by using human bodies in the virtual space with the technological developments one can see some changes in power strategies and human body (15). The author Vinge defines cyberspace in his science fiction novel the *Rainbows End*, and the world which Vinge displays is a computer cosmos. It is a global net-work both computers and humans connected to each other and exchange data in this virtual universe.

Vinge manifests Robert as a mad whose mind and memory have been disconnected from the real world and some of his personalities have changed. However, his madness is chance for him to see the truth in the world that high tech is dominated. Vinge displays technologies which provide construction for human activities, he presents technologies as a powerful force to reshape the meaning of life and modify the pattern of life in future, that is the technology plays a main rule rather than human beings. Therefore, Vinge makes know human death by showing high tech as a superior component to human. As we can consider the total surveillance society which people have controlled by computers and there are technologies that manipulate human's mind such as YGBM, this kind of technologies supply structure for human's life. Thus Vinge presents computer, science and technology are superior to human in the novel. And here in the novel just Robert possessed the insight and could be useful and productive, for him madness is not an absolute term; rather it is defined in relativistic term, depending on the perceptions of society at the particular time according to definition of Foucault. Vernor Vinge's novel is a declaration of human death in 2025 and just Robert, the mad one remains as a human who resists against these high technologies and at the end of novel he feels fine. As Aristotle stated "no great mind has ever existed without a touch of madness." Vernor Vinges chooses Robert, a poet who suffered from Alzheimer and possess inspiration as a protagonist of his novel to manifest that there is truth in madness since the people who are for shred the books and they speak with the language of reason, their action is not reasonable. However, the madman Robert who is against the shredding books seems more reasonable, and we can see the utterance of truth in Robert. In other words, there are links between madness and non-madness, reason and non-reason and they are entangled to each other.

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Traditional Curry Pastes During Sukhothai to Ratthanakosin: The Subjective Experience of the Past and Present

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Abstract

Although there are numerous studies about the traditional curry pastes and Thai food uses claims about the historical development can be divided into nine eras. The research has explored traditional curry pastes' perceptions of such features and how these might relate to religion and a royal court. Perceptions of curry pastes are influenced by individual and societal factors, local raw materials, and raw materials along the trade routes. Thai food has been influenced by Indian curry and Chinese stir frying techniques. In fact, traditional curry pastes and Thai food has its own culinary style. The traditional curry paste in Sukhothai to Ratthanakosin is heavily influenced continued by religion and a royal court. Traditional curry paste usually contains fresh light flavors of lemongrass and kaffir lime skin and the soothing effect of coconut cream and coconut milk. The spice ingredients are used in curry paste may differ from home to home or region to region. The delicious spicy and hot Thai foods with a traditional blend of aromatic flavors are popular in the world. Usually Thai people eat three times a day includes meat, salads, soup, noodles, curry, and rice. All the recipes are in the collection of original Thai dishes such as a popular curry and also other curries traditionally processed Thai curry paste products named massaman curry called gaeng massaman and well known of hot and sour soup called tom yum.

Keywords: traditional knowledge, curry paste, massaman curry, tom yum, functional food, Thai food

1. Introduction

Thai food and traditional curry paste is the most complex and refinement food in Asia and this reflects presence of religion and a royal court which encouraged the culinary arts, considerable regional diversity and a board spectrum of ingredients. (Hazra, 1982; Kulke & Rothermund, 1998; Rajadhon, 1988). Although the royal Thai government promised at the global community summit in the year 2003 to 2027 on food and agriculture for industry kitchen of the world, the situation has continued until now. In Thailand, a way of living of the people at household in several forms reflecting the relative status of those involved the temples. Buddhism may be broadly classified into these two sects, Theravada and Mahayana (Hazra, 1982). Theravada Buddhism practiced by most Thai people does not prohibit or discourage the eating of meat except as a voluntary practice. Thailand is the country of 513000 square kilometers situated on the Indochina peninsula in Southeast Asia (Kosulwat, 2002). The population is approximately 65 million in the year 2014 (Prasartkul & Vapattanawong, 2012). Thailand is one country of the world's greatest producers of high quality jasmine rice, having three to four harvests annually. In generally, jasmine rice (or khao hom mali) is grown in Ayutthaya province and other province is preferred in north, northeast, east, and central Thailand. Sticky rice is preferred in the northeast and north of Thailand. Thai meal consists of Thai jasmine rice, soup, salad, a steamed, fried, stir fried or grilled dish, a spicy vegetable and fish dish, curry, condiments, dessert and fruit served at the same time and in no particular order. History of the original curry pastes was found during the 13th to 21st centuries and this tendency continued as a general framework for the original Thai curry pastes during Sukhothai to Ratthanakosin. This study aims to acquire the knowledge about the type of geang and taste active components in curry paste, and classification of traditional curry pastes, and historical development of curry paste, and curry paste in Sukhothai to Ratthanakosin, and this study is based on main sources especially the historical source and other sources used in writing the paper and that is the book and article.

1.1 The Type of Geang in Thailand

Thai word for curry called geang (or keang) in sometimes written geng (or gang or kang) usually means any wet savory dish enriched and thickened by a paste. The point of view is an aromatic curry paste either made at home or purchased. The curry paste ingredients are pounded together in a stone mortar and pestle which allows the release of the essential oil in the tissue of Thai herb and spices that impart flavor and fragrance. The followed preparing curry pastes can take twenty minutes to half and hour for a daily meal. In addition, the traditional foods in Thai style are placed in dishes and these again are arranged in a tray. The original Thai food has become very popular, even crossing over to mainstream menus. Thai food is a unique combination of royal Thai elaborate presentation, Indian influenced curries. In fact, a traditional curry paste has its own culinary style with ethnic Thai ingredients such as galangal, lemongrass, and fragrant basil. Moreover, the original Thai foods are emerging as the significant cuisine and a regional flavor such as massaman curry, red curry, green curry, and the well known of hot and sour soup as tom yum and yellow curry (or geang hleung) can be usually found in the southern Thailand.

1.2 Taste Active Components in Traditional Curry Pastes

In Thailand, curry pastes are contained shrimp paste in Thai word called gapi or kapi made from tiny shrimp that are marinated in salt, dried in the sun, pulverized and fermented for several months. Kapi is a typical fermented shrimp and commonly used in traditional Thai food. It was consumed extensively as a condiment in every region of Thailand (Faithong et al., 2010). It is mainly ingredient used for flavoring dishes and in various spicy soups in original Thai food (Chotechuang, 2012). There are different forms of Thai curry depend on types of num prik. Num prik may be roasted on chillies, ginger, garlic, kapi, lime juice, and sugar (palm sugar or cane sugar) is combined to make one of the most typical in every region of Thailand. The central region of Thailand increased their consumption of sugar and sweeteners more than other regions. Thai fish sauce (or nam pla) is used in traditional curry pastes and Thai dishes. Nam pla is a common name of fish sauce can be found in every region of Thailand. Nam pla is used as an active component in almost Thai dishes. Fish sauce is usually known in many countries of Southeast Asia such as tuk Trey in Cambodia, bakasang in Indonesia, ngan-pya-ye in Myanmar, nuoc mam in Vietnam, and nam pla in Thailand (Mouritsen, 2012; Yoshida, 1998).

1.3 Classification of Traditional Curry Pastes

Thailand is rich in food resources, and the use of locally available ingredients has thus become a main feature of traditional curry pastes. The classification of traditional Thai curries are yellow curry, massaman curry, gold curry, green curry, red curry, panang, and jungle curry. Curries are the richest dish of Thai food being based on herbs and spices and different combinations of meats, fish, vegetables, and fruits. It is mostly used a variety of ingredients from local sources such as chili peppers, kaffir lime leaves, lemongrass, galangal and coconut milk, the flavors as a result of Thai curries tend to be more aromatic than Indian curries (Raghavan, 2007). All of Thai dishes were excellent, large, and authentic in taste. The curries in Thai foods are categorized by the methodology of the paste used in their preparation method. It is normally described by color, for instance red curries use red chillies and green curries use green chillies as the essential ingredients. Yellow curry is called gaeng curry (or geang kari) of which a word-for-word translation would be soup curry. Yellow curries in Thai food are more similar to Indian curries, with their use of turmeric rhizomes and cumin fruit as the important ingredients. Furthermore, yellow curries (or geang hleung) in Thailand country usually do not contain potatoes except in some Thai style cooking of south Thailand and Thai restaurants abroad usually have them. The curries are either water-based or coconut-milk-based. Coconut-milk-based curries are prevalent in Bangkok and the central region of Thailand. Water-based curries are more common in north Thailand.

1.3.1 Red Curry

Red curry paste includes dried red chillies, peppercorns and lime zest, and sometimes roasted and ground Indian spices such as coriander, cumin, and cloves. A popular Thai dish of red curry was used of red chili as a color name in Thai based on coconut milk heated with red curry paste and nam pla. Red curry is usually compared to the Indian Sambar. It is used mixture of almost any kind of meat, fish or vegetable. Red curry dishes were included the important ingredients of kaffir lime leaves, pea eggplant, Thai eggplant, coconut milk, Thai basil, and some sort of meat such as beef, chicken, fish, duck, pork or shrimp. Thai red curries have plenty of chilli sauces which is salty sweet and can be quite fiery hot. In some place of central and south Thailand more added the local ingredient of bamboo shoots, young coconut stem and the product of season.

1.3.2 Green Curry

Green curry paste originating in Asia has been changed to suit the taste of every adoptive palate. In the 13th century, Siam opened up to trade during the Ayutthaya period the Indian and Moorish peoples were said to have added milk

and creams and later, coconut milk, to a basic paste of coriander fruit and root, cumin, peppercorns, lemongrass, kaffir lime skin, garlic, shallots, and shrimp. Green curry made from fresh spices and fragrant plant of cumin (Siripongvutikorn et al., 2008). Coriander roots and stems are chopped and used as an ingredient in Thai dishes. Green curry is indispensable ingredients in Thai green curries and green dish using green chili peppers. Green curries paste combined with strongly flavored fish, meat or bitter vegetables that contains fresh green chillies, basil leaves, lime leaves, pea eggplant, and round Thai eggplant. A basic green curry includes green chillies, coriander, kaffir lime leaves, shallot and rinds, lemongrass, garlic, cumin, and nam pla. The dish has citrus undertones and can be mild or hot. Green curry likes all curry blends varies in composition and flavor depends on the cook different in the regions.

1.3.3 Massaman Curry

A long history of traditional curry paste of massaman curry paste was found in the 13th century. In thirteenth century, Islam spread to Southeast Asia via the maritime trade routes that connected India with the spice islands of the East (Kulke & Rothermund, 1998). The first time, massaman curry found in the 14th century of Lanna Kingdom (Pellicot, 1959). The Chiang Mai was capital of the Lanna Kingdom was found in the year 1296 by the first King Mengrai of Mengrai dynasty (Manich, 1967) and annexed by Siam in the year 1892. It was established in the same time as the Sukhothai Kingdom establishment in the year 1157. The ethnic Lanna people live mainly in the north of present-day Thailand. The word of Lanna is actually two words combined Lan and Na meaning a million rice fields (Cochrane, 2008; Manich, 1967). Massaman curry paste is made with beef, lamb or pork, originated a Thai dish that is Muslim in origin using Portuguese spicing. The information knowledge is supported the massaman curry paste with the cumin originated on the Mediterranean region (Douglas et al., 2005). The cumin is always used in massaman curry. The name of massaman (singular noun) is thought to be derived from the word of musulman (plural noun) the word the meaning of Islamic or Muslim (Grove & Grove, 2010). The massaman curry paste was suggested a regular “massaman” singular word. They are have been used of the differ ingredients in the massaman curry. Massaman curry is a blend of traditional Thai and Indian curries and usually contains coconut milk, roasted peanuts, potatoes, bay leaves, cardamom pods, cinnamon, palm sugar, tamarind sauce, and nam pla. It is commonly made with beef in Thai langue named gaeng massaman. In the southern Thailand, three provinces are large Muslim population near the Malaysian border such as Yala, Pattani, and Narathiwat. The original paste contains dried red chillies ground coriander, cumin, cloves, white pepper, peanuts, and unusual for a Thai curry roasted whole spices such as cinnamon, cardamom, and nutmeg.

1.4 Tom Yum

The most famous hot and sour soup of Thai dishes is tom yum thought out around the world. Tom yum is typically characterized by its distinct hot and sour flavors with aromatic herbs and spices generously used. The basic broth is made of stock and fresh ingredients such as galangal, kaffir lime leaves, lemongrass, lime juice in combined nam pla, and crushed bird’s eyes chili with prawns or goong. Tom yum gai uses chicken instead often called the signature dish of Thailand (Kanchanakunjara, 2008; Kanchanakunjara, 2013).

1.5 Thai Herbs and Spices in Kitchen

Many of the plants are also available and found in the kitchen such as clove, cardamom, cinnamon, coriander, cumin, galangal, garlic, kaffir lime, lemongrass, nutmeg, chili, shallot, star anise, and white pepper. Traditional ingredients of Thai curry paste has different type and content of the material. Herbs and spices are commonly used in traditional curry paste as in Thailand may differ from home to home or region to region. The system of holistic curry pates known of Thai curry paste is mainly use herbs and spices-based materials or formulations to authentic curry paste various ailments such as massaman curry, green curry, geang som, red curry, tom yum, and red curry consist of red chili, shallot, garlic, lemongrass, galangal, kaffir lime leaves, shrimp paste and salt. Dried chillies (or fresh chillies) are used in curry pastes and Thai salads for many dishes. Massaman curry usually consists of dried red chili, shallot, garlic, lemongrass, galangal, kaffir lime skin, cumin, white pepper, shrimp paste, and salt. Green curry usually consists of green chili, shallot, garlic, lemongrass, galangal, and kaffir lime skin. Geang som consists of dried red chili, shallot, garlic, lemongrass, shrimp paste, and salt. Thai curry is the most important materials of herbs and spices related to types of Thai dishes such as red curry, green curry, massaman curry, panang curry, and tom yum. Tom yum consists of lemongrass, galangal, red chili, shallot, and kaffir lime leaves (Kanchanakunjara, 2013).

Functional food is demonstrate positive effect and no negative effects from on health beyond basic nutrition. Plant and plant products are being used as a source of medicines for a long time. Plant products have been used throughout human history for various purposes. Tens of thousands of them are produced as secondary metabolites by the higher plants consist of monocots and dicots as a natural defense against disease and infection. For herbs and spices are important plant products in high vitamin, nutrition component, and phytonutrients. Phytonutrients

and vitamins are contents secondary metabolites produce by plants. Plant products are mixtures of chemical compounds that are used to flavor or season food. They are aromatic compound, monoterpenoids, sesquiterpenoids can be found in the aromatic dried plant products. Spices are include all aromatic dried of different plant products such as arils, barks, flower buds, fruits, leaves, rhizome, and other parts of woody plants such as climbers, shrubs, and trees. Thai curry paste is made from herbs and spices that a source of natural products contain of various natural compounds. The herbs and spices are classified as natural preservative agents because of the active compounds in their plants provide inhibit bacterial and fungal growth such as curcumin in the rhizome of *Curcuma longa* L. shows a wide range of pharmacological properties including antimicrobial, antioxidant, anti-inflammatory, and anticancer (Miquel et al., 2002). Allicin in the garlic (*Allium sativum* L.) is the most active compound showed antimicrobial activity. This compound was found to exhibit antibacterial activity against gram-negative and gram-positive bacteria that included multidrug-resistant enterotoxigenic strains of *Escherichia coli*, antifungal activity such as *Candida albicans*. In Thailand, the rhizome of galangal (*Alpinia galangal* L.) is used for medicinal purposes such as stomachic, carminative, antispasmodic, antichloristic, and antibacterial drugs, and as an antioxidation. Capsaicin in the chilies (*Capsicum frutescens* L.) is the major compound that can inhibit the growth of *Helicobacter pylori* (Jones et al., 1997). According to Seah et al. (2010) to studies found that the combination of herbs and spices and its gradient used in the yellow curry or geang hleung paste was turmeric rhizome, garlic, chili and galangal shows significant antioxidant and antibacterial as natural preservatives and functional food (Kuljanabhadgavad et al., 2014; Seah et al., 2010). The role of natural products in human healthcare cannot be underestimated. An estimated 80% of individuals in developing countries depend primarily on natural products to meet their healthcare needs (Goel et al., 2008). Medicines derived from plants have played a pivotal role in the health care of many cultures, both ancient and modern. The system of holistic medicine known as Thai Traditional Medicine (TTM) uses mainly plant-based drugs or formulations to treat various diseases.

They are classified into part of the two kinds of nutrition chemical compounds and non-nutrition chemical compounds. The nutrition chemical compounds are vitamins and the mineral element compounds while non-nutrition chemical compounds are secondary metabolites that produce by plants in the nature. Since the beginning of civilization, food plants, herbs, and spices have been used by humankind for its multiple values dependent on plants for their health care needs. The source of phytochemical compounds can be links to the effective of the individual compounds and mixture compounds of the natural product of herb and spices. Chili is a characteristic red color due to the presence of red-pigmented carotenoids and a good source of carotenoids. Turmeric has a characteristic yellow color due to the presence of curcuminoids. The aromatic plant is due to the volatile oils present to the extent of 1.80–2.49% in dry turmeric (Kuljanabhadgavad et al., 2014). The plants contain essential oil widely used in food, drink, body care products, soap, perfumery, and pharmaceutical products (Wei & Wee, 2013). The fruits and rhizomes of galangal have a pungent smell. Two common spices of citronella grass (*Cymbopogon nardus* Rendle) and lemongrass (*C. citratus* (DC) Stapf.) are native herbal plants. For the main compounds or major constituents can be found in the higher yield in the herb and spices. For instant, garlic one of the ingredients in massaman curry and other curries have been reported to possess allicin, a highly active volatile constituent showed the antimicrobial activity (Ankri & Mirelman, 1999).

2. Historical Development of Traditional Curry Paste

Thai food has been a product of transnational interactions for long periods during 6th and 11th centuries of Dvaravati Kingdom influence of Indian culture (Sirivejkul, 2003). The original Thai traditional cooking most people believed in the uniqueness. In the 15th century, Khmer cooks introduced Indian food pattern such as many curries and boiled red and white sweets until the Ayutthaya's court during the 14th to 18th century. Nam pla is a condiment and crucial ingredient in every Thai dish. In the 16th century, Portuguese were introduced chilies to traditional curry paste and in combination with nam pla, galangal, and kaffir lime; they give a distinctive aromatic and taste to Thai dishes. In earlier 17th century contact with Western cultures a Thai dessert modified from Portuguese dish left a culinary legacy of Kanom thong yip.

There is evidence of human habitation for some curries past in Thailand for long time state starting in Sukhothai period (1157–1438 A.D.) and Ayutthaya as capital (1350–1767 A.D.) and its succession of Kings both weak and strong, endured for 417 year and came to end in the year 1767 through a ware with Myanmar. One of the generals of the last King of Ayutthaya, known vulgarly as Phya Tak Sin, succeeded by an heroic effort in driving the enemies out of the country. He became a King of Thailand but moved the capital from Ayutthaya, which by now was in ruins and depopulated, to Thonburi (1767–1782 A.D.), a city on the right bank of Chao Phya River of the present greater city of Bangkok. King Rama I of the present Chakri dynasty succeeded King Tak Sin in the year 1782 (Ratthanakosin period, 1782–present) (Sirivejkul, 2003). In order to understand the traditional curry paste

and a food of a state, it is necessary to trace back different eras of history of that state. A long history of Thai traditional curry paste begins 817 years; Sukhothai was one of the early Kingdoms in Thailand emerged integrating traditional muang administration with the Indian mandala concept of the centralized state. In spite of influences from India, Sri Lanka, and neighboring regions, Sukhothai evolved its own in the realm of language, script, and religion that become an essential function part of Thai culture. Traditional curry paste today and Thai food is an essential part that was combination of indigenous curry paste and the influence of Indian and Chinese culinary traditions. Thai curry paste that involved in Sukhothai period was similar to traditional ingredients with the presence of a curry paste of massaman curry.

2.1 Traditional Curry Paste in Sukhothai Period

During the Sukhothai period was an important commercial center and various civilization centers in food and eating. It was the beginning of notes in Traipoom Pra Ruan Og Prayalithai description of Sukhothai as capital. Sukhothai period became capital at that time, Siamese and Siam had been a part of land of Southeast Asia. Thai food has been reported for long time history starting with Sukhothai as capital have been found in the Sukhothai stone (Bradley, 1909; Frankfurter, 1906; Rajanubhab, 1914–15). In that time, the word U may be translated as a cradle or as an origin. That the reason we speak of U Nam origin of water, and of U Khao origin of rice, as the two necessities of life for founding a settlement (Heide & Homan, 1906; Rajanubhab, 1904). The starting point of the presence of a water monitor wasting the curry stated that after King Ramkhamhaeng (Gerini, 1904). In the early 13th century, from the historical records in King Ramkhamhaeng's famous stone inscription, it is clear that rice and fish as the major ingredients of Thai food. The origin of the Thai diet begins with the waterborne community. They are consistent with the traditional Thai eating pattern. Thai culture developed under Rama Khamheng's reign in Sukhothai period. In that time, the Aquatic animals, plants, and herbs are used. They are used a great deal in preparing meals; large pieces of meat are rarely used in any dish. The common cooking methods are widely practiced still used stewing, grilling, baking, and frying. The fresh herbs and spices are common ingredients in the most of Thai dishes. Thai meals (or Thai dishes) are not served in courses instead of, they are served at the same time allowing the various dishes to complement and enhance each other. Thai food recipes are eaten with rice which is the main dietary staple for Thai population.

2.2 Traditional Curry Paste in Ayutthaya Period

In the year 1279 of King Ramkhamhaeng has been reported people in everywhere growth various plants such as rice, coconut groves and groves of land, mangoes, palm trees, groves of betel and tamarinds for used in the household (Bradley, 1909; Coedes, 1918). The starting point of Ayutthaya period in the year 1350, King Uthong set up Ayutthaya as capital. King Nareasuan the great of Ayutthaya period become both in the commercial center and to foreign country contains within itself one of the most rich and diverse sources of resources on the world. In a small area have rice plains and rich in spices and medicinal products but rare animals and yielded valuable metals on mountains, and all manner of inlets and outlets (Wright, 1992). In the great King Narai in the year 1685 was the center of the best chefs who cooked Chinese, France, Japanese, Persian, and Portuguese (Coedes, 1921; Wyatt, 1974). In the reign of Narai, Portuguese brought chili with them then chili was included in many ingredients of cooking to add more spicy taste. In Ayutthaya period, they are used pepper not chili as ingredient in spicy curry cooking as chili was not appearance in the local. Massaman curry is a spicy curry, which is adopted from foreign civilization. It is presumed cooked by Indian chef who was noted by Persian Ambassador that King Narai was the only one who liked the rich Indian food. In his reign, Indian chef who cooked Indian food was directly involved Thai foods in the Royal kitchen. Massaman dish is the Bunnag's popular dish. Chekahmed-the Persian business people worked in the Royal Institute who adapted Thai Muslim food by using milk (or yogurt) instead of coconut cream. Japanese stew types using coconut oil and coconut cream in there cooking.

2.3 Traditional Curry Paste in Thonburi Period

The original Thai food in Thonburi period was similar to Ayutthaya period especially Chinese food. Beyond this period, though there historical records, especially of Thai people of north Thailand, Laos, and the Shans, we enter comparatively into the realm of myths and legends with exaggerated dates for self-glorification-a thing to be found in a nation's history. Thonburi as a capital became the greater city of Bangkok in the present. It is the longest official name in the world an abbreviated from is Krung Thep Maha Nakhon which means the capital city of gods. The important information of this period, the first Thai cookbook Mae Krua Hu Pra in Thonburi period wrote by Thanpuying Plien Paskornwong showed that continue of cooking food captured from the Sukhothai to Ayutthaya and during Thonburi to Ratthanakosin period through government duties and family society.

2.4 Traditional Curry Paste in Ratthanakosin

2.4.1 The reigns of King Rama I to King Rama III

In Ratthanakosin kingdom should be divided of two section of King Rama I to King Rama III and King Rama IV to King Rama IX; in the section 1 (1782–1851). In the reign of King Rama I, as the same time in Ayutthaya period there are many contacts with foreign countries through commercial and ambassador and become the commercial center. There is civilization development, which included the cooking. Thai ladies who cooked delicious food were praised of having “Spoon tip charming” Thai spicy curry dishes are popular, cooked in every home, every time and every function. During King Somdet Phra Narai of Ayutthaya period from 1656 to 1688 has reported Maria Guyomar de Pinha or Thao Thong Kip Ma in Thai. She is a Japanese-Portuguese lady and was born in Thailand and worked in the palace’s kitchen where she was responsible in making food for the royal family and their foreign guests and the French ambassadors. She has a creative dessert recipe that was adapted from Portuguese culinary influence with the using of local ingredients of coconut cream, rice flour, and sugar. Spicy curry was included in the royal function as recorded in letter on the renovation of the Temple of The Emerald Buddha 1982 Navinthevi’s dairy. In the reign of King Rama II could be regarded as one of relative peace. It was a period of consolidation in which the people of Siam could pause and reflect upon the hectic changes and achievements of the previous reign. Thai food in this period is influenced by palace people to make good quality of Thai food with delicately carving vegetables and fruits. The spicy curry was included in many writing for example, boat song writing about food and desserts. There were 15 kinds divided to 4 kinds of spicy curry dish. For instant, massaman curry, thea po, geang khom, and geang krau som cooked by ladies or ladies in the palace who cooked carefully and tasty named “Palace type” and “Royal dishes”. King Rama II’s writing on “Sang Thong” about Gaeng Fak. A literature “Khun Chang and Khun Pann” about food from birth until die reflected the local female helping each other to cook Panang spicy curry for monks and company. In the reign of King Rama III, closed contact with China. New Year celebration and making merit, the food included Khanomjeen to the monks, staffs mean the long life, and served together with nam ya curry dishes.

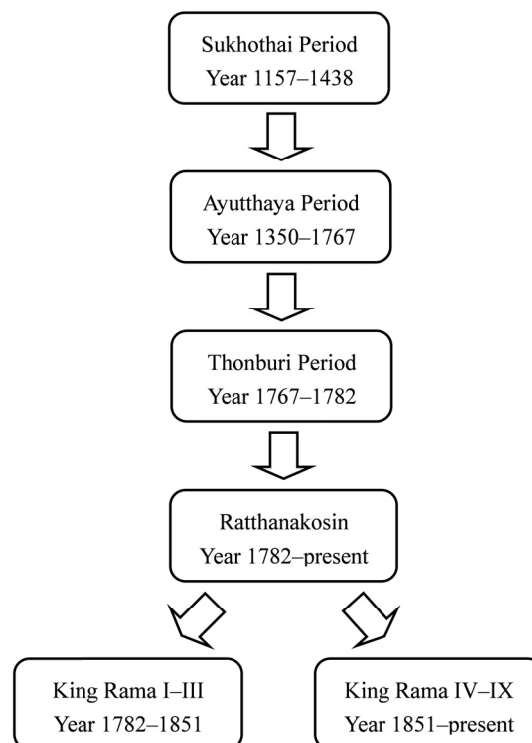


Figure 1. The original curry dishes development from Sukhothai continued to Ratthanakosin

2.4.2 The reigns of King Rama IV to King Rama IX

The section two (1851–present) at the reign of King Rama IV, for this reason, in King Rama IV is dynamic and complex influence from the western culture. The first Thai food textbook called Mae Krua Hu Pra wrote by Thanpuying Plien Paskornwong. The third month ceremony Chinese New Year, included in the ceremony of

making merit were spicy curry use baked chilli as an ingredient cooked by Choom, one of King Rama IV's wife Prince Damrong's mother. In the reign of King Rama V, there were a lot of changes of food development as to international development by Assistance Prof. Dr. Winai Dalan wrote in "Food Nutrition: to follow King Rama V's foot step" refer to Polsri Kachacheewa who summarized geang pla or chicken curry without coconut cream but when Thai people like coconut cream they cooked spicy curry with coconut cream until the end of the reign the name of spicy curry with coconut cream was call spicy curry. The spicy curry or chicken curry cooked without coconut cream called a jungle curry. A jungle curry is a country curry that is simple and robust in flavor and technique. Lady Plien's first Thai food textbook also called "A jungle curry chef". In the reign of King Rama VI the Thai food in the palace was described in the Boat song that chicken curry mixed with Chinese noodle was similar to the food in the reign of King Rama V in decoration, color, flavor, and taste. In the reign of King Rama VII, the popular food was simple to cook, boil, fry, cook the meat overnight, and prepare to add ingredient next morning. Spicy curry will be prepared in the evening and add in the vegetable the next morning, as there was no refrigerator available for the normally people. In the reign of King Rama IX is the most complex of Thai food in the country and has other food from some country such as Japan, South Korea, and Vietnam.

During the Rattanakosin kingdom was imported foreign coals for daily cooking purposes such as coconut oil, Chinese peas, garlic and onions, flour, rice, salt, tea, white and brown sugar, and wheat (Bradley, 1906). Thailand country is colloquially known as the heavenly country due to its abundance of food and natural resources including various plants of vegetables, herbs, and spices. The unique Thai food is recognition of local traditional knowledge to sell in Thailand for both local and overseas consumption. Many kinds of Thai food are well-known locally in Thailand and spread to Southeast Asia until now still distribution around the world such as tom yum, tom kha, pad Thai, green curry, red curry and massaman curry which that people eat each Thai curry with rice recipes. In the Northeast and Southeast Asia region uses rice as a main ingredient (Koo & Kim, 2005).

In 1960, the beginning of the international tourism in Thailand was first exposed foreign visitors to Thai food. In 2003 until today, the globalization may enhance access to Thai traditional foods because of changing prices, production practices and eating behaviors, as well as importing some ingredient and exporting vegetables, herbs, and spices and marketing practices. There are any numbers of inexpensive industrially produced foods that are rapid and convenient to eat. Thailand country was heavily influenced by the culture, moral, and religions of India and Chinese culture (Salleh, 2009) until the present that similar to other country in Southeast Asia area likes Cambodia, Laos, Myanmar, and Vietnam.

3. Traditional Ingredients of Original Curry Paste in Thai Food

Thailand country possesses a wealth of culture food traditions and architecture that is rich in natural resources of fragrant herbs, spices, plants, and vegetables (Hugh, 2005). The original Thai food is popular with consumers in many countries in Asia especially widespread in Southeast Asia and Japan, Germany, and United States throughout around the world. Many kinds of Thai curries have used been the traditional ingredients process that has shown the technique and preparation method to be unique by mortar and pestle. The important ingredients obtained various fresh herbs and dried materials. For instant, the fresh spices garlic, shallot, galangal, lemongrass, skin of kaffir lime, chili and other fresh herbs and spices through preparation method and cooking process until it smells piercingly aromatic, the layer of taste are finely poised and seasoning finely balanced it is as sophisticated as Thai culture. Thai foods is known for peppery taste fragrant spices and herbs add a component in food, flavor national, and promoting health benefits (Nakornriab & Puangpronpitag, 2011). The spice is a vital part of food preparation and enhances the aromatic flavor of Thai dish such as *Heracleum siamicum* Craib. named *Ma Laep* found in the north and northeastern Thailand (Hedge & Lamond, 1992). The essential oil from the fruits of *Ma laep* showed bactericidal and fungicidal activity against five bacterial strains and two fungal strains (Kuljanabhagavad et al., 2011). For the survey Thai food recipes have been reported the most popular and very delicious of taste in six kinds of Thai curry paste selected by order of a dish, gaeng massaman, gaeng khiao wan, tom yum, tom kha (hot and spicy soup with coconut milk), gaeng phet, and gaeng kari (Grove & Grove, 2010; Kanchanakunjara, 2013).

In addition, Thai people accumulated through many years of the experience and sustainable value creation would surely be to live in equilibrium with the environment season and consumption. This is a reason identity of Thai food for good health benefits. The royal Thai government has been promoting and government policies on food and agriculture for industry kitchen of the world in the year 2003 to 2027. Thailand is the kitchen of the world an origin and growth of the Thai food industry. In recently, the interesting case study of Thai curry paste product of Thailand in different country have been well documented and the traditional local foods have been reported as Thai curry integrated on the menus in South Africa (Njomo, 2012). In particular, all of Thai herbs and spices in traditional curry paste are high vitamin from the green vegetables and phytonutrients that are content secondary metabolites produce.

The original Thai food cooks use fresh ingredients, including vegetables, herbs and spices, pork, fish, and meat, kaffir lime, galangal, lemongrass, and fresh coriander give the food. It is typically characteristic odor in Thai food, while liberal helpings of fresh chilies add some fire to many dishes with dried chilies such as pad Thai. For other generally seasonings include green and black pepper, coconut cream and milk, and tamarind, which are often added to curries. The popular neutral dishes in Thailand are varieties of the spice of life, one can specially have a different meal options available to every day of the year such as gaeng massaman (rich spicy curry with beef, lamb, pork or chicken), gaeng kari gai (mild yellow curry with chicken), gaeng khiaw waan (sweet green curry with coconut milk and chicken, pork, beef, fish or shrimp), tom yum goong (hot and sour soup with lime juice, lemongrass, kaffir lime leaves, straw mushroom and shrimp), tom kha gai (soup with galangal rhizome, kaffir lime leaves, chicken, and coconut milk), gaeng jeud (soup with vegetables and meat), khao phat (fried rice), khao man gai (sliced boiled chicken over marinated rice), khao na phet (rice with roasted duck), kuay-tiaw nam (soup with rice noodles, product of meat such as pork ball, fish ball, or shrimp ball, and vegetables), laot naa (stir fried rice noodles, slice pork and vegetables in a thick gravy), pad siyu (stir fried rice noodles with slice pork and vegetables), sang kha-yaa maphraow (coconut custard), kluay khaek (fried banana), mamuang khao niaw (ripe mango with sticky or glutinous rice in coconut cream) (Kanchanakunjara, 2008). In the present, condiment processing in Thailand has increased the convenience of cooking type of food with ready to eat (Kosulwat, 2002). They have proved an easy way for general consumer to store and use. Thai people in the central region increased their consumption of sugar and sweeteners more than other regions. Thai people at home, homemade meals are rarely seen and are being replaced by ready-to-cook and ready-to-eat foods bough at local markets, supermarket standalone, food stalls, grocery store, convenience store, supermarkets or big department stores and eaten at home. Interest has also been stimulated for other reasons. Thai curries indigenous knowledge conforms to the international quality standards. Indeed, this research explores the recipes that were developed by using process of indigenous knowledge in produce to standardize and benefits of economic and curries recipe of a care ecology, residence living place, utilize management of herbs and spices. In the previously reported, we reported two kind important traditional Thai curry paste of massaman curry and tom yum that is the first original Thai curry pastes from central Thailand included three important places in Bangkok (Kanchanakunjara et al., 2014b).

4. History of Massaman Curry Paste and Tom Yum in Thailand

Initially, we have found the original curries and traditional curry pastes started the development from the Lanna period to close Sukhothai period in the 13th century, which was approximately 700 years. They have been used in a variety ingredient of raw pork, poultry, catching water fish and shellfish, wild vegetable and harvest agricultural vegetable by cut, pounded, smashed or chopped in the method of cooking. Some seasonings were available with chili, pepper, salt, and palm sugar for cooking. Utensils for cooking used as a paddle and mortar made of stone to paste an ingredient. Food container was imported from China. In Thai culture, rice plays the important role of every meal. In that time, Ayutthaya period, Thai people were traded with many nations in Asia and a Western country. Chinese people come to our country had significant influences in Thai cooking. We enlarge our collection of cooking utensils and tools, consequently our cooking techniques expanded from the Chinese. Some curry recipes were using shrimp paste and seasoning with salt and nam pla and many herbs and spices such as galangal, pepper corn, cinnamon, clove, nutmeg, garlic and shallot. It is used as an ingredient for curry paste by crushed and pounded with a pestle and mortar cooking in coconut cream and milk. Types of meat consumption are seafood, fish and kind of shellfish from the river, processing products. In that time, Thonburi period created the first cookbooks printing on record seem to be mainly lists of recipes, preparation method of cooking. Ratthanakosin period, traditional Thai food there are several ethnic indicated that there is a modern purism is delicate to cook. In addition, in the religious ceremony and beliefs came from the ubiquitous royalty food and local folk. The influence foreign food for Thai food mainly comes from China and India. It is derived from the trade relations such as rice, salt, coconut oil, wheat flour, sugar, salted shrimp, onion, garlic and pickles. The most important ingredient is derived from the cultivation of agricultural crops in abundance.

In Thailand, most pastes used the same basic ingredients while their proportions can vary in order to modify the characteristics of classification of traditional curry pastes. The traditional way in the curry paste if some curry paste has dried spices in the recipe needed to medium heat and dry-fried until fragrant, pound or grind until very fine and measured. Using stone pestle and mortar to pound curry paste could be divided into four steps. 1) pounded salt, chili (for dried chili use to remove the seeds and ribs to minimize the heat, soak until soft and minced) and pepper until the chili are reduced to a thick paste. 2) add wet ingredient herb and spices minced such as lemongrass, galangal, kaffir lime skin, coriander root, garlic, and shallot pounding to a smooth paste as possible. 3) add dried spices powder pounding until well mixed. 4) add shrimp paste softly pounding again to form the curry paste

(Kanchanakunjara et al., 2014a). In the present, the school was set up to teach the children of the nobility and have activities for cooking contest, food business about processed food, semi-instant food and instant food.

Cooking curry started to put coconut cream into a warm wok or large frying pan. Cook slowly in the medium high heat, stirring regularly, until it reduces to a thick and the oil starts to separate out and bubbling. Then add the curry paste and cook to release the fragrance. Use your sense of curry paste smell fragrant aroma to tell when the paste is ready. In addition, the extraction techniques from essential oils contained in spices and herbs and prevent oil being oxidized from the air. The mainly methods of cooking curry are divided into these two methods. To accomplish this, follow the steps below: the first preparation method, 1) add the meat, cook until almost done, season with nam pla and palm sugar, 2) add coconut milk to the boil, 3) add eggplants, pea eggplants and let it simmering point, 4) add kaffir lime leaves, sweet basil, and chilies, 5) simmer until vegetables are softened but still firm and colorful and 6) remove from heat. The second preparation method, 1) add the coconut milk, meat, stirring to incorporate, 2) when the curry sauce comes to a boil, reduce heat to medium or medium-low, until you get a nice simmer and cooked through, 3) add eggplants, pea eggplants, kaffir lime leaves, sweet basil, and chili, 4) simmer until vegetables are softened but still firm and colorful, 5) remove from heat, 6) note that this curry should be a balance of salty, spicy, sweet and sour, plus bitter (the bitter is found in the fresh basil garnish) and 7) serving curry in a bowl with Thai jasmine rice served separately.

5. Technique Development of Massaman Curry Paste and Tom Yum

It began from finding vegetables, herb and spices (Raghavan, 2007) such as shallot (*Allium ascaonicum* L.), garlic (*Allium sativum* L.), coriander root (*Coriandrum sativa* L.), pepper (*Piper nigrum* L.), dried chili (*Capsicum frutescens* L.), lemongrass (*Cymbopogon citrates* Stapf.), galangal (*Apinia galangal* L.), kaffir lime (*Citrus hystrix* DC.), cumin (*Cuminum cyminum* L.), mace and nutmeg (*Myristica fragrans* Houtt.), cinnamon (*Cinnamomum burmanii* (Nees & T. Nees) Blume), star anise (*Illicium verum* Hooker), Siam cardamom (*Amomum krervanh* Pierre) and clove (*Eugenia caryophyllata* Thunberg). They are mainly herbs and spices of traditional curry paste used in massaman curry, green curry, yellow curry, and panaeng curry. The different types of curry were use in some different materials number. There are almost use in types of Thai curry that are very important material in curry and hot and sour soup.

Table 1. Raw materials used in massaman curry and tom yum and developed recipes

Raw Materials	Curry paste	
	Massaman curry	Tom yum
big pepper	♦	
bird's eye chili		♦
cardamom	♦	
cinnamon	♦	
clove	♦	
coriander root	♦	♦
coriander fruit	♦	
cumin fruit	♦	
galangal	♦	♦
garlic	♦	
kaffir lime leaves		♦
lemongrass	♦	♦
nutmeg	♦	
pepper	♦	
salt	♦	♦
shallot	♦	
shrimp paste	♦	
star anise	♦	
Thai chili paste		♦

Note: (♦ Used as an ingredient).

Thai curry paste shown in Table 1 of the 19 raw materials and 14 raw materials for the original curry paste of massaman curry and 5 raw materials use in tom yum, with cover the main materials of two curry pastes that found in the first reported of this project. One interesting fact to note is that many of the ingredients used in curry paste of massaman curry and tom yum. The herbs and spices use as ingredients were brought from the organic farm. The plants dried the materials with the special machine to protect the favor and aromatic. After that, the herbs and spices dried were used for traditional curry paste, which called Thai curry paste pyramid (Kanchanakunjara et al., 2014). It also was the first kind of curry paste invented by Thai people in Thailand. In this case, it is a very useful for designing products. It made changes in lifestyle and reformed the daily life curry pastes pyramid suitable and convenient for ready to eat of two people, four people, and six people. It could be claim that Thai curry paste pyramid was the original curry paste of organic material from natural and non-chemical ingredient and non-chemical food preservative.

6. Conclusion

The conclusion from this study that traditional ingredient and original curry pastes during Sukhothai to Ratthanakosin is significant and worthy of protection and cultural heritage of Thailand. In the Ratthanakosin period, curry pastes preparation could be divided into two sectors of the reigns of Rama I to Rama III and Rama IV to Rama IX. Perhaps the dynamic interplays between tradition and modernity in the construction of the dynasty and society. Considering the culinary arts in Thailand reflects the continued presence due to regional diversity and a royal court and the widely range of ingredients in Thailand. The original curry pastes would produce and reproduce identity that belongs to the sphere and deeply related in a particular place, space, and time, the original curry pastes traditions of a specific area reveal the character. We have just seen that traditional curry paste evolves in relation to its period, environment, and actors. They are an integral part of individual, collective, and territorial identity. We find in rural areas corresponds to the tradition of a whole group of the old Thai style which generates a feeling of belonging to this particular area, interesting in value. All the recipes in the collection of original Thai dishes such as a popular curry and also other curries traditionally processed Thai curry paste products named massaman curry in Thai leagues called gaeng massaman and well known of hot and sour soup in Thai leagues called tom yum have been marginally modified for Western tastes.

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The Moderating Effects of Self-Efficacy on the Relationship Between Personality Traits (Extraversion, Neuroticism, Agreeableness, Openness, and Conscientiousness) and Cigarette Smoking Behavior Among Adolescents in Kerman, Iran

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Abstract

This paper aims to examine the relationship between personality traits (extraversion, neuroticism, agreeableness, openness, and conscientiousness) and cigarette smoking behavior and also determine the moderating effect of self-efficacy on the relationship between personality traits and cigarette smoking behavior among adolescents in Kerman, Iran. A quantitative research method was employed. The samples included three hundred current smoker adolescents between the ages of 15 to 18. The data was collected by means of self-administered questionnaires and then analyzed by AMOS software. The direct structural model was employed to figure out the path relationships between personality traits (extraversion, neuroticism, agreeableness, openness, and conscientiousness) and cigarette smoking behavior. In addition, a multi-group analysis approach was applied to assess the moderating effect of self-efficacy on the relationship between personality traits (extraversion, neuroticism, agreeableness, openness, and conscientiousness) and cigarette smoking behavior among adolescents. The results of testing the structural equation model showed that there were significant relationships between personality traits (neuroticism and conscientiousness) and cigarette smoking behavior whereas there was no significant relationship between personality traits (extraversion, agreeableness and openness) and cigarette smoking behavior. Also, the results related to the moderating effect of self-efficacy revealed that self-efficacy significantly moderated the effect of neuroticism on cigarette smoking behavior but did not moderate the relationship of other personality traits i.e. extraversion, openness, agreeableness and conscientiousness with and cigarette smoking behavior. At the end, this study recommends some solutions in order to prevent cigarette smoking behavior among adolescents.

Keywords: personality traits, cigarette smoking behavior, self-efficacy, adolescents

1. Introduction

Cigarette smoking has been identified as a major public health problem worldwide (Eftekhari, Nassr & Sallehi, 2007; Sarafzade, Boshtam, & Tafazoli, 2004). It is a widely known risk factor for the development of cardiovascular diseases, chronic obstructive pulmonary diseases, and lung cancer, which are all associated with increased mortality rates (Berkow, Beers, & Fletcher, 2000; Deborah, 2006). Also, cigarette smoking contributes to chronic illnesses that decrease the quality of life and result in less productivity (Nichols, 2006). In addition, smoking has been found to correlate with the use of other substances, including alcohol and drugs that can have additional negative consequences (Deborah, 2006; Junger, Stroebe, & Laan, 2001). Smoking is the sixth cause of

death in the world and if the trend remains the same until 2030, the number of smoking-induced deaths will increase to eight to ten million (World Health Organization, 2008).

Initiation of cigarette smoking occurs almost exclusively during adolescence (Burns & Pierce, 1997; Poorasl, Fakhari, & Shamsipour, 2011; Ziaaddini, meymandi, & Zarezadeh, 2007). Many international studies have shown that about 85 to 90% of heavy smokers start smoking before the age of 20. They also indicated that smoking in adolescence is a strong predictor of smoking in adulthood (Mohammadpoor, Fakhari, & Rostami, 2007; Taioli & Wynder, 1991). Smoking just a few cigarettes during adolescence leads to a 16-fold increase of the risk of adult smoking (Mohammadpoor et al., 2007). Furthermore, the earlier one starts smoking, the more cigarettes per day one will smoke as an adult. Therefore, adolescent cigarette smoking is of a great significance for public health.

Cigarette consumption has been increasing in most developing countries during the past 20 years. The World Health Organization has described smoking as an epidemic in developing countries (Rozi, Butt, & Akhtar, 2007; World Health Organization, 2008). There are about 1.3 billion smokers in the world and approximately 80% of them live in the developing countries (American Cancer Society, 2006; Rozi et al., 2007).

Among developing countries, Iran has one of the youngest population profiles in the world (Ziaaddini et al., 2007; pouresmlami, 2008). Approximately, 71% of Iranian smokers reported that their first smoking experience was in their adolescence (Kelishadi, Ardalan, & Gheiratmand, 2006; Pouresmlami, 2008; Ziaaddini et al., 2007). Kerman is one of the major urban areas in the central part of Iran. This province is well-known for its major social problem, i.e. the prevalence of cigarette smoking among adolescents (Nakhaee & Divsalar, 2009; Ziaaddini et al., 2007). Currently, the consumption of cigarette is very common among adolescents in Kerman (Ziaaddini, meymandi, & Zarezadeh, 2007). Research shows that in Kerman the average age of smoking initiation is 15.9 ± 4.5 years and the age of starting smoking in 48.35% of smokers is before 20 (Nakhaee & Divsalar, 2009).

Albeit a vast number of attempts to prevent or decrease smoking behavior, this habit is still increasingly prevalent among young people in Iran. Even in comparison with developed countries the number of adolescent smokers in Iran is relatively higher and indicates an increasing trend (Poorasl et al., 2011).

As adolescent smoking is considered to be a gateway to the use of alcohol and other illicit drugs, researchers are challenged to develop proper solutions and provide the communities with recommendations in this regard.

In the light of previous findings, personality traits (extraversion, neuroticism, agreeableness, openness, and conscientiousness) and self-efficacy are posited to play a role in cigarette smoking behavior.

Stable and peculiar personality traits of each individual (neuroticism, extraversion, openness, agreeableness, and conscientiousness) can explain the variability in health perceptions and are regarded as risk factors underlying cigarette smoking and other drugs abuse (Ebert et al., 2002; Terracciano, Lockenhoff, Crum, Bienvu, & Costa, 2008). Based on the personality traits of the individuals, their tendency toward initiating and continuing smoking can be determined (Diane et al., 2005; Zargar & Ghafari, 2009; Torres & Pritchard, 2005).

Also, self-efficacy is significantly associated with cigarette smoking among adolescents and increases the likelihood of cigarette smoking behavior (Hiemstra et al., 2011). Researchers have demonstrated that the effect of self-efficacy on behavior is pervasive and that self-efficacy influences the problematic behaviors like cigarette smoking (Diane et al., 2005; Fagan et al., 2003; Hiemstra, Otton, De Leeuw, Schayck, & Engels, 2011; Von, Ebert, Ngamvitroj, Park, & kang, 2005). They suggest that cigarette smoking behavior is significantly associated with the level of self-efficacy. The outcomes of a number of studies revealed that those who smoked more cigarettes had lower self-efficacy scores and were less confident in their ability to avoid smoking than those who smoked less (Ehrhart, 2005; Fagan et al., 2003; Sterling et al., 2007).

Although self-efficacy has been found to be directly related to cigarette smoking among adolescents, few studies have examined whether higher self-efficacy acts as a moderator to change the effect of influencing factors on cigarette smoking behavior. Even though a great deal has been learned about the prediction of adolescent smoking by the influence of a lot of factors, not enough attention has been paid to how these constructs may interact with moderator variables.

Thus, in order to fill the research gap, in the present study the interactive effects of a moderating variable (self-efficacy) with personality traits (extraversion, neuroticism, agreeableness, openness, and conscientiousness) influence on adolescent smoking behavior will be examined in a sample of smokers' adolescents. In fact, no research has "so far examined the moderating effects of self-efficacy in the process of personality traits (extraversion, neuroticism, agreeableness, openness, and conscientiousness) and cigarette smoking behavior among adolescents.

Therefore, the present study was proposed to examine relationship between personality traits (extraversion, neuroticism, agreeableness, openness, and conscientiousness) and cigarette smoking behavior and also investigate the moderating effects of self-efficacy on the relationship between personality traits (extraversion, neuroticism, agreeableness, openness, and conscientiousness) and cigarette smoking behavior among adolescents in Kerman, Iran.

2. Methodology

2.1 Sample Procedure and Sample Profile

The study sample comprises adolescents' cigarette smoker between the ages of 15 to 18 in high schools in Kerman. Twenty-two schools were selected for the study using a cluster sampling technique. In order to determine the sample size, G-Power statistical analysis program developed by Erdfelder, Faul and Buchner (1996) was used. After setting the values of .1 for effect size, a power of .95 and alpha .05, the regression was selected as the data analysis method. The sample size, calculated by the software as the most suitable for this method, was 300.

2.2 Instrumentation

Personality traits scale: NEO-PI-R 60-item personality inventory, for measuring the Big Five personality dimensions, asserts that the following five factors, namely neuroticism, extraversion, openness, conscientiousness and agreeableness, can describe most personality traits. The 60 items in this section were adapted from Costa and McCrae (1992). NEO-PI-R inventory was rated on a five-point Likert scale, which ranged from 0= strongly disagree, to 4=strongly agree.

Self-Efficacy Scale: Self-efficacy was measured by the eight-item adapted from the Smoking Self-Efficacy Questionnaire (Etter, Bergman, Humair, & Perneger, 2000). This instrument had a five-point Likert-type scale (Not at all sure (1) to absolutely sure (5)). The highest score indicated a high level of self-efficacy and the lowest score indicated a low level of self-efficacy.

Cigarette Smoking Behavior Scale: Cigarette smoking behavior was measured with questions refined from the national high school YRBS questionnaire (Centers for Disease Control and Prevention, 2000). This scale is a 5-item self report questionnaire designed to measure cigarette smoking behavior and rated on a seven-point Likert scale. 'Smoked 10-30 days in the past 30' and 'smoked less than five cigarettes each day' means light current smoker. 'Smoked 10-30 days in the past 30' and 'smoked five or more cigarettes each day' means heavy current smoker and 'smoked 1-9 days in the past 30' means occasional current smoker.

3. Results and Discussion

3.1 Descriptive Statistics

Table 1. Frequencies and Percentages of Respondents' Demographic Background

Variables	Number (N=300)	Percentage (%)
Age (n=300)		
15 years	69	23.0
16 years	72	24.0
17 years	80	26.7
18 years	79	26.3
Mean=16.5		
Level of Education		
First grade	69	23.0
Second grade	72	24.0
Third grade	80	26.7
Pre-university	79	26.3
Gender		
Male	195	65.0
Female	35	35.0
Monthly Pocket Money(Thousand Toman)		
< 130	199	66.3
> 130	101	33.7

The descriptive analyses of the respondents' demographic background namely age, gender, level of education, monthly pocket money are presented in Table 1. This Table shows the frequencies and percentages of respondents' demographic background.

The age of the 300 study adolescents, as reported by the respondents, ranged from 15 to 18. Their mean age was 16.5. The Majority of the respondents (53%) belonged to the age group of 17-18 year-olds. Regarding gender, 65% of the adolescents were male and 35% were female. In terms of education, the largest part of the subjects in this study belonged to the third grade; that comprised 26.7% of the whole subjects. Also, Table 1 illustrates that the majority of the respondent's (66.3%) monthly pocket money has been between 0-130 thousand Tomans (almost 50 dollars).

3.2 The Inferential/Structural Equation Modeling (SEM) Results

The multivariate technique of Structural Equation Modeling was employed to test the validity of the instrument, based on the collected data and its underline research hypothesis. In this section the results are presented in three phases based on the practical step in SEM analyses. These includes: first, Individual Confirmatory Factor Analysis for each latent variable; second, the measurement model or overall CFA model which comprises the latent variables in the study, and third, the structural models to test the research hypotheses.

3.2.1 The Confirmatory Factor Analysis Models

Prior to start the Structural Equation Modeling, it is necessary to confirm the study constructs individually in terms of their model fit and convergent validity.

3.2.1.1. Personality Traits Individual CFA

The studied personality traits include extraversion, conscientiousness, neuroticism, agreeableness, and openness. They have been measured using a standardized scale through 60 items in which each trait is deliberated by 12 items. The individual CFA of Personality Traits' construct has been specified. In fact, the results reveal that the CFA model fit the data. The Figure 1 demonstrates the goodness of fit indices; they all have the acceptable value for presenting a good fit including: [Relative $\chi^2= 1.309$; CFI = .950, IFI = .950, TLI=.948, RMSEA = .032] except GFI = .800 and $\chi^2 (1700) = 2224.728$, $p = .000$. According to Hair et al. (2006), if three to four indices meet the criteria, it offers adequate evidence of model fit. Thus, the investigation of the goodness of fit indices five index supports a good fit for the model. After specification of Individual CFA and monitoring the goodness of fit indices for the model fit, the validity of individual CFA was investigated. To conduct the validity assessment of construct, it is necessary to assess the factor loadings, average variance extracted, and construct reliability. Table 2 shows (Appendix A), the results of validity assessment for the Personality Traits construct. The results confirm that all the items have adequate standardized factor loading ranging from .623 to .811 to support the construct validity. The investigation of the second criteria of construct validity which is average variance extracted, also supports and confirms the validity of Personality Traits construct as the AVE's value exceeded the cutoff point of .5 although the Neuroticism AVE value was .48 which is too close and ignorable. The third and last indicator of construct validity is construct reliability. Assessment of construct reliability determined the Personality Traits constructs reliability in a very good level while the lowest construct reliability was belong to the Neuroticism the value of .91 showing very good reliability. Thus, the convergent validity of Personality Traits construct has been confirmed. The results of this assessment confirmed that the Personality Traits construct has been measured using valid and reliable items for each trait.

3.2.1.2 Self-Efficacy Individual CFA

The self-efficacy construct was measured using eight items. Using the determined items the individual CFA model has been specified. The model is portrayed in figure 2. The first step to investigate a construct is to assess the model fit using goodness of fit indices. The results of model fit assessment for the self-efficacy construct supports that the model fits the data according to the following goodness of fit indices: Relative $\chi^2= 2.772$; GFI = .954, CFI = .973, IFI = .973, TLI = .963, RMSEA = .077 except chi-Square ($\chi^2 (20) = 55.440$, $p = .000$). The reason has been discussed in pervious individual CFA. Consequently, it could be said that goodness of fit indices support a good fit for model.

The second step of investigating a construct is to assess the convergent validity of construct through factor loadings, average variance extracted, and construct reliability. The results of convergent validity assessment are reported in table 3. The results are as follows: the standardize factor loading for the self-efficacy construct is ranging from .697 to .853; they all get the acceptable value and fall between the acceptable range and exceed the cutoff point of .5. The average variance extracted for the self-efficacy construct was .57 and was satisfied as its goes beyond the required value of .5. The calculation of construct reliability for the self-efficacy construct resulted

in value of .91 that is in an acceptable and good level and further exceeds the acceptable value of .7. Consequently, the convergent validity for the self-efficacy construct was confirmed through assessment of three indicators including standardize factor loading, average variance extracted, and construct reliability. Additionally, it could be said that the self-efficacy construct in this study has been measured through valid and reliable items.

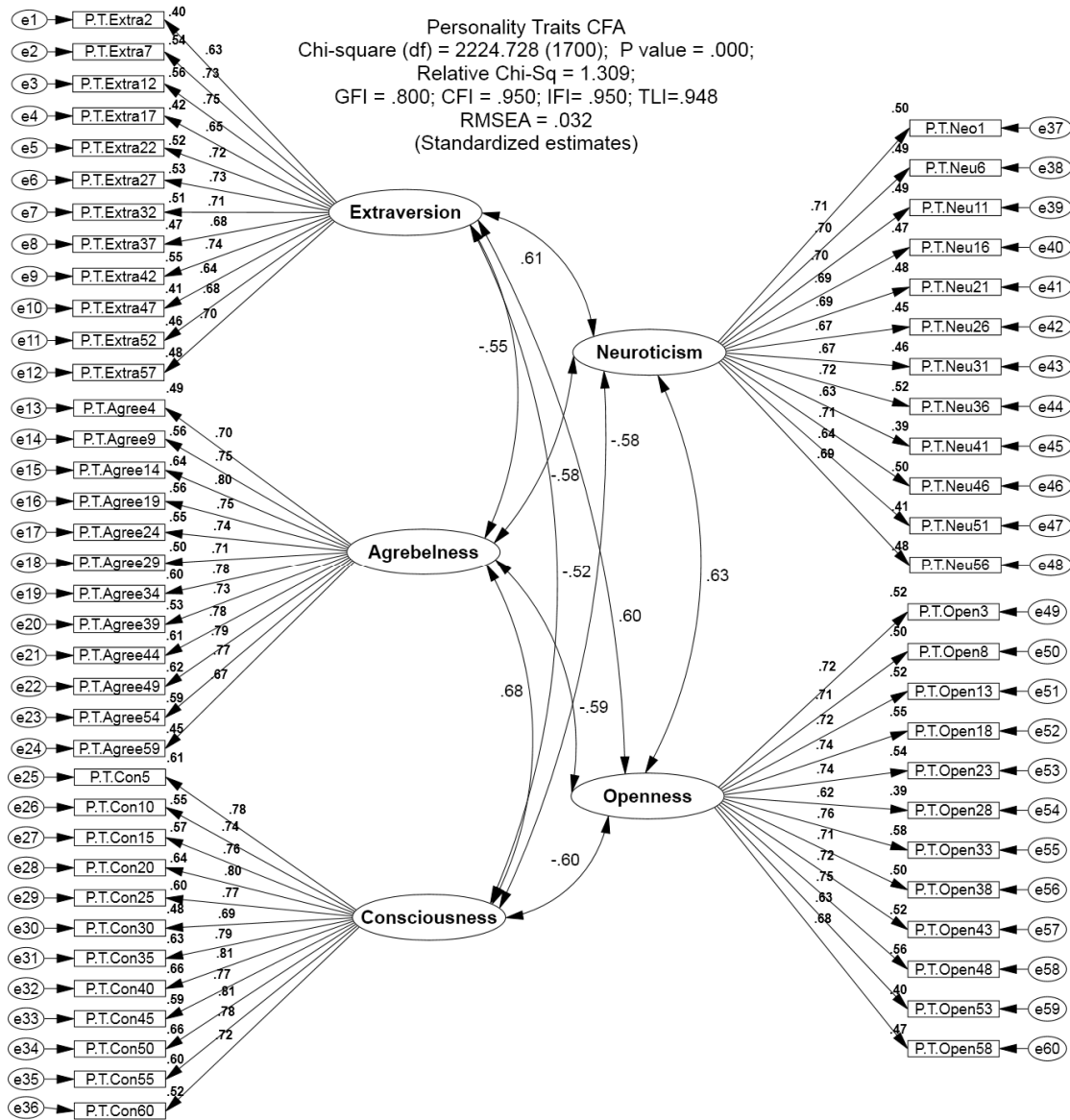


Figure 1. Personality Traits CFA Model

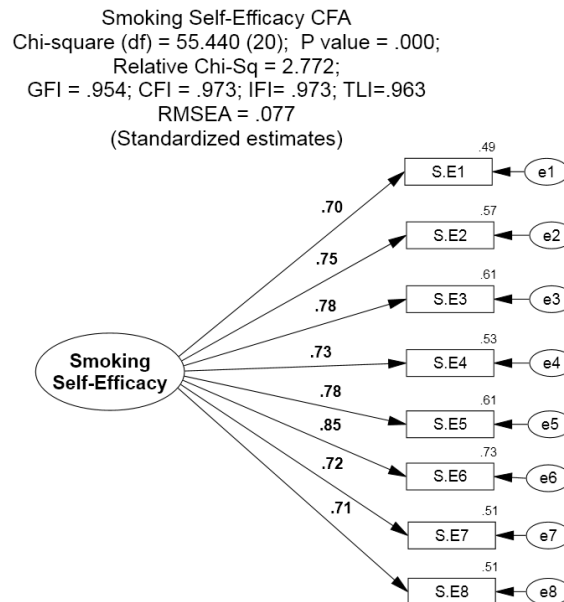


Figure 2. Self-Efficacy CFA Model

Table 3. The Result of Self-Efficacy CFA Model

Variable/dimension	Items	Standardized Factor loading	Average Variance Extracted (AVE)	Construct Reliability (CR)
Self-Efficacy	S.E1	.697	.57	.91
	S.E2	.752		
	S.E3	.780		
	S.E4	.726		
	S.E5	.779		
	S.E6	.853		
	S.E7	.717		
	S.E8	.711		

3.2.2 The Structural Equation Model

After specifying the individual CFA and the measurement model of study (to test the validity of the instrument based on collected data), the structural model of the study was designed. The direct structural model was employed to test the hypothesized path relationships between the variables based on the conceptual research framework.

H_{A1}: There is a significant relationship between personality traits (neuroticism, extraversion, openness, agreeableness, and conscientiousness) and cigarette smoking behavior among adolescents in Kerman.

The result, as displayed in Table 4, show that there is no significant relationship between extraversion ($\beta = .049$, C.R= 1.493, P= .135), agreeableness ($\beta = -.052$, C.R= -1.146, P= .252) and openness ($\beta = .001$, C.R= .039, P=.969) with cigarette smoking behavior. The result indicated a positive significant relationship between neuroticism personality trait ($\beta = .080$, C.R= 2.263, P= .024) and a negative significant relationship between conscientiousness personality traits ($\beta = -.118$, C.R= -2.937, P=.003) and cigarette smoking behavior. As a result, among these five personality traits, the relationship between neuroticism and conscientiousness personality trait and cigarette smoking behavior was confirmed.

Table 4. Regression Weights based on the Structural Model

Path hypothesis			Estimate	S.E.	Standardized Regression Weights	C.R.	P
Extraversion	→	Cigarette Smoking Behavior	.170	.114	.049	1.493	.135
Neuroticism	→	Cigarette Smoking Behavior	.259	.115	.080	2.263	.024
Openness	→	Cigarette Smoking Behavior	.005	.124	.001	.039	.969
Agreeableness	→	Cigarette Smoking Behavior	-.159	.139	-.052	-1.146	.252
Conscientiousness	→	Cigarette Smoking Behavior	-.441	.150	-.118	-2.937	.003

3.2.3 Test of the Moderating Hypothesis (Self-Efficacy)

As presented in the above section for individual CFAs, self-efficacy in this study was measured as latent variable through 8 item/indicators. In order to test the moderating effects of self-efficacy it was necessary to recode and categorized this variable in two levels including low and high self-efficacy respondent. For this purpose, first the eight items (as the all of them validate based on CFA model for this variable) were computed, and then the mean was calculated. Finally based on the mean score the respondents were divided in to two groups.

In order to test moderating effects of self-efficacy as main specific objective of this study on the path relationship between the variable, the advance technique of multi-group Structural Equation Modeling analysis was employed. The multi-group analysis technique by using AMOS software, the system produced two variant/unconstrained and invariant/equal group models (Hair et al., 2006, 2010). According to unconstrained group model hypothesized to have a different regression weights for low and high self efficacy respondent, whereas based on invariant group model, it is estimated that the path relationships of interest is constrained to be equal among respondents with low and high self efficacy.

H_{A2}: Self-efficacy moderating effects on the path relationships between the personality traits (neuroticism, extraversion, openness, agreeableness and conscientiousness) and cigarette smoking behavior

According to the above mentioned rule the results show that the path relation between the extraversion, openness, agreeableness and conscientiousness personality traits with cigarette smoking behavior in both groups (low and high self-efficacy) was not significant. Therefore, the moderating effect of self-efficacy on the path relation between these personality traits and cigarette smoking behavior was not supported (Table 5 and 6).

As the results depicted in table 5 and table 6 show the path relationship between neuroticism personality traits for respondents with low self-efficacy is significant ($\beta = .141$, C.R= 3.368, P= .000) but for respondents with high self efficacy it is insignificant ($\beta = .080$, C.R= 1.187, P= .235). Thus the moderating effect of self-efficacy on the path relation between neuroticism personality traits and cigarette smoking behavior is supported (table 5 and 6).

Table 5. Regression Weights based on Unconstrained Structural Model for Low Self-efficacy Respondent

Path hypothesis			Estimate	S.E.	Standardized Regression Weights	C.R.	P
Extraversion	→	Cigarette Smoking Behavior	.103	.107	.035	.961	.336
Neuroticism	→	Cigarette Smoking Behavior	.404	.120	.141	3.368	.000
Openness	→	Cigarette Smoking Behavior	-.197	.125	-.059	-1.566	.117
Agreeableness	→	Cigarette Smoking Behavior	-.182	.136	-.069	-1.338	.181
Conscientiousness	→	Cigarette Smoking Behavior	-.142	.156	-.039	-.908	.364

Table 6. Regression Weights based on Unconstrained Structural Model for High Self-efficacy Respondent

Path hypothesis	Estimate	S.E.	Standardized Regression Weights	C.R.	P
Extraversion → Cigarette Smoking Behavior	-.143	.380	-.025	-.375	.707
Neuroticism → Cigarette Smoking Behavior	.286	.241	.080	1.187	.235
Openness → Cigarette Smoking Behavior	.451	.281	.109	1.605	.109
Agreeableness → Cigarette Smoking Behavior	-.535	.381	-.136	-1.404	.160
Conscientiousness → Cigarette Smoking Behavior	-.097	.369	-.022	-.262	.793

4. Discussion

This study focused on the role of personality traits (extraversion, neuroticism, agreeableness, openness, and conscientiousness) and cigarette smoking behavior, and examined the moderating effect of self-efficacy on the relationship between personality traits (extraversion, neuroticism, agreeableness, openness, and conscientiousness) and cigarette smoking behavior among adolescents in Kerman.

The results showed that the two personality traits of neuroticism and conscientiousness were significantly related to cigarette smoking behavior while there were no significant relationship between other three personality traits, namely extraversion, agreeableness and openness. Neuroticism as a significant personality trait has been positively associated with cigarette smoking behavior. In other words, an increased level of neuroticism is related to higher levels of cigarette smoking behavior. Neuroticism involves emotional instability and encompasses a variety of negative emotions including anger and anxiety. Individuals with high neuroticism tend to be impulsive and anxious and are less likely to adhere to positive behavior. So, high scores on neuroticism could be a cause as well as an effect of cigarette smoking behavior. This finding supported research done by Diane et al. (2005), Terracciano et al. (2008) and Miller (2009) who suggested that high neuroticism is a risk factor for cigarette smoking behavior.

Also, conscientiousness as a second significant personality trait in this study was inversely related to cigarette smoking behavior. This means that a lower score on conscientiousness is associated with higher levels of cigarette smoking behavior. This finding supported research done by Diane et al. (2005), Hames and Parker (2008) and Zargar and Ghaffari (2009) that distinguished a significant negative relationship between personality trait (conscientiousness) and cigarette smoking behavior. They figured out a decreased level of conscientiousness associated with higher level of cigarette smoking behavior of the smokers. So, a lower level of conscientiousness is a risk factor for cigarette smoking behavior. The present findings also provided support for the Big Five Factor Model of Personality that emphasizes on the effect of personality traits (conscientiousness and neuroticism) on various problem behaviors such as smoking, alcohol, drug abuse.

However, the results of this study demonstrated that there were no significant relationship between the other three personality traits; i.e. extraversion, agreeableness and openness. Although, it had been expected that there were significant relationship between all personality traits and cigarette smoking behavior, in the outcomes of the present research showed no significant relationship. In fact, the findings of the previous studies on the association between extraversion, agreeableness and openness with cigarette smoking behavior were not the same and showed different results in different geographical contexts. For instance, in Australia, there were significant relationships between these personality traits and cigarette smoking behavior whereas in other countries such as Canada and the United States there were no significant relationships. It could be concluded that the variety of outcomes is originated from multiple factors like different educational programs, culture, and different environmental impacts. The findings of the present study in the context of Iran were consistent with Diane et al. (2005), Hames and Parker (2008) and Terracciano et al. (2008) who proved that there were no significant relationship between extraversion, agreeableness and openness and cigarette smoking behavior.

In addition, this study examined the moderating effects of self-efficacy on the relationship between personality traits (extraversion, neuroticism, agreeableness, openness, and conscientiousness) and cigarette smoking behaviour based on the advanced technique of multi-group Structural Equation Modeling. The findings regarding moderating effect of self-efficacy showed that self-efficacy moderated the relationship between personality traits of neuroticism and cigarette smoking behavior. However, it did not moderate the relationship between personality traits of openness, extraversion, conscientiousness and agreeableness and cigarette smoking behavior.

One of the novelties and contribution of this study was to test the moderating effect of self-efficacy on the relationships between the personality traits (extraversion, neuroticism, agreeableness, openness, and conscientiousness) and cigarette smoking behavior among adolescents. In fact, previous studies have examined the direct relationship between self-efficacy and cigarette smoking behavior. But no research has examined the moderating effect of self-efficacy in the process of personality traits (extraversion, neuroticism, agreeableness, openness, and conscientiousness) and cigarette smoking behavior among adolescents.

5. Conclusion and Implication

The findings of the present study confirm that some personality traits (consciousness and neuroticism) effect cigarette smoking behavior of adolescents. Hence, there is a need to provide programs to address the personality dimensions (consciousness and neuroticism), consider individual treatment and assess their personality traits. Although individual treatment might reduce the rate of smoking, it can still rely only on the individual's resources and, thus, have limited results. This is because of the high impulsivity of the smokers and lack of consideration on the consequences of their actions. Even with full knowledge of the harmful effects of smoking, they may be unable to control their smoking. Thus, relying only on the individual's resources could be a poor strategy for preventing smoking. As a result, it is recommended that educators consider the public policy strategies as an effective tool to reduce cigarette smoking behavior. Some instances are creating societal pressure in form of high taxation, restricting the relevant advertisement, and forbidding smoking in public places. A combination of public policies and treatment strategies could be tailored to the needs of individual smokers in certain social contexts and consequently reduce the prevalence of cigarette smoking behavior. These programs are more cost effective than programs that rely only on the efforts of individual treatment in reducing the prevalence of cigarette smoking.

The results of this study also proved the moderating effect of self-efficacy on the relationship between personality trait of neuroticism and cigarette smoking behaviour among adolescents. The results showed that there was a stronger impact of personality trait of neuroticism on cigarette smoking behaviour in adolescents with low self-efficacy than in those with high self-efficacy on cigarette smoking behaviour. This implies that adolescents with higher self-efficacy are less affected on the negative behaviour such as cigarette smoking than the adolescents with lower self-efficacy. So, having a high level of self efficacy is effective in controlling negative behaviors like smoking. This makes the implications for educators even more obvious, given the important role of self-efficacy on the rate of cigarette smoking behaviour among adolescents. Self efficacy enables individuals to set their targets, to organize what they think and to take action. Individuals with high self-efficacy monitor their ideas, act in accordance with these ideas, evaluate the outcomes of their behaviors and change them accordingly when necessary. In other words, adolescents with a high level of self efficacy are able to cope with problems in a better way and are less likely to display negative behaviors such as smoking. They start and continue to smoke less than adolescents with a low level of self efficacy. Therefore, it is important that educators provide programmes to enhance self-efficacy. The prevention programs focused on self-efficacy may be an effective way for reducing the frequency, initiation and amount of cigarette smoking among adolescents.

In addition, to reduce adolescents smoking rates, it is recommended that policy makers present anti-smoking programs through media (such as billboard, advertising, radio, internet, newspaper, TV, etc), publications (public education materials), training program for skill development, on-site consultation, booklets and pamphlets for knowledge enhancement about smoking. In addition, they should conceptualize and offer programs for raising the public awareness on health. Passing laws in order to restrict cigarette smoking (e.g. ban of cigarette smoking in public spaces) is also another way to fight smoking. However, one may not oversee the fact that education is more effective than obligation. Being rebellious is a very common characteristic of the adolescence and by way of obligation (e.g. imposing smoking bans or forcing one to quit), the results might be reverse.

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Appendix A

Table 2. The Result of Personality Traits CFA Model

Variables/dimensions	Items	Standardized Factor loading	Average Variance Extracted (AVE)	Construct Reliability (CR)
Extraversion	P.T.Extra2	.633	.50	.92
	P.T.Extra7	.732		
	P.T.Extra12	.749		
	P.T.Extra17	.647		
	P.T.Extra22	.721		
	P.T.Extra27	.725		
	P.T.Extra32	.711		
	P.T.Extra37	.682		
	P.T.Extra42	.742		
	P.T.Extra47	.643		
	P.T.Extra52	.680		
	P.T.Extra57	.696		
	Agreeableness	P.T.Agree4		
P.T.Agree9		.748		
P.T.Agree14		.799		
P.T.Agree19		.746		
P.T.Agree24		.743		
P.T.Agree29		.706		
P.T.Agree34		.776		
P.T.Agree39		.731		
P.T.Agree44		.781		
P.T.Agree49		.786		
P.T.Agree54	.767			
P.T.Agree59	.674			

Consciousness	P.T.Con5	.783	.58	.94
	P.T.Con10	.738		
	P.T.Con15	.757		
	P.T.Con20	.799		
	P.T.Con25	.771		
	P.T.Con30	.691		
	P.T.Con35	.792		
	P.T.Con40	.810		
	P.T.Con45	.770		
	P.T.Con50	.811		
	P.T.Con55	.776		
	P.T.Con60	.721		
Neuroticism	P.T.Neo1	.705	.48	.91
	P.T.Neu6	.699		
	P.T.Neu11	.697		
	P.T.Neu16	.687		
	P.T.Neu21	.693		
	P.T.Neu26	.671		
	P.T.Neu31	.675		
	P.T.Neu36	.720		
	P.T.Neu41	.627		
	P.T.Neu46	.705		
	P.T.Neu51	.638		
	P.T.Neu56	.692		
Openness	P.T.Open3	.723	.50	.92
	P.T.Open8	.707		
	P.T.Open13	.724		
	P.T.Open18	.745		
	P.T.Open23	.738		
	P.T.Open28	.623		
	P.T.Open33	.761		
	P.T.Open38	.706		
	P.T.Open43	.723		
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Christian Scholar Xu Guangqi and the Spread of Catholicism in Shanghai

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Abstract

Xu Guangqi, one of the first and most notable Christian scholars in the Ming Dynasty, cast a profound influence on the spread of Catholicism in Shanghai. After his conversion, Xu Guangqi successfully proselytized all of his family members by kinship and affinity, a fact that was foundational to the development of Jesuit missionary work in Shanghai. His social relationships with pupils, friends, and officials also significantly facilitated the proliferation of Catholicism in Shanghai. This paper expands the current body of literature on Chinese-Christian scholar Xu Guangqi and his role in the spread of Catholicism in Shanghai during the late Ming and early Qing. Though there are several extant studies on this topic, most of them focus on Xu's personal achievements and neglect the areas that this paper picks up: the role of Xu's family and social status in his proliferate evangelism, and the longevity his influence had even beyond his own time. Through this approach, this paper aims to attain a deeper and more comprehensive understanding of Xu Guangqi's influence on the dissemination and perdurance of Catholicism in Shanghai.

Keywords: Catholicism, Shanghai, social relationships, Ming and Qing Dynasties, Xu Guangqi

1. Introduction

Xu Guangqi, mostly remembered as a great scientist and one of the precursors who introduced Western science to China, was also one of the first Christian scholars in the Ming Dynasty. He, Li Zhizao, and Yang Tingyun were called the "Three Pillars of Chinese Catholicism." Xu supported evangelism through intellectual collaborations with the Jesuits, such as translating European scientific texts or inviting the missionaries to participate in the Calendar Reform that assimilated Western astronomy into the traditional Chinese calendar system (Note 1), and by directly passing the Great Mission on to others, via his family and through his various social relationships.

After receiving the baptism in Nanjing in 1603, Xu Guangqi introduced his newfound faith to his family and countrymen. The district of Xujiahui (also called Zi-ka-wei) in Shanghai, which was named after Xu Guangqi's family, became one of East Asia's famous Catholic strongholds. Some of the remarkable constructions erected in Xujiahui by the Jesuits are still standing, bearing testimony to their influence in that area.

Many studies have been carried out on Xu Guangqi's life and his indispensable role in the propagation of Catholicism and Western scholasticism (Note 2). Although prior studies mostly focus on Xu's personal achievements, such as his contributions to science or his engagement in the military, some scholars have noted the reciprocal influence between Xu Guangqi and Shanghai. For example, Timothy Brook discusses Xu Guangqi's early life, including his social origins and circuitous educational career and, by re-embedding him in the social and physical world of Shanghai, establishes a better understanding of his commitment to statecraft and his interest in agricultural knowledge, military defense, foreigners, and religion (Brook, 2001). Ma Xueqiang discusses Xu Guangqi's family background, as well as Xu's influence on some of the famous literati in the Su-Song area, especially in agronomy (Ma, 2006). Liu Yunhua analyzes the literary works of some of Xu Guangqi's relatives by affinity, taking Xu Zuanzen and Sun Zhimi as examples, and probes into the changes in their attitude toward Catholicism (Liu, 2009).

Prior studies help us to establish a general understanding about the mutual influences between Xu Guangqi and his hometown of Shanghai, as well as his family's reception of Catholicism. However, in order to fully reveal Xu

Guangqi's role in the propagation of Catholicism in Shanghai, there are still a couple of details that need to be expatiated:

1) Most prior studies concerning Xu Guangqi's contributions to the spread of Catholicism in China focus on his personal achievements such as his intellectual contributions to the development of science (agriculture, astronomy, mathematics, etc.), failing to recognize the significant role that Xu Guangqi's social relationships played (Note 3). As Timothy Brook points out, as Xu Guangqi's life inextricably caught up in the world of Shanghai gentry, his contribution to the spread of Catholicism in Shanghai should be understood accordingly. Xu Guangqi's relationships with his family, pupils, friends, and other officials also significantly facilitated the proliferation of Catholicism in Shanghai. Using Brook's study as a springboard, this paper will show a more comprehensive picture of the society in which Xu Guangqi and the ways he contributed to the dissemination of Catholicism in Shanghai.

2) Xu Guangqi and his family cast a profound influence not only in their contemporaneity, but for centuries to come, even to the rebuilding of the Church after the Prohibition against Catholicism in China was repealed. Xu's contribution to the whole history of the Catholic mission in Shanghai, particularly his indirect yet long-lasting impact on the development of Catholicism in modern Shanghai, has not been fully recognized by previous studies.

In order to address these deficiencies, this study employs Chinese historical records such as local chronicles and collected works, combined with Jesuit missionaries' records, to investigate the reception of Catholicism of Xu's family members and their relatives by affinity, as well as their role in evangelizing the Songjiang. Following, I discuss the connection between Xu Guangqi's social relationships and officialdom and the proliferation of Catholicism in Shanghai during the late Ming and early Qing. Finally, I look at the development of Catholicism when the Jesuits came back to Shanghai after the Prohibition was repealed in 1844 and discuss its connection to Xu Guangqi and his family. Through this approach, I aim to show the significant role that Xu Guangqi played in the propagation of Christianity and to attain a deeper and more comprehensive understanding of his influence on the dissemination and perdurance of Catholicism in Shanghai.

2. The Conversion of Xu Guangqi's Family

As many believers are, Xu Guangqi was actively engaged in evangelism immediately after his conversion. He successfully proselytized all of his family members, including his nine grandchildren, and some of his relatives by kinship and affinity. Their conversion can be considered foundational to the development of Jesuit missionary work in Shanghai.

Existing studies on Xu Guangqi, though they often refer to Xu's family, mostly give only brief overviews of the family. Besides the previously mentioned studies, one can find anecdotes about Xu's family in *The Catholic Magazine* (Note 4), a publication of the Catholic Church in Shanghai compiled by Xu Zongze, a descendent of Xu Guangqi. This publication will be of some import later in our discussion. However, these articles, without annotations or references, are more sermons than they are formal academic studies. Most of the studies concerning Xu Guangqi's family were carried out by Chinese scholars. And, since the Jesuit missionary Philippe Couplet wrote a well-known biography of one of Xu Guangqi's granddaughters, the famous Candida (Couplet, 1688), some Western scholars have shown great interest in her (King, 1996; Von Collani, 2012). Yet the rest of Xu Guangqi's family members are left basically undiscussed, and there is no systematic account of the reception of Catholicism in Xu Guangqi's family.

In this section, I will utilize Chinese historical records such as the recently published "Jingyitang Zhi" (Anonymous, 2013a) and "Xuwendingong Xingshi" (Anonymous, 2013b), and Jesuit missionaries' records such as Augustin Colombel's *L'Histoire de la Mission du Kiang-nan* (Note 5) and Philippe Couplet's biographies of Xu Guangqi and Candida (Couplet, 1934), in order to show the role of kinship and affinity in Xu Guangqi's evangelistic efforts.

In 1606, Xu Guangqi invited his father, Xu Sicheng, his wife Wu, and some other family members to Beijing for a visit. Xu Sicheng was moved by the way Xu Guangqi prayed every day and night and became curious about Catholicism. In the same year, Xu Sicheng converted to Catholicism and was baptized under the name Leo. In the following year, he died of an unknown illness. In order to show Xu Sicheng's Christian identity and to set an example for the other believers, Xu Guangqi observed the Catholic rites during the funeral, and held a memorial mass for his father in Beijing with the help of Matthew Ricci (Note 6). After the mass, before returning to his hometown of Shanghai, Xu Guangqi asked one of the Jesuits, Lazarus Cattaneo, to go with him to care for the spiritual needs of his family and his fellow citizens (Note 7). During the two years that Father Cattaneo stayed in Shanghai (1608–1610), Xu Guangqi's son and daughter-in-law and all their children were baptized by him.

Soon after arriving in Shanghai, under the urging of Xu Guangqi, Father Cattaneo held a grand baptism for fifty people (Colombel, 2008, p.149). Xu Guangqi's only son, Xu Ji, and his wife Gu were likely included in this baptism. Xu Ji was baptized under the name Jacob. Xu Ji was a pious Christian like his father. He proved a great help to the missionaries, supporting their preaching activities in Shanghai and commending them to the officials of Nanjing and Songjiang through the social connections he had developed thanks to his father's reputation. During the Nanjing Persecution in 1616, Xu Ji helped his father accommodate the missionaries who came to Shanghai for refuge. He continued the mission in Shanghai after Xu Guangqi's death in 1633. According to Philippe Couplet, among all the missionaries in Shanghai, Francesco Brancati was closest to Xu Ji. "With Xu Ji staying around Brancati all along to help him preaching, every year thousands of people converted because of them" (Couplet, 1934, p.326). Xu Ji's wife Gu died in 1622. After that, he chose to remain a widower for twenty-three years until his death, and devoted himself to the learning of Catholicism.

Xu Ji's wife had given birth to five sons and four daughters. All nine children were baptized at an early age and kept the faith piously. Xu Ji's eldest son, Xu Erjue 爾覺, was baptized in 1608 under the name Michael. He wrote the prefaces to Martino Martin's "Qiuyou Pian" and Francesco Brancati's "Shengjiao Sigui." He also sold some of his land outside Nan Men to the missionaries to be used as a graveyard for missionaries. The plot later became a part of the Shengmu Tang (Church of Our Lady), in whose management Erjue frequently participated (Note 8). Xu Ji's second son was Xu Erjue 爾爵, whose Christian name was Ignatius. When Xu Guangqi was alive, Erjue frequently went to Beijing to take care of him. When Guangqi passed away in 1633 in Beijing, Erjue stayed by his side and listened to his last words. Erjue held a memorial mass for his grandfather under the association of the missionaries in Beijing and escorted the coffin's return to Shanghai. Xu Ji's third son was named Xu Erdou, baptized under the name Matthew. The fourth son was named Xu Ermo, baptized under the name Thomas. There are not many records left concerning their religious lives, but according to Augustin Colombel, the descendants of Xu Ermo kept their faith until at least the end of the nineteenth century (Colombel, 2008, p.191). The fifth son, Xu Erlu, was baptized under the name Luke. Erlu is known to have frequently communicated with the missionaries. In 1676, he wrote a creed for the church, which read, "I believe in the resurrection of the body" (Anonymous, 2013a, p.95). In 1678, when Father Philippe Couplet finished Xu Guangqi's biography, he asked Erjue 爾覺, Erjue 爾爵, and Erlu to edit it. In 1671, Erjue, together with his brothers, went to bring the body of Father Francesco Brancati—who had been exiled during Yang Guangxian's attack on Christianity—back to Shanghai and buried him at the Shengmu Tang (Colombel, 2008, p.191).

These are the male members of Xu Guangqi's family; the under-discussed female family members now require our attention (Note 9). Female Christians, especially of the upper class, were very influential in the late Ming, as the women in Xu Guangqi's family attest. They played a very important role during the propagation of Christianity through kinship and marital relations.

Xu Guangqi's wife Wu was baptized in Beijing in 1606, together with Xu Guangqi's father. According to the biography Philippe Couplet wrote for Xu Guangqi, we learn that Wu lived a frugal life, despite having married a senior official. She was a devout believer and very enthusiastic about all kinds of Christian activities (Couplet, 1934, p.326). Unlike the other women in her contemporaneity who rarely left their homes, Wu went to church regularly with the male believers (Anonymous, 2013b, p.166). Before her death, she asked the missionaries to administer the last confession and anointing, just as they would with a male Christian (Couplet, 1934, p.326). This was very rare for the women in traditional Chinese society (Couplet, 1688, pp.108-110). As the most authoritative woman in Xu's family, Wu's devotion to Catholicism is very likely to have had a deep influence on her family, particularly on the other women.

As mentioned, Xu Guangqi's daughter-in-law, Gu, received the baptism in Shanghai together with her husband. According to Couplet, she raised her nine children according to the Catholic doctrine (Couplet, 1688, p.10). Among the other Christian women in Xu's family, Xu Ji's four daughters are the most notable. Thanks to their grandfather Xu Guangqi's high social status and prestigious reputation, these women married into the most illustrious families of Songjiang and passed their Christian faith on to their husbands and their husbands' families. These prestigious families' influence in the local society in turn enhanced Catholicism's reputation.

Xu Ji's first daughter was baptized under the name Felicitas. She married Ai Yanhuai, a student of the Guozi Jian (Imperial College) and the grandson of Ai Kejiu, a former Taichang Boshi (Erudite of the Court of Imperial Sacrificers). Influenced by her piety, all of the Ais converted to Catholicism, even Ai Yanhuai's mother who had previously been a devout believer in Buddhism. According to J. de la Servière, the descendants of the Ai family were among the most pious Catholics in Shanghai, and they continued their religious practices until at least the 1880s (Servière, 1941, p.120).

Xu Ji's second daughter was the famous Candida. Hoping his granddaughter could marry an offspring of a Christian family, Xu Guangqi is believed to have arranged Candida's marriage with Xu Yuandu, a grandson of Xu Leshan who converted to Catholicism under Guangqi's persuasion, when Candida was only five years old (Note 10). However, Xu Leshan's enthusiasm for Catholicism faded and he did not actively persuade his family to convert, so his grandson Xu Yuandu was not a Christian by the time Candida married him (Note 11). Candida married into the Xu family when she was sixteen, and under her influence, her husband Xu Yuandu and their eight children became Christians. Furthermore, the wife of her oldest son, Xu Zuanzen, Li, who believed in Buddhism at the time she married into the Xu family, also converted to Catholicism under Candida's influence. After her conversion, Li evangelized her own family, and successfully converted two of her brothers and several other relatives (Couplet, 1688, p.40).

Xu Ji's third daughter, whose Christian name is unknown, married Qu Ye, who was also a student of the Imperial College, and a grandson of Qu Yin, a former county magistrate of Haicheng county. From the record of the "Jingyitang Zhi," it is very likely that this Qu family also worked with the missionaries because of Xu Guangqi's family (Anonymous, 2013a, p.122).

Xu Ji's fourth daughter was baptized under the name Martine. She married into the Pan family, one of the most prestigious families in Shanghai (Note 12). Her husband, Pan Xiaona, was a grandson of the former You Buzhengshi (Right Provincial Administration Commissioner) of Si Chuan, and a student of the Imperial College. Incidentally, Xu Ji's fifth son Xu Erlu's wife also came from the Pan family. She, too, very likely converted to Catholicism under the influence of Xu's family. After Pan Xiaona passed away in 1678, Martine, just like her sisters, kept her widowhood for nearly forty years. She remained devoted to her religious life (Couplet, 1688, pp.67-68), and commissioned Father Francesco Brancati to purchase Shichun Tang, an estate belonging to the Pan family, and reconstruct it into a church named Jingyi Tang, which means to show respect for the Trinity of God (Ye, 2007, pp.242-243; Colombel, 2008, p.150&192).

Besides those family members we investigated in this section, who were related to Xu Guangqi by consanguinity, there were many among his affinities and collateral relatives who converted under his direct or indirect influence, such as his father-in-law Wu Xiaoxi, his nephew Chen Yujie, his granddaughter-in-law Yu (Couplet, 1934, p.326), his grand-grandson-in-law Sun Zhimi (Note 13), and even some of the servants and tenants (Note 14).

Thus, one can see that Xu Guangqi successfully passed his faith on to his immediate family. With their devout faith and support of the missionary work, as well as Xu Guangqi's high reputation in the local society, the Xu family became the most famous and influential Catholic family in Shanghai. Xu Guangqi's faith spread to the families who were connected with the Xu family by marriage, especially via his four granddaughters. The significant number of conversions in these influential families was certainly a great support for the evangelism of the rest of Shanghai. Furthermore, a general picture of upper class Christian women can be captured through the example of the Christian women in Xu Guangqi's family. These women played a significant role in the propagation of Catholicism among their families and, through them, in the local society.

As shown from the investigation above, kinship and marital relations played an important role in the propagation of Catholicism. The conversion of the Xu family and the various families connected to them by marriage laid a solid foundation for the development of Catholicism in Shanghai. Many of these family members stood fast to their faith during the Prohibition and contributed to the rebuilding of the Church, which will be discussed later.

3. The Spread of Catholicism in Shanghai During the Seventeenth and Eighteenth Centuries

Although Shanghai county was only a humble district city at the time, it was a member of the affluent Jiangnan area, and its inhabitants lived a relatively wealthy life. Matthew Ricci records,

'This section of the province is especially rich in rice, and in cotton for making different kinds of cloth, and they say there are two hundred thousand weavers here...The people here, especially those in the city, are very active and somewhat unsettled, well-endowed intellectually, counting many scholars and literati among them, and consequently many Magistrates who formerly held high positions and now are retired as wealthy men, living in magnificent palaces' (Ricci & Tregault, 1953, p.549).

From this description, one can also get a snapshot of Shanghai's gentry society. Some of the Shanghai gentry were related to Xu Guangqi's family by marriage, as discussed in the previous section. Others were connected with Xu Guangqi through his relationships with his pupils or friends. The attitudes of these prestigious gentry toward Catholicism were very important to missionaries' evangelism. Indeed, the Jesuits' strategy in China was to preach to the upper classes. In their reports to Rome, missionaries repeatedly emphasized that China valued knowledgeable people; if the literati were to convert to Catholicism, others would follow (Gobien, 1780,

pp.270-271). The case of Xu Guangqi is a perfect example of the effect of this strategy. Under Xu Guangqi's high reputation, and with the help of Xu and other patrons, the Jesuits' missionary work was extremely successful.

According to Matthew Ricci, Father Cattaneo was met with an enthusiastic reception when he arrived in Shanghai. Xu Guangqi spent three days celebrating his arrival. During his stay, many people went to visit Cattaneo and listen to his instruction. His work was remarkably fruitful. Matthew Ricci records, "In the first short period of thronging activity, [Cattaneo] had fifty converts and before two years were up, he had two hundred; something that had not happened at the other stations, in so short time, during a pioneering period" (Ricci & Tregault, 1953, p.551).

Most people, whether commoners or officials, probably visited the missionary out of curiosity about Western people and culture. However, Xu Guangqi's reputation and authority in the local society also promoted people's interest in and acceptance of the missionaries, which was key to Catholicism's ability to flourish. Philippe Couplet records that Xu Guangqi once declared, "All those who respect Deus together with me are my friends, my family." With Xu Guangqi as their model, many were eager to convert (Couplet, 1934, p.323). Matthew Ricci also records that Xu Guangqi was always the central figure during religious celebrations. "[H]e was so attentive to the converts of the lower social classes that he always invited some of them to come and sit with him, whereas on state occasions, they had so much respect for the dignity of his high position, that they would scarcely dare to look at him" (Ricci & Tregault, 1953, p.553).

In addition to being a model for other believers, it is notable is that Xu Guangqi used his social connections with other literati and officials of the local gentry society to promote communication between the Chinese upper classes and the missionaries, not only in Shanghai county, but in other counties in Su-song area as well. Xu Guangqi's relationship with Sun Yuanhua, one of his favorite pupils, is a good example of this. Sun was born in Jiading county, adjacent to Shanghai county, and became a Juren in 1612. According to João Froes, after Xu Guangqi had been baptized in Nanjing in 1603 and was on his way home, he stopped by the house of Sun Yuanhua, and introduced him to Catholicism (Froes, 2007, p.153). Sun began to learn about Catholicism and ultimately converted to the faith. Sun was baptized under the name Ignatius. Right after his baptism, Sun followed Xu Guangqi's example and paid a visit to Xu Guangqi's friend Yang Tingyun to invite the Fathers to come and bring the Gospel to Jiading (Yang, 1946, p.43; Colombel, 2008, p.115). Sun later built a magnificent church in Jiading, which was highly praised by the missionaries (Gouvea, 2005, p.200; Colombel, 2008, p.115). Catholicism prospered in Jiangding, and missionaries finally decided to set up a residence there. In 1627, the Jiading meeting was held to determine the official Chinese translation of "Deus." Sun attended the meeting with the "Three Pillars," indicating his and Jiangding's importance to the Catholic Church (Fang, 1988, p.165).

Xu Guangqi's high reputation among the literati also indirectly promoted the introduction of Catholicism to Chongming county. Catholicism was introduced in Chongming county by a literatus named Xu Qiyuan. According to his biography written by Lu Picheng (Lu, 1996), a Christian of the Qing Dynasty, Xu Qiyuan was born around 1605 to a prestigious family in Chongming county. Early in his life, he was a devout follower of Buddhism. But when a Christian friend of his named Wang Junfu introduced him to Catholicism, he was curious and asked his friend where he should go to learn more of the Catholic doctrine and study its principles. Wang Junfu replied,

'There is a county named Above Ocean (Shangyang, an alternative name of Shanghai) under the jurisdiction of Songjiang Prefecture, where you'll find a Catholic church built by the Prime Minister Xu Guangqi. In the church live Fathers who can explain the doctrine and give guidance to people' (Lu, 1996, pp.1232-1233).

From this record, one can see that Xu Guangqi's prestigious reputation as Prime Minister was persuasive proof of the value of Catholicism, which aided the religion's dissemination in Songjiang. According to Lu's biography, as his curiosity about Catholicism grew, Xu Qiyuan decided to go with three of his relatives and friends to Shanghai county to visit the Fathers. Coincidentally, Father Francesco Brancati was already thinking about taking the Gospel to Chongming county at that time. When he heard about the visit of Xu and his friends, Brancati welcomed them with great pleasure. After listening to Brancati preach, Xu Qiyuan and his three companions converted to Catholicism and were baptized (Lu, 1996, pp.1233-1238). Their baptism marked the beginning of the evangelization of Chongming county. According to Philippe Couplet, Xu Guangqi's granddaughter Candida also aided the development of Catholicism in Chongming. When she learned Father Jaques Favre's plan to evangelize Chongming county, Candida paid for the traveling expenses as well as the construction of new churches in Chongming. With the assistance of Candida and the local officials who were friendly toward missionaries, Favre's work went smoothly. Soon after his arrival, he constructed the first church in Chongming, and six others followed (Couplet, 1688, pp.68-69; Pfister, 1932, p.293).

The Jesuits' missionary work in Songjiang not only obtained support from devoted Christians such as Sun Yuanhua and Xu Qiyuan, but also from the officials, which, as we have mentioned, was largely due to Xu

Guangqi's excellent reputation among them. The officials commonly showed their support by sending tablets ("biane"). In "Jingyitang Zhi," a record of Jingyi Tang, one can find an account of the tablets sent by officials to the missionaries around the late Ming and the early Qing (Anonymous, 2013a, pp.82-84). Among the senders, there were high-ranking officials such as Fu Guang and Lin Yuji, who both had been Libu Shangshu and Wenyuange Daxueshi, as well as Gu Xichou, who had held the title of Libu Youshilang (Right Vice Minister of Rites). There were also local officials such as Fang Yuegong who was the Zhifu (Prefect) of Songjiang Prefecture, and Qin Shizhen who had been the Xunan (Regional Inspector) of Suzhou and Songjiang Prefectures. Most of the tablets were sent to Father Brancati after the Chongzhen Emperor sent a tablet saying, "The Learning of Heaven is honored by the Emperor" in 1641, in commemoration of the missionaries' achievement in compiling the calendar, which was carried out under the leadership of Xu Guangqi. Brancati was sent to China in 1637 and after his arrival in China, he preached mostly in Jiangnan area, which left him less chance to communicate with those capital officials. Furthermore, Brancati never participated in the compilation of the calendar. So it is highly likely that the tablets were sent to Brancati not because of the officials' friendship with him, but to honor Xu Guangqi. No matter the original purposes of these sendings, though, these tablets expressed an overtly supportive attitude toward Catholicism, a clear asset in the propagation of the Gospel.

Xu Guangqi enjoyed high prestige in the gentry society not only because he was a high-ranking official in the court, but also because he was one of the pioneers that set out to bring Western learning to China. In conjunction with the strategy of adaptation, the Jesuits used Western learning as a useful tool for evangelism in China. Western learning in science and Western culture had been proven a very effective way to attract Chinese people, especially the literati. As Matthew Ricci once declared, "Chinese are more readily persuaded by books than by verbal argumentation about the Christian Law," and "Heaven has employed the sciences for converting the Solons [respected national leaders, here referring to the literati] of China" (Ricci & Tregault, 1953, pp.545-546). This was the main reason Jesuits so actively devoted themselves, with the help of Christian scholars such as Xu Guangqi, to the translation and publication of books on science and other Western learning. In order to widely publicize these works and improve Chinese scholars' understanding of the West, Chinese scholars were often asked to write the prefaces and to participate in the revision of these books before publication. Many of the scholars connected with Xu Guangqi through various social relationships had participated in such revisions.

One of the most important relationships among Chinese scholars was that between Tongnians, that is, those who passed their highest imperial examinations in the same year. There were at least sixteen officials among the Tongnian of Xu Guangqi who had participated in the translation or publication of the works of Western Learning (Shi, 2014, pp.90-94), and four of them were born in Songjiang Prefecture. Yao Yongji, Li Lingyun, and Zhang Nai helped with the revision of *Taixi Shuifa*, co-translated by Sabatino de Ursis and Xu Guangqi. Yao Shishen helped to revise Euclid's *Jihe Yuanben*, co-translated by Matthew Ricci and Xu Guangqi. Since Xu was the co-translator of both these works, it is very likely that he invited the aforementioned four scholars to do the revision. Their participation showed that they were interested in Western learning, and at least had a friendly attitude toward missionaries and Catholicism. All four of these scholars later became senior officials. Yao Yongji, who was born in Shanghai county, same as Xu Guangqi, became the You Buzhengshi of Zhejiang; Li Lingyun became the Taipusi Qing (Chamberlain for the Imperial Stud); Zhang Nai became the Nanjing Libu Youshilang; and Yao Shishen became the Xingbu Shangshu (Minister of Justice). All three of these men were born in Huating county. Their status as high-ranking officials and high reputations in their hometown meant that their revision of the missionaries' books was a significant factor in promoting the reputation of Catholicism in Songjiang Prefecture. In this way, many literati and officials of Songjiang started to communicate with missionaries or show interest in Western learning. Of course, showing interest in Western learning does not equal interest in Catholicism (Note 15). However, these degree holders were, as Eugenio Menegon points out, as "influential as hundreds of common people" (Menegon, 2010, p.169), so the fact that they were involved in missionaries' activities in any capacity would have helped to promote the missionaries' reputation among the local society. Although many of these officials and literati of Songjiang Prefecture we discussed in this section did not ultimately convert to Catholicism, their communication with the missionaries and their friendly attitude toward Western learning are believed to have promoted the reputation of Catholicism.

According to Augustin Colombel, during the late Ming and early Qing, Shanghai and Jiading counties were central to Catholicism's development in China, and because of the high reputation of the "Three Pillars," there were more converts in these three areas (Colombel, 2008, p.144). From the biographies of the missionaries in Shanghai, we learn that in 1622, there were at least 200 hundred people baptized by Father Francois Sambiasi, and about one-fourth of them were literati (Pfister, 1932, p.137); in 1639, there were 1124 people baptized by Father Francesco Brancati and Father Jerome de Gravina, and in the next year, the number of converts increased to 1240.

By 1665, missionaries had built sixty-six churches in Songjiang Prefecture and the converts numbered as many as 50,000. According to a letter Francesco Brancati wrote to Father Goswin Nickel, the Superior General of the Society of Jesus, 2000–3000 people converted every year in Songjiang (Pfister, 1932, pp.224-225). As a result of the persecution of Yang Guangxian in 1644, many missionaries were expelled from mainland China to Canton, including Francesco Brancati. However, since the foundation of missionary work had been well laid in Songjiang, and with the support of Xu Guangqi's family and those officials who were supportive of the missionaries (Couplet, 1688, pp.55-56), the propagation of Catholicism continued. It is said that from the time the missionaries were banished until the end of 1688, more than 1000 people received the baptism in Shanghai (Rougemont, 1999, p.28). These believers did not leave many records to account for the reasons for their conversion, but it is likely that they were, to some extent, affected by Xu Guangqi, who was highly revered among them. Although by that time Xu Guangqi had been long gone, a letter from Father Fontaney to Father la Chaife speaks highly of Xu Guangqi and attributes the thriving of Catholicism in Shanghai to Xu Guangqi's prestigious reputation and piety (Gobien, 1780, pp.270-271).

4. The Development of Catholicism in Shanghai After 1844

Although it had suffered under the persecution of Yang Guangxian, Catholicism was generally allowed at the beginning of Qing Dynasty, largely due to the missionaries' great achievement in compiling the calendar. Father Adam Schall von Bell was on good terms with the Shunzhi Emperor, and the Kangxi Emperor was well acquainted with Father Ferdinand Verbiest (Pfister, 1932, pp.171-177&345-352). Though many residences were damaged during the disturbance, constructions such as the aforementioned Jingyi Tang were protected because the relationships between these Emperors and the Fathers (Ye, 2007, p.243). However, every semblance of benevolence ended with the famous Chinese Rites controversy.

As is generally acknowledged, the Jesuits' had such remarkable success in their evangelism in China primarily because of their adaptation strategy. However, other missionary orders such as the Dominicans and the Franciscans refused to adapt to any local customs, and constantly appealed their concerns and complaints to the Pope. In 1705, Pope Clement XI sent a Papal Legate to the Kangxi Emperor, to communicate the interdiction of Chinese rites, and then issued the Papal bull *Ex illa die* in 1715, which officially condemned the Chinese rites. As a result, in 1721, the Kangxi Emperor banned Christian missions in China (Note 16). Prohibition was enforced under the Yongzheng and Qianlong Emperors (Marinescu, 2008). Missionaries were expelled from the mainland, and Catholic churches were confiscated, most of which were later rebuilt as temples of Taoism or Buddhism. Augmented by the suppression of the Jesuits by Pope Clement XIV in 1773, missionary work in China was seriously obstructed.

Under the prohibition, Christians were either forced to give up their faith or take their religious activities into the underground. However, as mentioned earlier, some of Xu Guangqi's descendants and relatives managed to keep their faith through all these persecutions. Augustin Colombel claims that the descendants of Xu Ermo remained Christian until at least the nineteenth century. The Ai family became one of the most devout Christian families in Shanghai. According to Servièrè, after the public churches were confiscated by the government, many Christians of Shanghai went to the Ais' chapel for the mass (Servièrè, 1914, p.120).

When the Society of Jesus was restored by Pope Pius VII in 1814, 1832, and 1833, some of the Christians in Beijing petitioned to the Superior General of the Society of Jesus, T. R. P. Roothaan, to send more missionaries to China. Following them, Christians of the Jiang-nan area also started a petition in 1839. In response, after almost seventy years after the dissolution of the Society of Jesus, French Jesuits Francis Estève and Benjamin Brueyre returned to Shanghai in 1842 under the leadership of Father Claude Gotteland (Servièrè, 1914, pp.15-40). Although more than 200 years had passed since Xu Guangqi's death, he was still the best known Christian of Shanghai. In order to show their respect for Xu Guangqi, and in an effort to reawaken the enthusiasm for and support of Catholicism that Xu's family had once demonstrated (Note 17), missionaries paid a visit to Xu Guangqi's offspring soon after their arrival. Father François Estève baptized a descendant of Xu Guangqi (Colombel, 2008, p.79& 87; Servièrè, 1914, p.56), believed to be an offspring of Xu Ermo.

More missionaries were sent to Shanghai in 1846, and with the Church getting stronger by the day, Claude Gotteland began to petition Shanghai's government to return the properties of the Catholic Church, starting with the church located in Nan Men, Shengmu Tang, built by Father Brancati with the help of Xu Guangqi's family (Couplet, 1934, p.326), as well as the missionaries' cemetery where Father Brancati and some other missionaries were buried (Note 18).

When the Jesuits returned to Shanghai, some of Xu Guangqi's descendants living around the Tushanwan in Xujiahui, where Xu Guangqi was buried, were still practicing their faith. According to J. de la Servièrè, although their family's fortune had declined, they still remembered their ancestor with great pride. They had built a small

house alongside the river (presumably the Zhaojia Bang) and used it as their chapel. Out of respect for Xu Guangqi, and to commemorate the return of the Jesuits to Shanghai, Father Claude Gotteland decided to establish a Jesuit residence there. The first residence in Shanghai was actually built in Hengtang. However, it was too far away from the downtown area to be a convenient center for the propagation of Christianity. After the construction of the residence in Xujiahui, completed in July of 1847, the center of the Jesuits' missionary work in Shanghai moved from Heng Tang to Xujiahui (Servière, 1914, pp.111-114).

With the missionary work developing rapidly, several Catholic organizations and institutions were established in Xujiahui. In 1848, the Jesuits built a library to store all kinds of Chinese and Western books. This library was rebuilt into the famous Bibliotheca Zi-ka-wei, and it is now the earliest existing modern library in Shanghai. In the next year, floods in Jiang-nan area sent refugees swarming into Shanghai. The missionaries set up a sanctuary in Xujiahui to take in the victims. In 1850, Father Claude Gotteland established the Collège Saint Ignace or St. Ignatius High School, which later became the Xuhui High School. In 1864, Father Pierre Marie Heude established a museum of natural history belonging to the Society of Jesus. The Congregation of Mary, originally located in Hengtang, was moved to Xujiahui in 1865, and became one of the most important Catholic institutions in Shanghai. Under the Congregation of Mary, there were three societies for Christian women: The Helpers of Holy Souls, founded in 1867; the Presentation Sisters, founded in 1869; and the Sisters of the Immaculate Conception, founded in 1870. These societies constituted the center of the religious lives of women believers in Shanghai. Tushanwan (or Tou-se-we) Printing House was also established in 1867. In 1872, with the help of Father Augustin Colombel, the famous Xujiahui observatory (or Zi-ka-wei Observatory) was established near the tomb of Xu Guangqi, which was likely intended to commemorate Xu's outstanding contributions in Astronomy and his cooperation with the missionaries in the Calendar Reform, and later it became the Shanghai Astronomical Observatory. In 1903, to commemorate the 300-year anniversary of Xu Guangqi's baptism, the restoration of Xu Guangqi's tomb was conducted under the leadership of the Jesuits, and a cross was set up before Xu's tomb. In 1910, the construction of St. Ignatius Cathedral, also known as Xujiahui Cathedral, was completed. It is still the biggest cathedral in Shanghai, and one of the most famous cathedrals in all of China (Note 19).

The successive establishment of Catholic organizations and institutions reflected the success of the missionary work in Xujiahui. It is worth mentioning that some of Xu Guangqi's descendants not only continued to practice Christianity (Note 20), they also devoted themselves to the missionary work. The most prominent among them are Xu Yunxi and Xu Zongze, both of whom were descendants of Xu Ermo. They made great contributions to the studies of their ancestor Xu Guangqi and the history of Catholicism in Shanghai.

Xu Yunxi was the ninth great-grandson of Xu Guangqi, baptized under the name Simon. He became a Catholic priest and scholar. He was the director of the Bibliotheca Zi-ka-wei from 1876 to 1922. In 1909, Xu Yunxi compiled eight volumes of *Zengding Xuwendonggong Ji*, which constituted the third anthology of Xu Guangqi's work, following the anthology in *Ming Jingshi Wenbian* and the anthology edited in 1896 by Li Di, a Chinese Jesuit working in Jiangnan area (Note 21). In 1938, Yunxi translated the *Histoire D'une Dame Chretienne De Chine ou Madame Candide Hiu*, written by Father Philippe Couplet, into Chinese.

Xu Zongze was the tenth great-grandson of Xu Guangqi, baptized under the name John. He was born in Shanghai's Qingpu, and entered the Society of Jesus at the age of twenty-one. After that, he went to Europe to study literature, philosophy, and theology, and subsequently became a priest. In 1912, Xu Zongze went back to China to do missionary work in Shanghai's Nanhui. He went to Xujiahui in 1923, and became the director of the Bibliotheca Zi-ka-wei and the chief editor of *The Catholic Magazine*. After *The Catholic Magazine* stopped publication because of the Sino-Japanese War, Xu Zongze concentrated his efforts on the management of the Bibliotheca and managed to increase the collection of local chronicles to 2000, the largest in China at that time. Xu Zongze was also an outstanding scholar of Catholic history. He published multiple essays on theology, philosophy, and Catholic history on *The Catholic Magazine*, and those essays were later compiled into books. He also collected great quantities of notes, letters, and other literature written by the Jesuits of the Ming and Qing Dynasties, and conducted several studies on Chinese Catholic history, such as the *Ming-Qing Jian Yesuhuishi Yizhu Tiyao* and the *Zhongguo Tianzhujiao Chuanjiao shi Gailun*, which have been regarded as valuable reference books by modern scholars (Ren ed., 2002).

Xujiahui's central role in the Catholic missionary work in Shanghai is inseparable from Xu Guangqi's contributions. Xu's prestigious reputation, his comprehensive knowledge of Chinese and Western scholasticism, and his exceptional piety promoted Catholicism's reputation, while his prominent social status as a high-ranking official encouraged favorable conditions for the propagation of the faith. Those who were influenced by Xu Guangqi, such as his family and the local gentry, also gave tremendous support to the missionaries, so that Catholicism continued to develop long after Xu Guangqi's death. Although not every Christian scholar was as

devoted or influential as Xu Guangqi, their continued contributions to the dissemination and perdurance of Catholicism through various social relationships were, to some extent, similar. For instance, Li Zhizao and Yang Tingyun, the other two “pillars of Chinese Catholicism,” were actively engaged in the proselytism of their family members (Note 22) and encouraged the literati and officials in their social circles to support the missionary work in their hometowns. Thus, by discussing Xu Guangqi’s influence on the spread of Catholicism in Shanghai, we gain perspective on how other influential Christian scholars could have facilitated the development of Catholicism, paving the way for future research.

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Notes

Note 1. Regarding Calendar Reform, see Keizo Hashimoto and Catherine Jami, 2001.

Note 2. For details on the prior studies concerning Xu Guangqi, see Shi, 2012.

Note 3. I have published an article discussing the reception of Catholicism on the part of Ming scholars in Xu Guangqi's social network. See Shi, 2013.

Note 4. See, for example, Xu Zongze, "Fengjiao Gelao Yu Jiating" (The Christian Prime Minister and His Family).

Note 5. As I cannot presently obtain the original version, the Chinese translation of Augustin Colombel's *L'Histoire de la Mission du Kiang-nan*, trans. Zhou Shiliang will be used in this article.

Note 6. On the funeral Xu Guangqi held for his father and its significance in the history of philosophical thought, see Shi, 2013, pp.48-50.

Note 7. Ricci and Nicolas, 1953, pp.477-478. Also see the Japanese version of this text, *Chūgoku Kirisutokyō fukyō shi 2* (Iwanami Shoten, 1983), 194. Since the Japanese version is translated from Ricci's Italian manuscript, edited by Pasquale M. D'Elia, whereas *China in the Sixteenth Century* is translated from the Latin text amended by Nicolas Trigault, the contexts are sometimes different. By cross-referencing both versions, we can get a fuller picture.

Note 8. According to Colombel, Xu Erjue had intended to donate these lands to the church; however, the missionaries insisted on purchasing them. Colombel, 2008, p.191. Also see Anonymous, "Jingyitang," 87-90.

Note 9. For the state of research about Christian women in the old China Mission, see Von Collani, 2012, p. 225.

Note 10. Dunne, 2010, p.121. However, Dunne mistakes Xu Leshan's grandson for his son.

Note 11. For Xu Leshan's reception of Catholicism, see Huang, 2006, p.86, and Shi, 2013, pp. 51-54.

Note 12. For details on this Pan family, see Wu, 1997, pp.189-192.

Note 13. Fang Hao, 1988, pp.248-252. For Sun Zhimi, see Liu, 2009, pp.101-104.

Note 14. Ricci and Tregault, 1953, pp. 552; Colombel, 2008, p.150, quoting *Lettres de Jersey* (L'année de1885, Saint-Héliér) Livre Quatre, 337.

Note 15. For the various attitudes of Chinese literati toward Western learning, refer to Elman, 2005.

Note 16. For the details of the Chinese Rites controversy, see Minamiki, 1985.

Note 17. Sica. *Annales domus Zi-ka-wei*, p. 3. sq. P. Lemaitre, lettre du 3 Mai 1847. N. M. 2, 36 sq, quoted in Servièrè, 1914, p.113.

Note 18. P. Pierre Hoang's memoir collected in *Variétés sinologiques. Commentariolum de Ecclesia Lao tien ichou tang urbis Chang-hai, et de Cocmetrio Patrum Sen mon tang*, in Archives de la mission du Kiang-nan à Zi-ka-wei, quoted in Servièrè, 1914, p.85.

Note 19. For details on the organizations and societies established in Xujiahui during the nineteenth century, see Tiedemann, 2009; Servièrè, 1914; Song ed., 2005.

Note 20. For the details of Xu Guangqi's descendants, see Wang, 2009, pp.156-240.

Note 21. Regarding the anthologies of Xu Guangqi, see Shi, 2012, pp.27-28.

Note 22. For details on the conversion of Li Zhizao's family, see Bartoli, 1825, Libro Terzo, pp.236-238; Ricci and Nicolas, 1953, pp.537-541. For details on the conversion of Yang Tingyun's family, refer to Ding, 1996; Bartoli, 1825, Libro Terzo, pp.12-130.

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Application of Multiple Intelligence Theory to Increase Student Motivation in Learning History

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Abstract

This study aimed at investigating the enhancement of motivation among low achievement students in the History lesson, after the multiple intelligence theory was integrated in teachers' teaching practices. The teachers were expected to apply a new approach with various teaching activities to motivate students to learn. The sample consisted of 68 low achievement students, who were then divided into two groups: 34 students were treated in the treatment group, while another 34 students were put in the control group. This is a quasi-experiment of non equivalent control group design. The questionnaire was distributed to students of both groups, to test the effectiveness of the integration approach. Analysis of the mean and standard deviation was conducted for both groups, while the null hypothesis was tested by the t- test. Based on the pre-test, there was no significant difference between the two groups. The post-test recorded significant motivational differences between the two groups studied. It was determined that the integrated History lesson with multiple intelligences had increased the level of motivation among students in the treatment group. This shows that diversity of methods and activities undertaken were able to change students' perception about the History subject and had increased their interests to learn History. Hence, it can be concluded that integrated multiple intelligence activities are able to increase students' motivation to learn History.

Keywords: multiple intelligence, student motivation, readiness, History subject

1. Introduction

2.1 Background

The History subject for the secondary school was upgraded as a core subject at par with other subjects namely Malay Language, English, Mathematics, Science and Islamic/Moral Studies. This is due to the fact that History subject has been recognized as a vital subject to develop great personality and identity among Malaysian students. The cultural elements in the History curriculum should be able to raise students' curiosity and the contents could be intelligently delivered by the subject teacher as interesting topics to be debated by students. A creative teaching and learning process would encourage students' interest and motivate them to learn the subject.

The common approach of teaching History lesson has been criticised as too conventional and teacher-centred. The teaching and learning sessions were mostly dominated as one man show by teacher; students were not given fair opportunities to develop their talents and abilities. According to Abdul Rahim (1989), the common teaching approaches emphasize the rote methods; hence fail to exploit one's thinking skills, making the subject to be too dry, static and boring. The rote learning method disables students to participate actively and there is no ample opportunity for students to interpret, analyze and evaluate the learning materials. As a result, historical information is accepted as a rigid and unquestionable doctrine.

This calls for desperate measures and great efforts in developing historical thinking as it is crucial in improving learning performance and encouraging explorative learning. Despite extensive efforts have been made to improve the quality of teaching in schools, yet there are issues need to be resolved through a variety of approaches. Past studies revealed that without teachers' creativity in learning History subject, students will have a lack of interest to learn certain subjects (Omarin & Yunus, 1996; Baghaei & Riasati, 2013). It will be terrible if students are forced to memorise names of prominent figures, dates and events without understanding the purpose and reasons of doing

so. Historical events are not to be memorized but to be understood. One-way teaching method is outdated and does not provide chances for students to interact and expand their thinking. Low performance students in terms of cognitive behaviours are poor in the context of reading, reasoning and learning strategies (Meichenbaum & Biemiller, 1998; Lawrance & Vimala, 2012). These problems disrupt their learning process and disable them to achieve good performance in the teaching and learning environment. Hence, this group of students need helps particularly in developing their cognitive skills. Scholars in History Education suggested that the best effort is by treating their academic aspect through a variety, yet appropriate teaching methods (Bruer, 1993; Ahmad, Awang, Seman & Abdullah, 2013).

This study is to investigate the impact of applying Multiple Intelligences theory in the History lesson, particularly in enhancing teaching and learning quality. It is also to see its effectiveness in changing the outdated and negative stigma commonly associated with History lesson. The application of new approach should make the lesson to be more dynamic, interesting and should be able to activate students' learning process. The theory of multiple Intelligences was developed by Gardner (1983, 1999) who proposed ten types of intelligences namely naturalist, verbal-linguistic, spatial, kinesthetics, musical, logical-mathematics, interpersonal, intrapersonal, naturalist, spiritual and existential. Gardner (1983, 1999) has identified eight different types of potential intelligences possessed by each individual. These potentials need to be revealed in order to produce excellent students and those with great performances. A static teaching for instance would dampen students' latent talents and competencies especially their intrapersonal. In fact, it distorts the process of generating ideas, experience and students' interpersonal skills. Teachers should know that interactions, activities and active participation would provide amazing learning experience and would bring out all of the potentials owned by students.

This theory is vital in enhancing one's dignity and creativity; it has the ability to motivate students through a fun teaching and learning experience. This is due to the fact that each individual has the capacity to learn something effectively if his dominant intelligence is manipulated properly. Hence, this study is to determine the effectiveness of this theory when it is applied in the teaching and learning History subject, as well as to see how it helps in improving students' historical knowledge, experience, acquisition and motivation.

2.2 Research on Teaching Practices and Students' Achievement

Extensive past studies on students' achievement in academic subjects have been carried out in the past. A study of students' academic achievement conducted by Awang et al. (2013) revealed that students' academic performance has a close relationship with their motivation in school. Many studies in the past suggest that low achievement students are too dependent on others for helps in all of their learning affairs (Phillips, 1993; Jacobson & Burdsal, 2012). Their views on learning situations are also shallow and negative, full with stress and tension. They consider themselves as incapable to meet the teachers' needs with their learning environment, resulting to low self-esteem and low self-confidence. Those feelings are their worst enemies especially when they experience interpersonal disturbances.

This view is supported by Griffin (1978), Lepper, Pintrich & De Groot (1990), Corpus & Iyengar (2005), Atta and Jamil (2012) who stated that students who frequently fail in their academic records would have low motivation, restless, uncertain and having unpredictable behaviours. They are unable to focus in class and having difficulty to generate ideas in producing systematic and precise answers. Learning motivation among students can be measured by their explicit behaviours. There is a significant gap between motivated and unmotivated students. Unmotivated students normally have the tendency to skip classes, play truant, unable to complete tasks and assignments given by the teachers, unable to focus in class and during the learning contacts which consequently cause them to have bad results.

Sadly, they have negative perception towards the learning process; they are not serious, clueless and indifferent towards their bad performance. They commonly have the tendency to cheat in completing their school works, and during the examinations (Sakhilah 1998; Wahab, Mansor, Awang & Ayob, 2013).

Wan Rafaei (1977), Gottfried (1985), Atta and Jamil (2012) had conducted a of low achievers where findings showed that the majority of students had a low level of learning motivation. This is due to the lack of external motivations to encourage them to be more committed in learning academic subjects. A similar study was conducted by Titi (2007) and Renganathan (2013) regarding the impacts of Jigsaw III cooperative learning towards motivation and achievement in Mathematics. Results of the study revealed that there was a significant difference of mean score for the aspects of motivation and achievement.

According to Davies (1975) and Dunlosky et al. (2013) the most significant characteristic showed by these low achievers is they have a very slow and limited ability to memorise things. They often forget the things they have learnt, because all of the information is stored in their short-term memory and then dispatched from their memory box. This is due to their negligent and irresponsible attitudes. High (1977) and and Dunlosky et al. (2013)

suggested that these students need rote learning using effective techniques or activities such as mind mapping, key words, mnemonics, games, cross-word puzzles, timeline, role play and visual aids.

2. Objectives

This study aimed to explore the impacts of applying the theory of multiple intelligences to motivate form two low achievement students in the aspect of academic achievement. The students were considered as low achievers and at the shaky position either to fail or to pass in the History subject. The objectives of the study are to measure significant differences of learning motivation between both control and treatment groups, as well as to see the changes in learning behavior pre and post treatment sessions.

3. Methods

The current study utilized a quasi experiment. The experiment group was treated with a new teaching method by applying multiple intelligence theory, whereas the control group was taught in the same conventional method.

Table 1. Quasi experiment

Group	Pre-Test	Methods	Post-Test
Treatment	01	X1	03
Control	02	X2	04

X1: Application of MIT in the teaching and learning process.

X2: Conventional lesson

01, 02: Pre-test

03, 04: Post-test.

This study aimed to explore the impacts of applying the theory of multiple intelligences to motivate form Two students in the aspect of academic achievement. The students were considered as low achievers and at the shaky position either to fail or to pass in the History subject. The objectives of the study were to measure significant differences of learning motivation between both control and treatment groups, as well as to see the changes in learning behavior pre and post treatment sessions.

This study investigated the impact of adopting new teaching approach by applying multiple intelligence teaching methods to motivate low achievement students in the treatment group. It was to witness positive changes of interest to learn. According to Sugiyono (2007), the quasi-experiment uses a control group as the benchmark of changes against behavioral changes experienced by students in the treatment group. Pre-test and post-test were designed and used to evaluate pre and post tests, as well as its level of effectiveness. This method of study enabled the researchers to evaluate the extent of its effectiveness with the outcomes of students' own learning. According to Yin (1989), research design would reflect the research purpose and objectives, determine the data and its analysis methods.

2.1 Population and Samples of the Study

The population involved form two students who were considered as low achievers in the History subject from two secondary schools in Cheras, Selangor. Sample is part of the population carefully chosen to represent the whole population (Dickinson & Lee, 1978; Creswell, 2005). The sample of this study was randomly selected based on the research zones in order to selects representatives from the selected districts and schools. This sampling method will fairly represent each characteristic of the population (Stake, 2005; Borg & Gall, 1989).

68 students were purposely selected from the whole two available classes. The classes were chosen based on achievement grades, age, IQ and the same History subject learnt by the students at the time of the study. 34 students were grouped in the treatment group and the History subject was taught by applying multiple intelligences. Whereas, another 34 students were put in the control group and they learnt the subject conventionally.

2.2 Instruments

Pre and post tests were used as the main instruments to measure students' knowledge and their achievement. A questionnaire to determine motivation was also used to examine the changes of students' motivation. Items of the questionnaire were built based on the pre-determined constructs. The items were adopted from the Motivates Strategies for Learning Questionnaire (MSLQ) designed by Pintrich (1990), research findings by Roslan (2007),

Salwani (2003) and Abdul Hakim (2004). Results of the pilot study which were based on the Alpha Cronbach showed in overall the instrument was reliable at the reliability level of 0.8653.

3. Findings and Discussion

The motivation level of students in the treatment group showed a significant increase when compared with students in the control group. Results of the inference analysis showed that students in the treatment group experienced changes and there were significant differences of their motivation towards the History teaching pre and post treatment. However, the level of motivation among students in the control group remained unchanged before and after the lesson, as the interpretation of the mean scores did not show any different. Due to that, it can be concluded that integrated History teaching and learning lessons particularly by using multiple intelligences method have influenced and increased students' motivation in learning the subject. The new integrated approach involved activities which required students to use their multiple intelligences; hence this provoked their interests to learn more and to like the subject. This statement is supported by the Centre of Curriculum Development of Malaysia stated that the application was able to enhance students' self-esteem, creativity and motivation through fun learning.

Findings showed that students in the treatment group experienced positive changes in the motivational aspect. This is in line with the findings of a research conducted by Gottfried (1985) and Awang, Ahmad and Ali (2013) who stated that internal motivation on academic affairs have positive correlation with students' achievement and positive behaviour. Positive attitudes and high motivation towards learning are two elements which able to influence students' interest to learn (Nor Zaiton, 2006; Awang, Ahmad, & Ali, 2013; Awang et al., 2013). Students in the treatment group indeed experienced positive changes in their motivation to learn History; this is a solid proof that application of various teaching methods in the History lesson would help students to generate their latent potentials. Students started to realise their own natural talents and potentials. All this while most of them were clueless and neglect their own strength, which was then revealed by the method used and encouraged them to change.

Integrated teaching and learning activities such as drawing, dramatizing, role modelling, and mind mapping, arouse students' interests to learn History subject as those activities are student-centred. Those activities demand students' participation in the class, and according to Adleer (1984), students' level of motivation would be increased if they were given autonomy to control their own learning pace. For example, verbal linguistic intelligence can be stimulated by using graphic management activities, when students are encouraged to read for more information in order to complete a graphic management. This hiddenly, improves students reading skills. As a result, their interests are aroused and they are more motivated to learn more.

Apart from that, body kinesthetic intelligence can be stimulated through activities such as role modelling and drama to revisit historical events, which require students to move their body. Students would surely be excited to take part in such activities and they would want to know more of the subject. Interpersonal intelligence provides great opportunity for students to discuss with friends and share each other's knowledge through group discussions. Thus, it is proven by the students in the treatment group that a change of the instructional methods and application of integrated multiple intelligences have positive impacts on students. The learning process was fun and beneficial for the students.

Table 2. Comparison of Mean scores and standard deviation of motivation in pre and post tests

Group	Number	Pre-test		Post-test	
		Mean	S.D	Mean	S.D
Treatment	34	3.34	0.62	4.51	0.29
Control	34	3.18	0.68	3.18	0.69

Analysys of the t-test conducted on both groups showed there were significant differences between both groups in terms of the level of their motivation. Students in the treatment group showed higher level of motivation compared to students who were in the control group who did not show any difference in their level of motivation. The change of motivation is referred to students' behaviours, which in this case of study, they were more positive and their interest to learn History has increased. This was impacted by the amount of teacher's classroom domination and the opportunities given to the students to show their talents, abilities and creativities during the History lesson.

Academic intervention through this application has proven having positive impacts on students' internal motivation for a better change. Academic treatment can be considered as an approach to improve students' cognitive skill and

arouse their interest to learn (Bruer, 1993). Multiple intelligence method taps student's potential in various aspects, showing that students' internal motivation to learn can be enhanced via many ways using multiple approaches. The positive motivational changes among students towards teaching and learning History subject have proven that tapping students' potentials through multiple intelligences has helped students to be more active.

According to Stipek (1988), Corpus and Iyengar (2005), Atta and Jamil (2012), there are many ways to enhance students' internal motivation, such as by giving tasks appropriate to students' ability. It is a bonus if the tasks are instructed creatively, conducted in a small group interaction and students are given ample opportunities to control their own learning pace. Findings of this study have shown that students in the treatment group showed an increase of their motivation to learn after they were treated by the new teaching method.

Findings of this study are supporting the results of a research conducted by Saifuddin (1997) and Fischer & Virgillito (2012) which found that motivation is vital in improving students' academic performance. Therefore, they need continuous encouragement to sustain their level of motivation for it to contribute to academic achievement. A classical research carried out done by Entwistle and Wilson (1970) found that good and systematic learning methods together with high motivation are some of the elements closely related to academic achievement and personality. The recent study on the same subject has also revealed the same result (Abbas & Khurshid, 2013; Hasan, Hamzah & Awang, 2014). Shahabuddin et al. (2007) concluded the same opinion that motivational phase is the first phase of one learning process.

Learning process will be meaningless and ineffective without the motivation to learn. Motivation is a dynamic force to encourage someone to keep on working and learning (Lepper, Corpus & Iyenger, 2005; Shahabuddin et al., 2007; Abbas & Khurshid, 2013). In line with that study, the present study showed that low achievement students could improve their learning and academic performance, provided that they are taught by using various creative strategies, together with innovative and comprehensive teaching approaches. The best way is by integrating teaching and learning strategies with multi-methods, the activities are best embedded in the lesson by involving multiple intelligences.

This study contributes meaningfully to the implementation of instructional process at schools, by providing new ideas on how to implement an integrated teaching process with the multiple intelligence elements. Every teacher should realise that each student has their own potential to be tapped in order to improve their performance. Sadly, students themselves do not realise their own potential, thus, it is teachers' responsibility to tap the potential through a series of actions and class activities.

Introduction of new approaches in the learning and teaching context should be implemented for the benefits of students. For instance, stimulating activities should be suitable with students' needs, and their level of understanding particularly those low achievers who need more encouragement. Due to that, applying the multiple intelligence elements in the normal lesson would make the lesson to be more alive and vibrant, together with student-centred activities to activate the learning session.

This study also revealed that a learning process would be meaningless and deemed ineffective if the History subject is taught in a conventional manner. It calls for change and improvement. Teachers should possess abundance of knowledge and motivation to develop their simple teaching and learning sessions to be more fun and interesting learning experience for the students.

Students' potentials can be enhanced in every teaching and learning session. Spontaneous question and answer session is a good practice to develop verbal-linguistic skills. Drilling on the other hand, promotes personal change towards dramatic achievement. The process of learning involves social interaction; therefore interpersonal skills can be developed through well-structured and interesting activities. Teachers can level up the patterns and types of relationship among students, and teachers can encourage students to actively interact with them by providing incentive and rewards. Low achievement students can not be forced or pressured, but they need encouragement to learn which can be achieved through fun, enjoyable, relax and interesting learning session. A bit of musical elements such as slide shows and audio visual in learning will also help to improve learning capacity.

This study also contributes ideas for teachers that natural elements from the surrounding can also be used as one of active learning aspects. Teachers should not restrict themselves with a simple understanding that teaching and learning can only be done in the classrooms. External surrounding of the classroom is also a good location for learning, it even brings new influence, and the fresh open surrounding would excite the students with new learning experience. Among external environments which are great outdoor locations for learning to take place are the school garden, the hall, the laboratories, resource centre, media room and at the field.

Intrapersonal factors are the backbone of learning. It is undeniable that inner factors are vital in improving students' performance; the factors are indeed the major impulses. Therefore, teachers should know how to manipulate students' internal factors in order to increase the effects of instructional process particularly to change students' behaviours in terms of cognitive, affective and psychomotor.

4. Implications and Recommendations

This study has revealed that it is important for teachers to think out of the box in order to help students to "free" themselves from any close-mindedness. This is because learning can only take place when students can independently learn things by themselves, free to explore and when they are trained to tap their own potentials. Such opportunities should be provided by teachers to increase students' interest and to motivate them to learn the History subject.

This study also contributes to the new information regarding learning motivation among low achievement students. They actually have their own potential but often neglected either by themselves or most probably by the teachers. Hence, teachers should provide interesting and meaningful learning experience. Learning History can be fun if students' previous knowledge is successfully tapped and generated by the teacher in explaining historical events, especially if the students are given ample chances to explore the events themselves, of course under the teacher's supervision as a facilitator.

Results of this study explain how students who were categorised as low achievers should receive information and use the historic information for their own benefits. In fact, their potentials should be generated from every aspect - space, language, verbal, interpersonal and intrapersonal skills. This will ease the learning process and students can definitely absorb information better and able to clearly imagine those historical events that they have learnt in class.

It is proven by this study that every child has multiple intelligence elements which is vital in improving the effectiveness of history lessons. Teachers should efficiently use storyline and develop teaching materials by relating past events with current situations to arouse students' curiosity to know more details of a certain event. As a result, they would have empathatic learning and would interact effectively with the learning aids.

According to the Curriculum Development Centre (2001), successful application of the multiple intelligence theory in class would ensure that the learning objectives can be attained. This is because students are actively involved in the learning process, for example through group activities to identify information, translate teaching aids, and evaluate information. Contents of a lesson can be evaluated by rationale, imaginative and innovative thinking. Hence, it is unsurprising that low achievement students are able to improve their achievement and their learning performance, of course with teachers' efforts who integrated their lessons with the theory of multiple intelligences.

Teachers need to plan their lesson well, to embed multiple intelligences with several topics of the lesson. Teachers also need to have extra sources of knowledge regarding the current teaching and learning strategies, particularly to encourage students to think and develop their thinking skills. A good lesson should be one which is more students-centred, flexible and fun. For instance, when teaching the subsistence farming topic, teacher can tap students' previous knowledge about the types of rural farming through brainstorming activity, and questioning session on the impacts of economic activities introduced by the colonists on the progress of the country. Teacher can test students' general knowledge relevant to the history of economic development by showing them the logos of notable estates conglomerates such as Guthrie and Sime Darby in relation with the government agency particularly the Federal Land Development Authority (FELDA)

It is undeniable that musical elements are very much relevant to the teenagers at large. Thus, it is great if teachers use those elements to help their students to understand History through the national anthem Jalur Gemilang or the song about the homeland Malaysia Tanah Airku. The melody and lyrics of songs can develop several feelings and emotion. In addition, they can generate many ideas to be associated with nation-building. This creates a free, fun yet meaningful new learning experience. Successful application of these History lesson plans will be able to tap students' latent potentials, and students will genuinely understand historical information. In fact, this type of understanding would help students to digest and understand the information with open heart and open mind.

Student-centred approach unintentionally encourages students to develop their thinking skills through activities such as group discussions, analysing historical documents, observing teaching aids and illustrating thinking map or completing written exercises. Such activities are very beneficial to develop almost all multiple intelligences or amazing abilities possessed by the students, for example kinesthetic skills, verbal-linguistic, logic/mathematics, spatial, interpersonal, intrapersonal and naturalist.

This new integrated approach encourages students to learn harder, it reduces distraction and enhances students' commitment to focus on their lesson and learning materials. At the same time, it reduces teachers' energy as they no longer need to talk alone doing a one-man show, yet ineffective.

Information from this study would help teachers to understand that the main goal of learning is not how the lessons are structured but the contents are more beneficial and able to modify students' behaviours, produce measurable learning products, and increase students' interest to learn History. The most important is, students should know and fully understand not only the contents but also how to master the learning materials. Then, students should be able to transfer the knowledge whether in a matter of structured answers, in paragraphs or multiple-choice questions.

Due to that, teachers should act more as facilitators in guiding students individually, making them understand easily and giving them the skills to learn History, without the need to shout. This can best be achieved through an integrated approach particularly by using students' multiple intelligence; at the same time students are taught how to learn history. All of those can easily be achieved by integrating all of the intelligences discussed previously.

Teaching History with integrated multiple intelligence is an alternative to help low performance students improve their achievement. It is recognised and proven as a way to change students' behaviours. Creative activities integrated with multiple intelligence elements bring new light and new dimension to learning situations. In achieving learning objectives, students are no longer bound with rigid instructions but they are directed to independent learning where they have to search and explore information on their own, using various appropriate methods.

In addition, this new approach brings positive implications towards students and teachers. It is proven by this study that, tapping students' multiple intelligence would help low achievers to achieve better results and improve their performance. The learning session is very significant not only in the cognitive aspect, but affective and psychomotor as well. This is an eye opening for teachers and students regarding one's latent and hidden capabilities, which play vital roles in one's life especially in teaching and learning. According to Armstrong (1994) and Abd Fatah (1998), student who behaves differently while he is in class is actually showing a good sign that he has multiple intelligences, which will help improve the potentials of the brain.

In daily classroom teaching activities, teachers should apply thinking skills in all the six levels of Bloom's Taxonomy which involve five aspects, namely knowledge, understanding, application, analysis, evaluation and designing. All of the six levels of difficulties need to be used optimally in order to increase students' thinking skills in learning History. Hence, History class is not the place for students to simply receive whatever information given to them, the class should be the place for students to digest, revise, analyse and find answers of an important historical event. Low achievement students can also become excellent students if they are given proper guidance and fair chances through suitable ways to tap their potentials resulting to a positive learning situation.

When all level of difficulties are used, they stimulate students' thinking skills even though they were once categorised as low achievers. The fact is, if low achievers experience the same teaching and learning process suitable to their ability, they too can succeed (Bruer, 1993). Integrated multiple intelligence together with exposure and practices ensure those students are not left behind.

Based on the research findings, it is recommended that students' multiple intelligences need to be tapped and digested for their own benefits particularly in learning History subject. Multiple-intelligence should be applied effectively among students through various effective activities and methods to increase students' motivation to learn History.

Multiple intelligence should be integrated in various methods and activities, such as by using maps, pictures, and thinking map. Other activities involve audio visual such as movies, patriotic songs, acting and more. All of the the eight types of intelligence can be integrated in all of those activities. For example, the teacher puts a blank map in front of the class and asks students to search and get more information from the text books; later the information is then transferred onto the map. At the same time, music can be played or a student can be selected as a narrator to narrate the historical event at the place where students have to indicate on the map. A well-integrated multiple intelligences for example kinesthetic, spatial, and verbal linguistic, and musical, would easily help students to explore each topic that they are interested to learn.

Apart from that, teachers can prepare matching activity. The example of the lesson is: a teacher provides the flags of each state of the country, students have to match the flags with the states, level up its difficulty by asking students to name the rulers, the state leaders and write meanings of the flag's colours matching with the state's anthem or official song played by the teacher. This activity can be held as an individual or group activity. These activities have applied visual-spatial, interpersonal, verbal-linguistic and musical intelligence. And at the same time the exercise has also applied the six levels of Bloom's taxonomy.

Musical intelligence can be applied during the induction set, such as the teacher plays the states' song and then asks students to write or complete lyrics of the songs. The lesson would be more interesting and fun when students are asked to listen to the song and sing the song together. Low achievement students prefer a relaxing atmosphere like this, as they gain tremendous benefits through these activities.

After the teacher explains the contents of the lesson, students can be asked to describe the topic in the manner of a song. This can improve students' memory on the topic they have studied. As an example, when they study the Hijrah topic, the teacher asks students to sing a nasyid entitled "Hijrah" and then explains the topic based on the lyric. So, finding the meaning and concepts of Hijrah would make the lesson to be more fun and exciting.

Kinesthetic, interpersonal and intrapersonal intelligences can be applied when students are given the chance to role modelling the notable historical figures. The activities are role playing the historical figures and narrating the story of the people. This can attract students' interests and increased students' knowledge on the notable historical figures. It also helps students to remember the lesson by associating it with the people. Teacher can also provide a set of incomplete dialog where students have to fill in some blanks with the missing words based on the information in the text book. Students can also dramatize the dialog when it is completed. This is another way to help students remember the lesson and teacher has indeed integrated multiple ways of teaching and learning History.

Logic-mathematic intelligence in teaching History can be done by asking students to arrange the sequence of historical events, to complete a time line based on years. Arranging and sequencing historical events based on the years would help students to better understand the events. It would be better if the teacher can ask students to sequence the events chorologically based on visual materials. Learning with pictures and visual aids is recognised as able to facilitate mental process in receiving and remembering history facts, in having better understanding of the events, and developing the levels of difficulties of the Bloom's taxanomy. In completing time line with significant information from the text book, students are actually using their mathematical intelligence particularly when they have to record or document historical events in a graphic manner, which consequently would help them to remember the facts even better.

Word game is an example of activities to apply verbal linguistic intelligence. It can be conducted as an activity for the induction set or enrichment exercise. The examples of word games are cross word puzzle and word search/word mace, which can only be solved by searching information from the text book. Other enjoyable activities that can be used in schools are reading and writing storylines, composing poetries and story telling assisted by sound and word images. The subject teacher can also prepare a speech or script on an event. These examples of activities not only help students to remember facts but also help them to use their intelligence.

5. Conclusion

Results of this study showed that low achievers in the History subject are capable to improve their achievement if they are given various types of supports and professional guidance. Many factors affected students' motivation to learn History Subject as Learning History subject requires students to master historical thinking skills which are vital elements for improving academic attainment. Supportive learning ecology is essential for boosting students' motivation to actively engage in learning activities. Data from this study suggest that school community and family members have to be more proactive in designing, implementing and monitoring educational activities for improving students' interest in learning all academic subjects. In addition, implementation of new approaches in various contexts and situations should be conducted in a very professional way as it has a direct impact on students' motivation and wellbeing. Teaching strategies should be appropriate by taking into consideration of students' cognitive ability, especially of those low achievers. Therefore, integrated multiple intelligence (IMI) is one of the approaches to be implemented for low achievement students. IMI provides ample opportunities for students to learn based on their own abilities, so they would be more comfortable and fun to learn, at the same time teachers are helping students to acquire the lesson well. Teaching and learning is indeed a challenging process. However, it may be relevant to highlight that there is no teaching strategy that is effective for any situations. This highlights the importance of action research and professional development programmes for improving teaching abilities and competences.

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The Role of Mathematics and Geometry in Formation of Persian Architecture

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Abstract

Geometry is one of the main features in formation of Persian architecture. Research in Persian architecture geometry is impossible without familiar with geometry. This research tries to demonstrate the relationship between the progress of Persian architecture, geometry and mathematics evolution. In this regard, seeks to address the following questions: What is the relationship between the progress of Persian architecture and geometry evolution? To this end first, a detailed survey is conducted on the Persian Architecture and Mathematicians in the pre-Islamic and Islamic History. The Persian empires and dynasties are analyzed and chronologically organized to determine the evolution of mathematics and geometry impacts on the formation and development of Persian architecture. The research hypothesis is that evolution of mathematics and geometry, have a direct impact on the formation and development of Iranian architecture. This study depicts by development of mathematic geometric, Persian architecture has progressed and With the Fading communication between mathematicians and architects, manufacturing techniques of buildings has deteriorated.

Keywords: Persian architecture, Islamic geometry, mathematic

1. Introduction

Research in Persian architecture without knowledge of the geometry is impossible. Muslims considered geometry as an important science, balanced with mathematics, astrology and music. In Iranian architecture, geometrical and abstract patterns were emphasized as a forming factor (of whole structure), a decoration method (of components), alternatives and sense transformer. The development of geometry in Islamic World started during 8th and 9th centuries from *Sanskrit* and Greek texts to Arabian texts and till 10th century, Muslims achieved great successes in the field. An investigation of reasons of geometry importance in Islamic art and architecture and its reflection forms in these structures' whole body and components, considering cultures and values governing society and understanding meanings, is important. In the field of geometry, great changes were occurred as a result of *Umar al-Khayyām*^{Note 1}, *Abū al-Wafā' Būzjānī*^{Note 2}, *al-Khwārizmī*^{Note 3} and *Ibn al-Haytham's* efforts^{Note 4}. It seems that there has been a relationship between geometricians and architects in Islamic World and linguistic description of this relationship can be seen in Arabic sense of Geometry, which is not only based on geometry but also meaning engineering. Muslim mathematicians such as *Būzjānī* and *Al-Kāshī*^{Note 5} provided manuals with the aim of describing fundamental principles of geometry and its applications in architecture. Such manuals are technical, and their aim is to make principles of mathematics easier and comprehensible for non-professionals of the area. It seems that developments in mathematics and consequently, in geometry and advent of new tools during historical dynasties of Iran have influenced developments of Iranian architecture, directly.

2. Method

Present investigation is theoretical-fundamental, carried out in historical-descriptive method. Needed information was gathered through studying valid historical sources and field observations. What we know about relation between architecture, and mathematic is largely based upon interpretive studies that investigate the progress of the Muslims in the Islamic and pre-Islamic historical texts. The study was conducted in the form of a historic-interpretative, with data being gathered via Conformity of history, art and science architecture. In the Islamic era and earlier, using available resources and library information. The aim of present investigation is to compare art, mathematics, geometry and the application of mathematics in architecture to obtain a definition and interpretation of component influencing Persian architecture from geometric point of view, through classifying mathematicians

and scientists influencing Persian architecture, considering history and eliciting mathematical and geometric principles governing designs and principles of drawing.

3. Literature Review

Studies of science's history and architecture indicate two distinguished viewpoints with the issue of relationship between mathematics and geometry with architecture. Scholars like *Saliba* (Saliba, 1995) and *Holod* (Renata, 1988) suspect the role of mathematicians and the existence of relationship between mathematic texts and architecture. They considered mathematic knowledge of architecture companion in oral form, seeing insignificant relationship between these two groups. Though, other scholar including *Bulatov* (1978), *Chorbachi* (1989), *Özdural* (2002), and *Necipoglu* (1995) emphasize the role of sciences, mathematical texts and mathematicians in architecture specially in Islamic era (*Chorbachi*, 1989). For example *Özdural* relates the main roles of developments in architecture and related industries to mathematicians (*Özdural*, 1995). *Özdural* presents a series of quotations from these two sources, which show that mathematicians taught geometry to artisans by means of cut-and-paste methods and of geometrical Figures that had the potential of being used for ornamental purposes (*Özdural*, 2000). In a detailed study, *Necipoglu* also, clearly mentions the share of mathematics in architecture through emphasizing the role of mathematicians in writing mathematical texts which are related to architecture (*Denny, Necipoglu, & al-Asad*, 1998). Recently Iranian scholars, Such as *Taheri* and *Hejazi* also, have proceeded on studying and investigation in this regard, providing contents in the form of books and valid articles (*Taheri*, 2008). *Hejazi* shows that A comprehensive utilisation of proportions in Persian architecture, such as in the design of plans, elevations, geometric and architectural patterns, and mechanical and structural features, can be proved through geometrical analysis of Persian historical buildings (*Hejazi*, 2005). *Taheri* showed that how the mathematical knowledge of a Persian scientist was utilized in architecture and craftsmanship, he shed some light on the hidden layers of *Kâshânî's* architectural life, who until now has been considered only a mathematician and astronomer (*Taheri*, 2011).

4. History of Employing Geometry before Islam

In order to get familiar with Iranian people's knowledge of Geometry specially applied geometry in art and investigating geometrical developments used in Iranian Architecture before Islam, we will present several historical eras, here, to show samples indicating achieving developments in applied geometry in architecture, scientists' knowledge of geometry and its feedback in architecture art of that era.

4.1 Before Achaemenid Empire^{Note 6}

Evidence of architecture and urban development in this era indicate that using geometry and architecture was not ineffective in urban design and structures of this era. According to *Herodotus*^{Note 7}, *Ecbatana*^{Note 8} city (contemporary *Hamadân* or *Hamedân*), capital city of *Medians*, was completely in circular form and the city was surrounded by seven concentric walls. Moreover, these walls had been various balanced pathways and structures were constructed in its extension (*Zarei*, 2000, p. 77). In This period, Iranian architecture makes use of abundant symbolic geometry, using pure forms such as circles and squares, and plans are based on often symmetrical layouts featuring rectangular courtyards and hall.

4.2 Achaemenid Empire

Achaemenian were among the greatest architects and geometers of Iranian History. Here is *Shahkarami's*^{Note 9} note about *Persepolis*^{Note 10}: experts' investigations on structures of especially its columns and its conical forms indicate that: Achaemenian were using p-value 2500 years before mathematics scientists. They were completely familiar with pure mathematics and engineering. They identified the secret of p-value to build conical masses. Geometry is latent in Achaemenian's architectural decorations with simple or frequent repetition of natural or abstract motifs, which were based on axial symmetry, motif's places and their distance of each other with specified geometrical structures (*Kharazmi & Sarhangi*, 2013). In decoration part related to architecture, Lotus design or vortex curl was administrated using simple geometrical divisions relying on spiral development based on such divisions (*Hejazi*, 2005, p. 83) $\sqrt{2}$ ratios were used in Achaemenian's places specially in *Apadana*^{Note 11} palace, in a way that hall involves 36 central columns as It's basic square and its diameters illuminate three sides of palace in width of columned balconies (See Figure 1) (*Bemanian, Okhovat, & Baghaei*, 2011, p. 175). In *Pasargadae* complex^{Note 12} and royal garden, also, the geometrical network has been used in garden designing which is according to some scholars the origin of advent of Iranian *Chaharbagh*^{Note 13} (*Naima*, 2006, p. 27). So it can be concluded that geometry was influential from micro scales e.g. decorations to macro scales, urban designing and royal complexes.

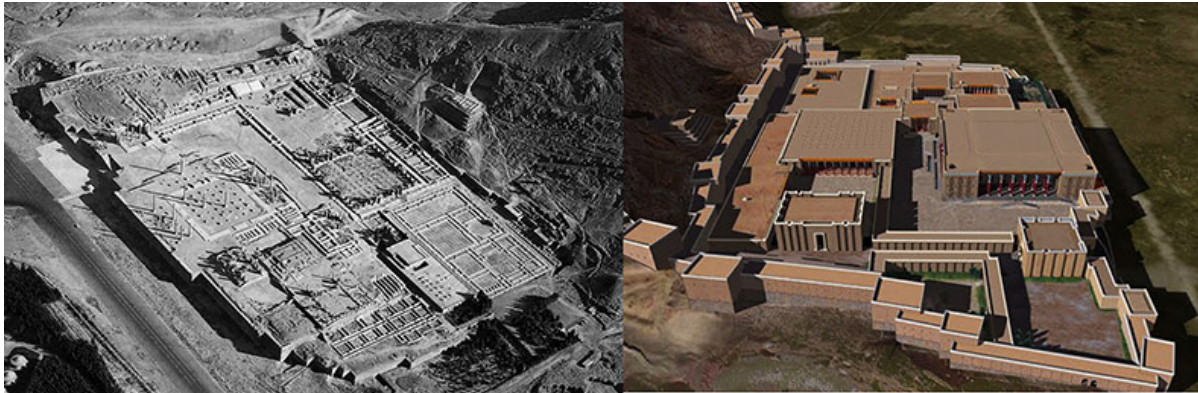


Figure 1. Geometric order and proportion in design *Persepolis (Takht-e Jamshid or Pārsēh)*, Shiraz, Fars, ceremonial capital of the *Achaemenid Empire* of Iran (ca. 550–330 BC)

4.3 Parthian Empire ^{Note 14}

Part tribes were fully skilled in using various designs, advanced techniques of arch and dome, through applying local materials (Zarei, 2000, p. 106). This requires applying strong geometry. The architecture has major Greek influences, while some Iranian elements from the beginning are observable. Architects of Parthian Empire started new innovations in the field of art especially in architecture, trying to revive Iranian design symbolic features and Iranian art through combining Iranian and Greek elements (Pope, 1971, p. 47). In this Empire art, motifs ^{Note 15} are more geometric and structures are more complicated due to influences of Greek art (Kharazmi, Afhami, & Tavoosi, 2012). Creating border and placing motifs inside specific cadres are the main influences Greek art on Iranian art of Parthian Empire (Godard, 1965). For example the architectural decorations in *Nisa* are usually purely Greek. There were Ionic and Corinthian capitals proportion with acanthus leaves. *Nisa's* battlements and fortifications, however, have their origin in a more Iranian fashion. Moreover through developments in urban fields of Sassanid and Parthian Empire, the tradition of making circular cities in monuments of *Darabgerd*, *City of Goor* and *Khoreh Ardeshir* ^{Note 16} cities continued. This indicated applied usage of geometry in large scales (See Figure 2 & 3).



Figure 2. The use of Euclidean geometry in the Parthian Empire urbanism, ancient round city of *Darabgerd, Iran* (Kermani, 2012)

4.4 Sasanian Empire ^{Note 17}

On the rise of Sassanid dynasty, a national government was established, which provided the bed for great artistic changes through taking Achaemenian's art as their model and using experiences obtained from influences of Rome and Greek civilizations on Iran (Ghirshman, 1954). In Sassanid art change in method is from employing geometry from latent state to elaborate geometrical structures, increase in rhythms from frequent repetition to elaborate rhythms with various motifs and utilizing central symmetry, which provided the bed for great changes in architectural changes of next Empire specially changes in geometrical motifs of Islamic Architecture (Kharazmi, Afhami, & Tavoosi, 2012). In this Empire, geometric feature far from former art is eliminated, gradually, and we come across with free motifs. With such organizing, all motifs rely on using geometric infrastructure (Ibid). Dome has been established on square base in dome structures of Sassanid Empire with specific techniques of Iranian architecture, which starts with tightening four conical three-corner on four corners of square to convert it to octagon ($\sqrt{2}$ ratios) and sixteen-gone till at final phase this main tetrahedron transfer converts to be multilateral with corners highly close to circle (Bemanian, Okhovat, & Baghaei, 2011, p. 172). Moreover, central porch of *Kasra* palace follows $\sqrt{3}$ ratios. In a way that mentioned saloon with length and width of 60.34 and 30.25 has the $\sqrt{3}$ ratios (Ibid, p. 176). The unique characteristic of Sassanid architecture, was its distinctive use of space. The Sassanid architect conceived his building in terms of geometric masses and surfaces; hence the use of massive walls of brick decorated with molded or carved stucco. All of these samples from the essence of the hypothesis which are emphasizing the issue of geometry in Iranian Architecture.



Figure 3. The use of *Euclidean* geometry in the Sasanian Empire urbanism, Ancient City of *Goor, Firuzabad, Fars, Iran* (Farnam, 2012)

5. History of Employing Geometry after Islam

Islamic era architect one of whose condition to step into this profession is being familiar with principles of mathematics and geometry, is completely familiar with principles of employing scales in structure and using a scale, he could use ratios of scientific geometry artistically, depending on environmental conditions (Sadeghi & Ahmadi, 2011, p. 107). Doing so he could start unique creativities, through using his interest, genius on one hand, and employing geometrical component one the other hands who are generally considered as support of his work appropriateness.

5.1 *Since an arrival of Islam till the Ghaznavid dynasty*^{Note 18}

In early Islam's era, with gradual development in mathematics, the art of architecture developed too. The reason for reliability of this issue can be investigated with environmental evidence of *Topkapı Scroll*^{Note 19} and relating his geometrical language to historical developments of mathematics. Unlike Latin West, Islamic World achieved the book of principles of Greek mathematicians at early 2nd century. At that time, this was had been translated for *Caliph Harun al-Rashid*. (Denny, Necipoglu, & al-Asad, 1998). New writings have been published in different fields of mathematics, astronomy, geometry, optics, algebra, and trigonometry. These publications lead geometry to the world which was unknown earlier, resulting in employing it in new affairs, including architecture and decoration arts (such as dome and arch form, geometrical and Muqarnas motifs (Ibid). Doing so with an increase in Muslim's knowledge and development and progress in geometry, especially in applied and theoretical sections, an appropriate ground was appeared and formed for using theoretical knowledge, mathematics and geometry in applied fields of architecture.

In 4th century, an unprecedented emphasis of *Baghdad school*^{Note 20} on balancing theoretical sciences with practical work has had an undeniable effect on visual culture of Islam. One of the most important and the oldest book which was written about close relationship between theoretical and applied sciences, is the book *Ihsa' al-'ulum* written by *Al-Farabi*^{Note 21} in 4th century. This book is a pseudo- encyclopedia of theology and sciences, explaining all sciences in a fluent and simple word, mentioning branches of each science (al-Farabi, 2005). Moreover the books *Nejārat* and geometrical acts were written by *Abū al-Wafā' Būzjānī*^{Note 22}. *Būzjānī* had a prominent place in applied geometry and architecture. Especially he is of higher position due to his issue of dividing a planet with the aid of grand circles, which requires higher understanding of spatial imagination and its application in architecture (Tavassoli, 2004, p. 25). On the other hand, geometry has stepped into the decorative fields of architectural

monuments in a way that the origin of views limited to geometry in Iranian architecture i.e. 4th century brickwork school is related to North and North East of Iran (Bemanian, Okhovat, & Baghaei, 2011, p. 194). Renata Hold, master of art history, Islamic Architecture and town history, points to the book "*Iranian geometry: Application of Geometry in practice*"^{Note 23} when investigating applied geometry and Islamic Architecture. He considers it as one kind of works, which can come in handy for most craftsmen (Renata, 1988, pp. 3-4). In this dynasty, valuable monuments, including the *Samanid Mausoleum*^{Note 24} and *Gonbad-e Qabus* (tower)^{Note 25} were built which according to Pirnia have geometry relying on creative ratios and compounds (Pirnia, 2004) (Table. 1). The craftsmanship of the ornamentation and the refinement of the patterns, combined with their rhythm for geometrical contours, produce an excellent technique for fretwork on alabaster. Side by side with this, some ornaments are preserved which date back to the early middle ages: a roller with scaly ornament and strips of intertwined vine stems (See Figure 4).

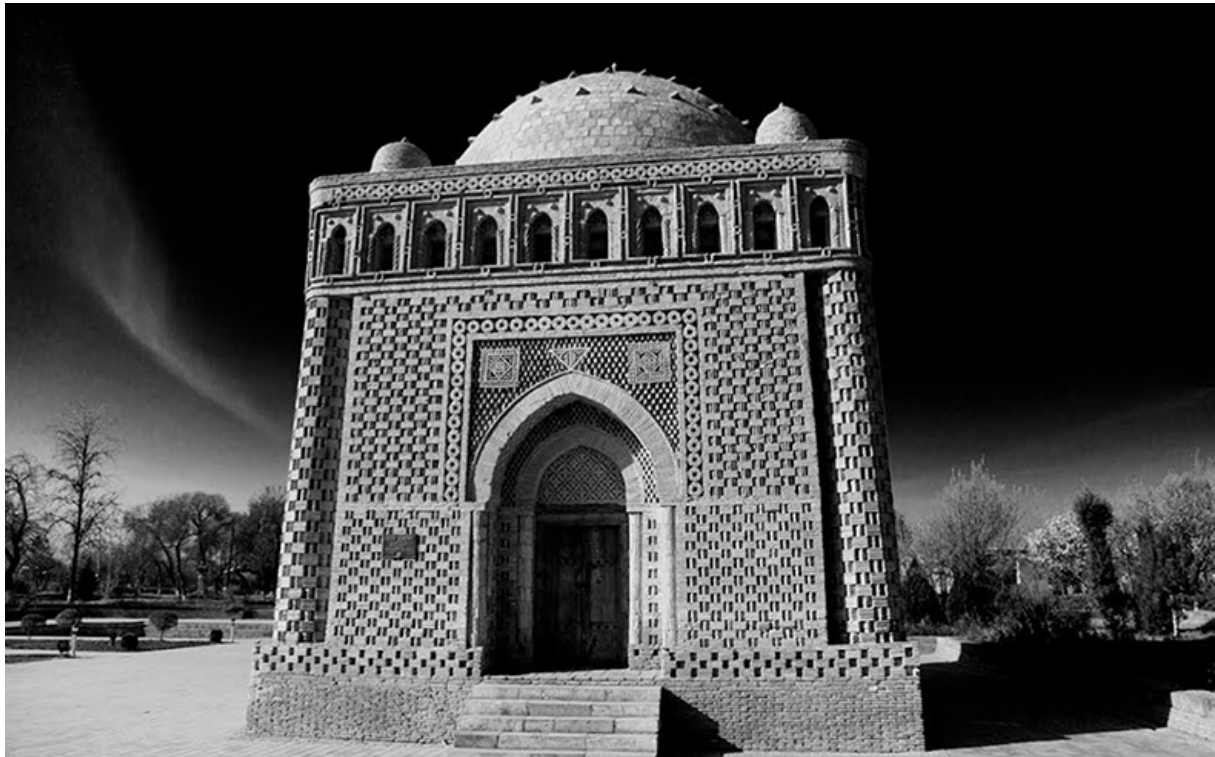


Figure 4. The rightness of the geometric patterns and the construction of their intersections indicate a knowledge of applied geometry, The *Samanid Mausoleum*, Bukhara, Uzbekistan. (Sergeev, 2012)

In first half of 5th century AH, the most brilliant period of Islamic Architecture began in Iran. In this dynasty, we can see the culmination of an architectural style (*sabk*) called "*Razi*"^{Note 26}. Pope relates the advent of geometrical school to after this century in Grand Iran. Moreover, he, undoubtedly, considers geometrical decoration in Iran as a result of direct employment of mathematical systems (Pope, 1971). In 5th century mathematics and consequently, geometry and its application in architecture developed and found a place that some rulers were proud of being skillful in it. Among these kings and rulers, we can point to *Sultan Mahmud of Ghazni*, who was not only skillful at geometry, but also in architectural drawings. Regarding royal palaces build by *Sultan Mahmud of Ghazni* in *Gaznīn*, *Abul-Fazl Bayhaqi*^{Note 27} sees him as a knowledgeable man of architecture, writing so: all people built and drew lines with their own magnificent, hands based on their knowledge. There are signs in such tools, especially in geometry. (Beyhaqi, 2011). Moreover, *Abdillah Ahmed Ibn Yusuf Ibn Hud*, the ruler of *Saragossa* (*Zaragoza*) in *Andalusia* compiled a textbook of geometry, using a huge set of mathematic books gathered in his library (Denny, Necipoglu, & al-Asad, 1998) (See table2).

Table 1. Scientists and scholars of 4th and 5th centuries

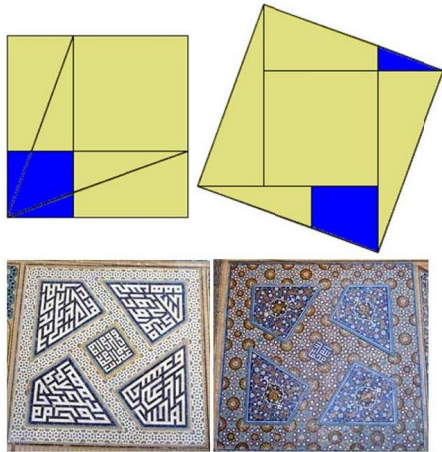


Scientist	essay	Contents	explanation
Abū Naṣr Fārūbī	<i>Ihsa' al-'ulum</i>	<p><i>Geometry</i> Practical It deals with lines that <i>carpenter deals with wood.</i></p> <hr/> <p>Theoretical ---</p>	<p>Classification of knowledge</p> <hr/> <p>Having practical applications of geometry in any profession</p>
Ikhwan al-safa	<i>Rasa'il Ikhwan al-safa</i>	<p><i>Geometry</i> Practical Emphasis on practical geometry impact on the professional skills required.</p> <hr/> <p>Theoretical Entry qualification's theoretical Science for entrance in the theoretical science of the supernatural Science</p>	<p>54 papers about the sciences and their classification (Nasr, 1964)</p>
Abū Abdallāh al-Khwārizmī	<i>Maḥatib al-Ulum (Key to the Sciences)</i>	<p>Classification of books Religious and Arabic Sciences Greek and Egyptian science and</p> <hr/> <p>Religious and Poetry and Offers, Philosophy, Logic, Medicine, Sciences, Music</p>	<p>Studied Islamic sciences based on classified technical data (al-Khwārizmī, 2011).</p>
Abū al-Wafā' Būzjānī	<i>Amal-al hendese</i>	<p>Profile design to prove the theorem of Pythagoras</p> <div style="display: flex; justify-content: space-around;">  </div>	<p>Radial array in the western porch of the mosque</p> <div style="display: flex; justify-content: space-around;">  </div> <hr/> <p>Jameh Mosque of Isfahan Tiling</p> <div style="display: flex; justify-content: space-around;">  </div>
		<p>Compilation of literature outlining the method of the two-dimensional geometric <i>giriḥ</i>.</p> <hr/> <p>Introduced three main tool for drawing geometry: ruler, compass and Bracket (Assarzadegan, 2008).</p> <hr/> <p>The main direction of Būzjānī geometry books is, chapter of sphere divisions.</p>	<p>Start by using two-dimensional <i>giriḥ</i> (node) and a basis for future progress.</p> <hr/> <p>Addressing the needs of craftsmen</p> <hr/> <p>Impact on domes on subsequent periods</p>
Ibn al-Nadīm	<i>The Fihrist</i>	<p>It says of teachings of engineers, mathematicians and other scientists.</p>	<p>This book in 377 AH. BC. Was performed. Book includes extensive information about the books and lines of the Sasanian period. This book is also called <i>al-Ulum</i> inventory list.</p>

Table 2. Introducing 5th century scientists and effects of their works on architecture

Scientist	essay	explanation
<i>Muhammad ibn Jarir al-Tabari</i>	<i>Miftah Al Moamelat</i>	Useful information about the names and units of measurement of building and surveying (al-Tabari, 1970)
<i>Abū Bakr ibn Muḥammad al-Karajī</i>	<i>Extraction of hidden waters (Estexra-e abha-ye penhami)</i>	The first person who proposed the mapping. the first Engineer and surveyor in Iran (Al-Karaji, 1345 H (1966-67))
---	<i>Amal o Ashkal</i> essay	The only treatise on how to draw geometric patterns nodes Vogue by different types of nodes in local government

5.2 From Seljuk^{Note 28} to Ilkhanate^{Note 29} Dynasty

On the rise of Seljuk dynasty paying attention to sciences, especially applied sciences boomed drastically. In Seljuk dynasty, the presence of Viziers^{Note 30} such as *Amidolmolk Kondori*^{Note 31} and *Khawja Nizam Al-Mulk Tusi*^{Note 32}, and knowledge training thoughts and establishing *Al-Nizamiyya* Schools caused a drastic boom in developing Islamic culture. The evolution and development of *Elm Al-Hiyal* (Science of Contrivances) especially geometry and architecture occurred in this dynasty. In references of 6th century, the place of practical geometry of previous centuries is considered when training craftsmen and architectures. *Beyhaqi* narrates a quote of *Esfazari*^{Note 33}, which indicates that he considers geometry as basis and foundation of architecture, architect and requires bricklayer to follow it (Neyestani, 2005, p. 45). Similarly, at that time, the main parts of a node were substantiated and developed in different forms in various local rulings, which employed geometry. "Under these conditions, it was one of the tradition revivers of Seljuk dynasty who revived sudden node style..." (Denny, Necipoglu, & al-Asad, 1998). The rulers support of scientists, and artists caused great, architectural and scientific appear in this dynasty through a corporation of these two groups (Table 3) (See Figure 5).

Table 3. Introducing scientist of 6th century and effect of their works on architecture

Scientist	essay	explanation
<i>Abu Hatam Esfarazi</i>	---	In science geometry, paid to the Science of topography and various aspects of it
---	<i>Yavaghif al-Ulum</i>	Expression of geodesy (Norouzzadeh Chegini, 1999)
---	<i>Amal v Ashkal</i> essay	The only monograph about Geometric Knot

During early 7th AH century, with the establishment of Ilkhanate dynasty y, Mongols adapted the culture and traditions of defeated countries, becoming one of the supporters of art and Islamic artists. One of the main features of this dynasty is more employment of geometry in architectural design. The variety of designs in this method is more than others. Using geometry and variety can be seen in building's tint, and its *Nahāz and Nakhīr*^{Note 34} house (Pirnia, 2004, p. 214). In this dynasty, geometry was used as a tool for balancing and generating pattern for construction of monuments with maximum speed and minimum error, in a way that modular enables architect to build several monuments in different parts of a country simultaneously without fearing of error, even in smallest components. In this dynasty, *Khawja Nizam Al-Mulk Tusi* was among updated scientists who made *Maragheh* observatory. (Taheri, 2011, p. 48) *Maragheh* observatory, was an institutionalized astronomical observatory which was established in 1259 CE under the patronage of the *Ilkhanid Hulagu Khan* and the directorship of *Nasīr al-Dīn Tūsī*, an Iranian scientist and astronomer.

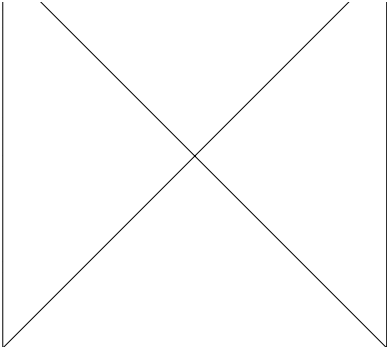


Figure 5. Beautiful brick dome in harmony with geometric proportions, *Taj-ol-molk Dome, Jamé Mosque of Isfahan, Isfahan, Iran (1088-1089)* (Alagheband, 2012)

5.3 From *Timurid*^{Note 35} to *Safavid*^{Note 36} Dynasty

Ibn Khaldūn^{Note 37} in 8th AH century, in his famous introduction of describing masonry artifacts, points to the importance of recognizing geometry among architects, believing that it is the knowledge of geometrical problems and thinking about it along with relying on accurate calculations that make craftsmen successful in establishing huge monuments (Ibn Khaldūn, 1989). In this era, plans were sent from Shiraz to Yazd for *amir Ghiyāth al-Dīn's* school construction (Afshar & Jafari, 2005, p. 119). Moreover, *Muhammad ibn Mahmud Amuli*^{Note 38}, the author of the book "*Nafa'is al-funun fi 'ara'is al-'uyun*"^{Note 39} believes that mathematics is composed of techniques involving Architect. 9th century and Timurid dynasty is the most brilliant historical dynasties of Iranian art and architecture, which obtained more progresses using fundamental thoughts and culture of past architecture. One of the main features of this dynasty is more employment of geometry in architectural designs, which are substantiated in *Nahāz and Nakhīr* of plans, brickwork *giriḥ-chīnī* in the form of modular in view decorations and geometrical motifs forming muqarnas and diaphoretic tiling (See Figure 6). *Ghiyāth al-Dīn Jamshīd al-Kāshī*^{Note 40} is one of the most prominent scientists and mathematics of this dynasty who has proceeded on different aspects of mathematics and geometry application in architecture (table 4).

Table 4. Introducing scientists of 9th century and their effects on architecture

Scientist	essay	Geometry	Architecture
<i>Ghiyāth al-Dīn Jamshīd al-Kāshī</i>	<i>Miftāh al-Hisāb (Key of Arithmetic)</i> (AL-KĀSHĪ, 1977)	The fourth article: Measure the level and volume of geometric shapes Article 9 of Chapter 4: Architectural components in terms of <i>al-Kāshī</i> ; Vault. Dome. Muqarnas	Geometry used in buildings. Addressing the scientific aspects of architecture and building. Calculate the area of regular polygons Based on the square modulus. Describe Making Muqarnas. Addressing architects to work on the practical way in a side of theoretical ways. Compile the application of the theoretical foundations of geometry in architecture.
	<i>From Samarkand to Shiraz (Ghiyāth al-Dīn letters to his son)</i>	Letters: Identified valid documents about his attitude to architecture (Bagheri, 1997).	
<i>Ghiyāth al-Dīn Ali Sepahany</i>	<i>Dor al-Masahe</i>	Books for teaching science in architecture	

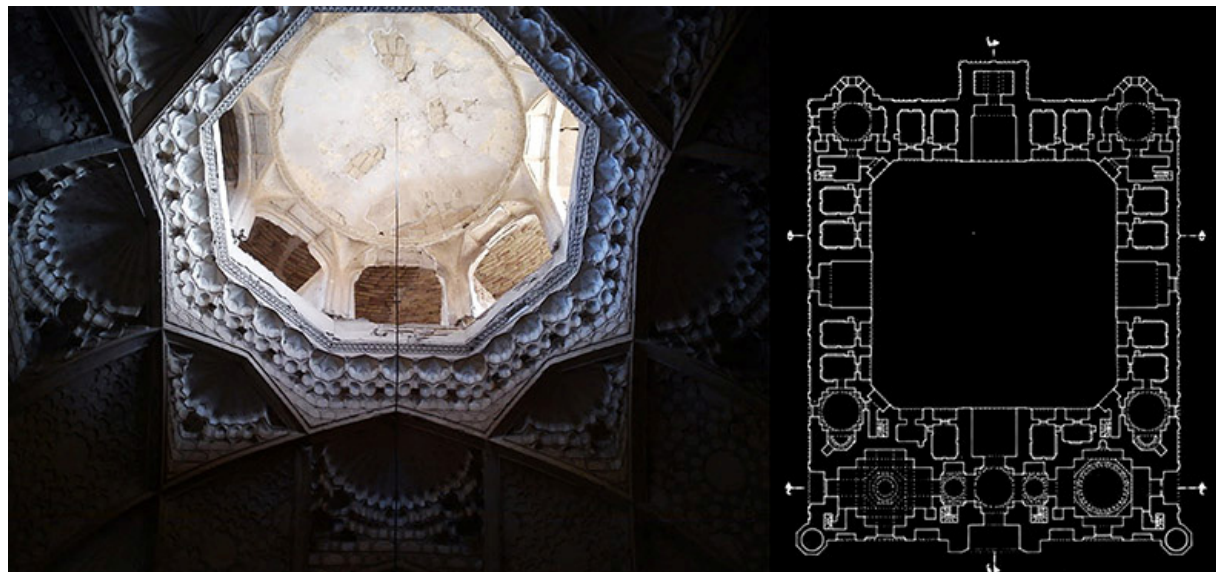


Figure 6. *Kharghard Madrasa* is accomplished by the energy of the brick floral patterns and brick geometrical schemes; by the emphatic rhythm of the arcades, open galleries and deep recesses; and especially by the contrast of the light and shadow. *Ghavam-al-Din and Ghiyas-al-Din Shirazi*, *Ghiyathiyeh Kharghard School, Khaf, Iran* (Mehrabiani, 2011)

5.4 From Safavid to Qajar^{Note 41} Dynasty

On the rise of Safavid dynasty in the early 10th century, we can see a culmination of Iranian architecture art, generated by that time exulting and art lover kings, i.e. "Shah Tahmasp, I^{Note 42} and Shāh 'Abbās I^{Note 43}". Scientists like Bahā' al-dīn al-Āmilī^{Note 44} was living at that dynasty presenting important writings in architecture, mathematics and geometry, taking valuable action in Isfahan in the field of architecture. Moreover, during these years handbooks of *Meftah ol Saadah* and *Meftah ol-Siyadah* were published by an unknown author in the field of mathematics and architecture (table5). Following Eric Schroeder, Oleg Grabar in his book "The Great Mosque of Isfahan", believes that Khayyām^{Note 45} played a role in drawings resulted in creation of the north dome of Grand Mosque of Isfahan. He sees him as its inventor (Grabar, 1990). Since using Pentagon and five headed stars on the outer surface of the dome requires scientific domination and proficiency on round triangles to be able to convert direct to deviant lines, so this confirms the probability of idea design by Khayyām. Moreover, according to article entitled: "Jamé Mosque of Isfahan" it was identified in Aerial Photography of historical monument's summit (Athena1974) that north dome ratio of this mosque is exactly equal to Khayyām's triangle ratios (Ghazali, 1975). Chorbachi^{Note 46} in his article of Bible Tower considers the asymmetries in Islamic designs of photos of Khayyām's handbook of indiscrete shapes, more complicated than Abū al-Wafā's polygons and shapes version, knowing Khayyām as the main criteria of decorative geometry and developments in that dynasty applied geometry (Chorbachi, 1989). Reports of the handbook of indiscrete shapes indicate that triangle explored by Khayyām was used, in fact, as a decorative design by craftsmen (Özdural, 2000). This indicates the fact that principles and rules of geometry are not only used in architecture, but also geometrical shapes are used to prove scientific problems. They can be, moreover, used as decorative geometrical shapes due to having specific logic (See Figure 7).

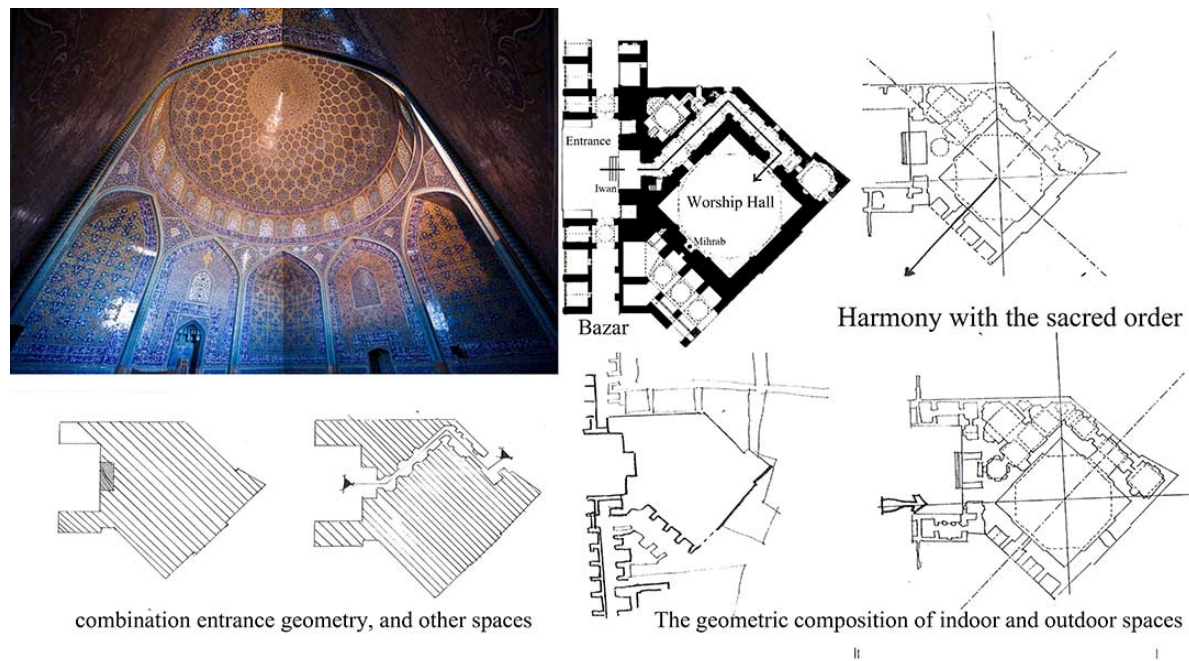


Figure 7. Prolific and impressing by the geometry of the pattern and plan, Geometric Analysis of *Sheikh Lotfollah Mosque*, *Ustad Mohammad Reza Isfahani* architect, *Isfahan, Iran*

Table 5. Introducing 11th century scientists and effect of their works on architecture

Scientist	essay	explanation	Architectural result	
<i>Shaykh - i Bahā ṭ</i>	<i>Architectural General Knowledge</i>	Chapter one	The relationship between total and component architectures.	
		Chapter two	Describe the psychological aspects of space.	
	<i>Mathematics of Architecture</i>	<i>Khulasat al-hisab</i>	Chapter one: Subterranean parts	designing triangle tools with Plummet of architect
			Chapter two: Discover how to obtain high buildings altitude	Recognizing height of symbols and signs in cities.
			Chapter three: Discover the the width of rivers and depth of the wells.	Design and build bridges, Dam...
	<i>Meftah Al-Falah</i>	Books on prayer and Ritual Acts night and day	Methods for determining Prayer times.	
	<i>Fi- Tahghigh Jahat Al-Ghebleh</i> (in Arabic)		---	
Resaleye Ostorlab		---		
---	<i>Meftah ol Saadah and Meftah ol-Siyadah</i>	Mathematics Aspects of Geometry	River water sharing in Esfehan architecture knowledge building scenarios and situations Science Building and strengthening and beautification. Geometry employed in the construction of buildings, houses and castles.	

Table 6. Introducing 12th century scientists and effect of their works on architecture

Scientist	essays	Architectural result	samples
<i>Umar al-Khayyām</i>	Characterization of irrational numbers in math	Using the properties of irrational numbers in the design of the dome	North Dome <i>Jameh Mosque of Isfahan</i>
	<i>Treatise on Algebra (1074)</i>	Employment <i>Khayyām</i> on architecture and related arts of Domes.	Five apical and Pentagon on the South Dome (Ghazali, 1975)
	<i>Khayyām Pascal's Triangle (Pascal's Triangle)</i>	Equal proportions of the dome with <i>Pascal's Triangle</i> (Chorbachi, 1989)	North Dome
		Applications of Pascal's Triangle as a decorative array	---
---	---	Designed by using of sacred geometry (Pirnia, 2004)	<i>Khan School of Shiraz</i>

5.5 From Qajar Dynasty to Contemporary Era

Studying educational mathematics of *Dar ul-Fonun* can be carried out in two forms:

5.5.1 Safavid dynasty and investigating handbook of *Khulasat al-hisab* (based on a manuscript, compiled in 1114 AH) (al-*Āmilī*) compiled by *Bahā' al-dīn al-Āmilī*, surnamed *Shaykh - i Bahā' ī*.

The reason for importance of this handbook is that it is the only handbook used as a textbook for the introductory mathematics course to train students of Safavid dynasty in the school house. In Qajar dynasty this book was translated, corrected and reviewed by several famous mathematicians, and then it was available for students with the name of *Kanz Al-Hisab*^{Note 47}. Mathematic books authored in *Dar ul-Fonun*^{Note 48} presented issues, which had not been seen in Islamic era and according to western and theoretical methods, these books caused Iran to develop in this field. In this era, mathematics goes far from issues of practical geometry, tending toward pure and proving issues (Pasandideh, 2007). In this era, some conditions that generated the ideas leading to the Dar al-Funun, the pivotal Iranian educational institution in the nineteenth century, as well as the people and the cultural and political environment that nurtured it.

Qajar decoration is usually unmistakable. Simple, rather strident tiled geometric or epigraphic designs in small glazed bricks were especially popular. Reflecting glass now complemented polychrome tilework, adding play of light to play of color (See Figure 8). The faceted surface of muqarnas vaults was the ideal vehicle for this late but still novel expression of a classic preoccupation of Iranian architecture. The dissolution of surface by resplendent ornament.



Figure 8. The designers *Muhammad Hasan-e-Memar* and *Muhammad Reza Kashi Paz-e-Shirazi* used extensively stained glass on the façade and other traditional elements such as *panj kāseh-i* (five concaves), The *Nasīr al-Mulk* Mosque in Shiraz, Iran.

5.5.2 Books Authored in Qajar dynasty

Mathematics text books before establishing *Dar ul-Fonun* involved the book entitled *Kanz Al-Hisab* (manuscript 1256 AH) which a translation and the description for Handbook of *Khulasat al-hisab*, written by *Shaykh - i Bahā' ī*, compiled by *Farhad Mirza*^{Note 49} Qajar, reviewed by *Ali Mohammad Isfahani*. The author mentions that the book was compiled to teach students and learn rudimentary issues of mathematics during *Mohammad Shah Qajar* kingship. *Vajed Ali Khan*, in his *Matla-i ul-Ulum* which was compiled in 13th AH century, has dedicated one chapter to techniques of an architect, mentioning that: those who are aware of principles of geometry, they'd better know that this technique can be finished in the best way possible (Ali Khan, 1998). The Dar al-Funun as a channel

for the flow of scientific, cultural and intellectual innovation imported from Western Europe to Qajar society and as an experimental space in which long-established ideas and practices were challenged. It also sheds new light on the secularization of education in Iran, which led to the Ulama's loss of control over educational affairs.

6. Conclusion

Comprehensive studies of relationship between architecture, mathematics and geometry indicated that there has been a close relation between these two fields. With changes occurred in mathematics, we can observe developments in architecture. This issue confirms theories of scientists, including *Özdural* and *Necipoglu* who believed in relationship between mathematics and architecture. Although for different reasons, this relation can be pale, it was never vanished and no one can deny it. During some dynasties, unprecedented progresses in mathematics, compiling books and mathematical achievements related to architecture strengthened this relation due to reasons such as rulers' support of mathematicians. Though, in some eras, this relation became weaker and pale due to social and political reasons and even people's different attitude toward time sciences and kind of science employment.

Evidence remained from pre-Islam era indicates that some traces of geometry can be seen in designing cities, palaces and royal gardens. The relationship between Islamic era mathematicians and architecture field was substantiated through first Abbasid caliphs for urban construction and development. Meanwhile due to need for mathematics and lack of knowledge of craftsmen and architects, a bed was provided to entrance of mathematicians to architecture and eminent mathematicians, and scientists took the most important seats of construction affairs. The 4th century is considered as a turning point of relationship between mathematics and architecture area due to *Abū al-Wafā' Būzjānī's* works in geometry and practical arithmetic. In this century emphasis of *Baghdad school* on balancing theoretical sciences and practical works had drastic effects on architectural works. On the rise of Seljuk government, in 6th century, paying attention to applied sciences boomed more and more. The presence of experienced and resourceful Viziers, including *Khawja Nizam Al-Mulk Tusi* caused geometry influence architecture in this era. On the rise of Ilkhanate ruling, 7th century, using geometry in building affairs increased due to need for acceleration and accuracy in designs. Concurrent with Timurid ruling, 9th century, is the peak of art history and architecture boom, since in this era the more employment of geometry and mathematics can be seen architectural designs. Scientists including *al-Kāshī* it proceeded on theoretical application of mathematics in architecture in form of practical and simple solutions through writings about application of geometry in building and authoring theoretical expression. On the rise of Safavid dynasty, the peak of geometry application in decoration of monuments can be seen. Actions, including using *Khayyām's* triangle proportions in *Nizam Al-Mulk* dome of Isfahan's Grand Mosque^{Note 50} and using it in order to decorate this monument are samples of such actions. In dynasties after Safavid and especially in Qajar dynasty mathematics receded from practical geometry issues due to stepping Western and theoretical methods, tending toward positivist and pure issues. Doing so, the connection chain of mathematics and architecture, which was close in different historical dynasties, disconnected gradually.

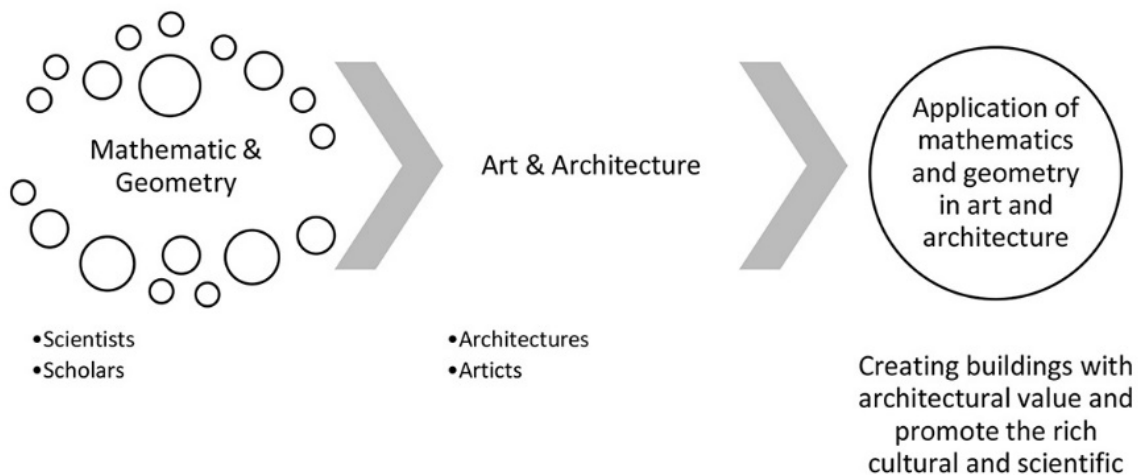


Figure 9. The relationship of mathematics and geometry with art and architecture

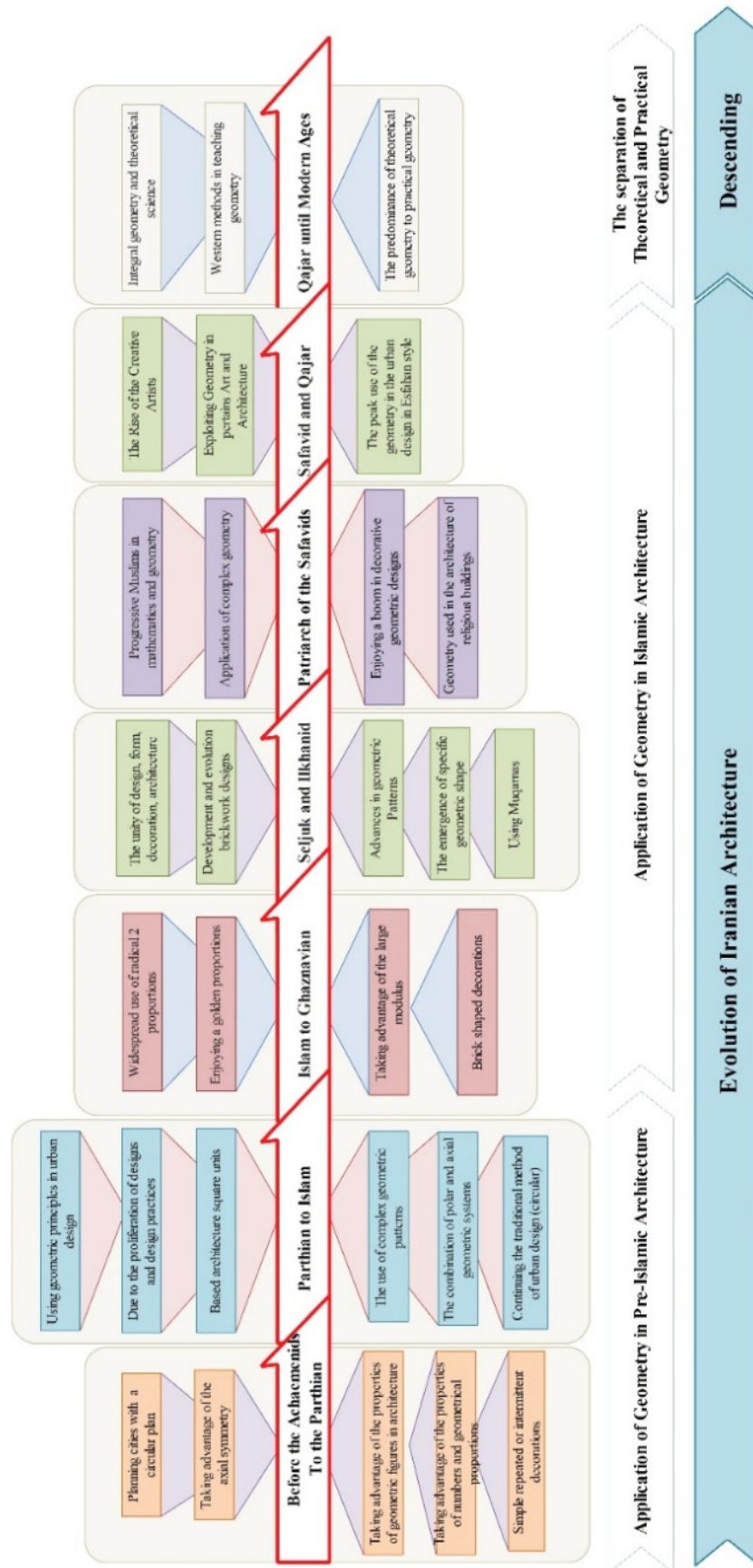


Figure 10. Diagram of the conclusion

According to various studies in the field, it can be concluded that during history development and promotion of mathematics and geometry had direct relationship with art and architecture, in a way that with development in theoretical sciences, mathematics, geometry and architecture developed. Another consequential finding was that many mathematicians such as Khayyām themselves have directly supervised the construction of consequential government buildings in their era. Consequently, and cadence in these sciences caused recession and remission in architecture. Since the peak boom of mathematics, geometry from 4th century to 9th century is concurrent with peak of architecture in Iran (Figure 9, 10). According to the findings of the theoretical and practical aspects of research, this paper can be the basis for future studies on the roots of Persian architecture, a strong relationship between Persian architecture progression and evolution of mathematic geometry has been reported in this literature. However Future studies on the current topic are therefore recommended. More research on this topic needs to be undertaken to an association between Architecture, and mathematic geometry is more clearly understood.

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Notes

- Note 1. Ibrāhīm al-Khayyām Nīshāpūrī (18 May 1048 – 4 December 1131; Persian, was a Persian polymath, philosopher, mathematician, astronomer and poet. He also wrote treatises on mechanics, geography, mineralogy, music, and Islamic theology.
- Note 2. Būzjānī was one of the leading astronomers and mathematicians of the Middle Ages, with significant contributions in observational astronomy? His achievements in trigonometry paved the way for more precise astronomical calculations (2 (Moussa, 2011, p. 188).
- Note 3. Muḥammad ibn Mūsā al-Khwārizmī Earlier transliterated as Algoritmi or Algaurizin, (c. 780 – c. 850) was a Persian mathematician, astronomer and geographer during the Abbasid Empire, a scholar in the House of Wisdom in Baghdad.
- Note 4. Abū 'Alī al-Ḥasan ibn al-Ḥasan ibn al-Haytham, scientist, polymath, mathematician, astronomer and philosopher who made significant contributions to the principles of optics, astronomy, mathematics, meteorology, visual perception and the scientific method (Selin, 1997).
- Note 5. Ghiyāth al-Dīn Jamshīd al-Kāshī was one of the best Persian astronomers and mathematicians in the Islamic world. He was born in 1380, in Kashan, in central Iran (Azarian, 1998).
- Note 6. The Achaemenid Empire was first Persian Empire, an empire based in Western Asia, founded in the 6th century BC by Cyrus the Great.
- Note 7. Herodotus was an ancient Greek historian who was lived in the fifth-century BC (c. 484–425 BC). Widely referred to as "The Father of History" (first conferred by Cicero), he was the first historian known to collect his materials systematically and critically, and then to arrange them into a historiography narrative.
- Note 8. According to Herodotus, Ecbatana was chosen as the Medes capital in the late 8th century B.C.E. by Deioeces.
- Note 9. Dr Abdolazim-Amir Shah-Karami the advisor to the Office of Conservation, Revitalisation and Registration of Historical Buildings of the Iranian Cultural Heritage and Tourism Organisation (ICHTI).
- Note 10. Persepolis (New Persian: Takht-e Jamshid or Pārsēh) literal meaning "city of Persians," was the ceremonial capital of the Achaemenid Empire (ca. 550–330 BC) (Michael Woods, 2008).
- Note 11. An apadana is a large hypostyle hall, the best-known examples being the great audience hall and portico at Persepolis and the palace of Susa. The Persepolis Apadana belongs to the oldest building phase of the city of Persepolis, the first half of the 5th century BC, as part of the original design by Darius the Great. Its construction completed by Xerxes I (Cool Root, 1985).

- Note 12. Pasargadae, the capital of Cyrus the Great (559–530 BC) and also his last resting place, was a city in ancient Persia (modern-day Iran), located near the city of Shiraz (in Pasargad County) and is today an archaeological site and one of Iran's UNESCO World Heritage Sites.
- Note 13. Charbagh or Chahar Bagh is a Persian-style garden layout. The quadrilateral garden is divided by walkways or flowing water into four smaller parts. In Persian, "Chār" means 'four' and "bāgh" means 'garden' (Ruggles, 2008).
- Note 14. Also known as the Arsacid Empire was a major Iranian political and cultural power in ancient Iran.
- Note 15. Motif is an element of a pattern, image or part of one, or theme. A motif may be repeated in a design or composition, often many times, or may just occur once in a work.
- Note 16. Sasanian palace at Buzpar (say Boshpar), close to the achemenid tomb aka Gur Dokhtar.
- Note 17. Sasanid Empire was the last Iranian empire before the rise of Islam, ruled by the Sasanian dynasty from 224 CE to 651 CE.
- Note 18. The Ghaznavid dynasty (Persian: غزنویان) was a Turko-Persian Muslim dynasty of Turkic slave origin at their greatest extent ruling large parts of Persia, and much of Transoxania, and the northern parts of the Indian subcontinent from 977 to 1186.
- Note 19. The Topkapı Scroll (Turkish: Topkapı Parşömeni) is a Timurid dynasty pattern scroll in the collection of the Topkapı Palace museum. The scroll is a valuable source of information, consisting of 114 patterns that may have been used both indirectly and directly by architects to create the tiling patterns in many mosques around the world, including the quasicrystal *Girih* tilings from Darb-e Imam (Necipoglu, 1992).
- Note 20. The Baghdad School was a relatively short-lived yet influential school of Islamic art developed during the late 12th century in the capital Baghdad of the ruling Abbasid Caliphate.
- Note 21. Abū Naṣr Muḥammad ibn Muḥammad Fārābī was a renowned scientist and philosopher of the Islamic Golden Age. He was also a cosmologist, logician, and musician. Through his commentaries and treatises, Al-Farabi became well-known among medieval Muslim intellectuals as "The Second Teacher," that is, the successor to Aristotle, "The First Teacher."
- Note 22. He was a Persian mathematician and astronomer who worked in Baghdad. He made important innovations in spherical trigonometry, and his work on arithmetics for businessmen contains the first instance of using negative numbers in a medieval Islamic text.
- Note 23. In Arabic: "فيما يحتاج اليه العمال والصناع من الاشكال الهندسيه"
- Note 24. Samanid amir, Ismail Samani's tomb, one of the most esteemed sights of Central Asian architecture, was built in the 9th (10th) century (between 892 and 943).
- Note 25. This tall monument for the Prince Shams ul-Ma'ali, Amir Qabus ibn Wushmgir ordered to build during his life, in the year 397 the lunar Hegira, and the year 375 the solar Hegira.
- Note 26. A style of architecture dating from the 11th century to the Mongol invasion period, which includes the methods and devices of The Samanids, Ghaznavids, and Seljukids (Fallahfar, 1999, p. 106).
- Note 27. He was a Persian historian and author. He wrote the famous work of Persian literature *Tarikh-e Mas'oudi* ("Masoudian History," also known as "Tārīkh-e Bayhaqī").
- Note 28. Was a Turkish Sunni Muslim dynasty. (10th century)
- Note 29. Was a breakaway state of the Mongol Empire, which was ruled by the Mongol House of Hulagu. (1256–1335)
- Note 30. The Abbasid Caliphs give the name title wazir to a minister formerly called Katib (secretary) who was at first merely a helper, afterwards became the representative and successor of the Dapir (official scribe or secretary) of the Sassanian kings (Nicholson, 1998, p. 257).
- Note 31. The minister of Toghrol and Alp Arsalān Sāmānid Dynasty.
- Note 32. Abu Ali Hasan ibn Ali Tusi (1018 - 1092), better known by his honorific title of Nizam al-Mulk (Persian: نظام‌الملک, "Order of the Realm") was a Persian scholar and vizier of the Seljuk Empire.
- Note 33. Muzaffer Esfazari, the author in 12th century.
- Note 34. Protrusion and Niche of the plan

- Note 35. This dynasty was founded by Timur (Tamerlane) in the 14th century. The Timurids lost control of most of Persia to the Safavid dynasty in 1501, but members of the dynasty continued to rule parts of Central Asia and parts of India.
- Note 36. Safavid was one of the most significant ruling dynasties of Persia. They ruled one of the greatest Persian empires after the Muslim conquest of Persia (1501–1736).
- Note 37. Ibn Khaldūn (1332 AD–1406 AD) was an Arab Muslim historiographer and historian, regarded to be among the founding fathers of the modern sociology, and historiography and economics.
- Note 38. He was a medieval Persian physician from Amol, Iran.
- Note 39. Between 1335 and 1342 Amoli also composed a large and widely read Persian encyclopedia on the classification of knowledge titled (Nafa'is al-funun fi 'ara'is al-'uyun)
- Note 40. Ghiyāth al-Dīn Jamshīd Mas'ūd al-Kāshī was a Persian astronomer and mathematician.
- Note 41. The Qajar dynasty was a Persianized native Iranian royal family of Turkic origin, which ruled Persia (Iran) from 1785 to 1925.
- Note 42. Tahmasp I (1514 – 1576) was an influential Shah of Iran, who enjoyed the longest reign of any member of the Safavid dynasty
- Note 43. Shāh 'Abbās the Great (1571 –1629) was the 5th Safavid Shah Emperor of Iran, and generally considered the greatest ruler of the Safavid dynasty.
- Note 44. Shaykh - i Bahā'ī (1547 - 1 1621) was a scholar, philosopher, architect, mathematician, astronomer and a poet in 16th-century Iran.
- Note 45. Umar al-Khayyām Nīshāpūrī (1048 –1131) was a Persian polymath, philosopher, mathematician, astronomer and poet. He also wrote treatises on mechanics, geography, mineralogy, music, and Islamic theology.
- Note 46. Wasma'a Khalid Chorbachi is an American artist.
- Note 47. Written by Farhad Mirza bin Waliahad.
- Note 48. Established in 1851, was the first university and modern institution of higher learning in Persia.
- Note 49. Farhād mīrzā Mo'tamad-al-dawla (1818-1888), Qajar prince-governor and bibliophile.
- Note 50. Jamé Mosque of Isfahan

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The Family Instructions of Ji Dan Recorded in the *Book of Documents*

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Abstract

The five chapters of family instruction “Announcement to the Prince of Kang”, “Announcement about Drunkenness”, “Timber of the Rottlera”, “Against Luxurious Ease” and “Establishment of Government” attributed to Ji Dan in the *Book of Documents* are studied with reference to the political and social context of the Western Zhou period. In these chapters, Prince Kang and King Cheng of Zhou are reminded by Ji Dan to develop personal quality such as cultivation of virtue, modelling of exemplar Shang kings and observance of clan seniors’ instructions as well as rule the people by education, law and punishment, virtuous officials, and caring strategies. These family instructions which may be updated or created in the late Western Zhou are based on the beliefs “observe the will of Heaven” and “love the people” aiming to sustain and pass on the family-held sovereignty. A framework of family sustainability is constructed accordingly with reference to ethical concepts of filial piety and paternal concern. This framework can be extended from the royal family instruction to other social classes as sustainability of family is the major responsibility of Chinese while cultivation of virtue and development of administrative skills are still two key areas of education for Chinese.

Keywords: family instruction, family sustainability, Ji Dan, *Book of Documents*, Western Zhou period

1. Introduction

Starting from the period of Spring and Autumn (Chunqiu c.771 BC - 476 BC), family instruction (*jiaxun*) emerged as a major family education media in imperial China. However, the ancient family instruction which shapes most thinking and behaviour of Chinese in imperial China has not attracted sufficient research attention from scholars. Currently, the research focus in this area is on Yan Zhitui’s (531–591) *Yans’ family instruction (Yanshi jiaxun)*. Some other major works in a broader sense of the major research outputs in this area include: *Transmitted Chinese family instruction (Zhonghua chuanshi jiaxun)* (Li, 1998) which is a compilation of family instruction from the Pre-Qin period (before 221 BC) to modern China; *General discussion on the thoughts of traditional family instruction (Chuantong jiaxun sixiang tonglun)* (Wang, 2006), a thematic study on topics related to moral standard and family education; *Discussion on the history of Chinese family instruction (Zhongguo jiaxunshi lungao)* (Zhu, 2008), a historical account of family instruction from its origin to modern China; *Study on family instruction of the Hanwei and Liuchao Period (Hanwei liuchao jiaxun yanjiu)* (Kang, 2009), a historical study of family instruction for the periods Han to Six Dynasties (Liuchao, 202 – 589 BC). Tong (2013) observed that most of the transmitted Pre-Qin family instructions are instructions from senior members of the upper class to their junior clan members on how to behave as lords and senior officials. It seems that these texts perform some political and ethical functions that have great impact on the attitude towards ruling and behaviour of senior officials in early China. Fu and Shi (2008) claimed that the Pre-Qin period was the infancy stage of family instruction in China while Zeng (2006) proposed that Ji Dan (? – 1105 BC), Duke Dan of Zhou, an influential member of the early royal family of Zhou (c.11046 – 256 BC), was the founder of Chinese family instruction. A study of these ancient family instructions can provide information on how nobles perceive family education in relation to the political and social contexts of the Western Zhou period.

The *Book of Documents* is a collection of historical prose with literary beauty and political views attributed to figures of ancient China. It was one of China's oldest literary controversies, between proponents of the “New Text” version and the “Old Text” versions of the text. Its original texts were destroyed in the Qin period (221-2-6 BC) and then preserved by Fu Sheng (fl. 3rd-2nd century BC) in the Western Han period (206 BC-24 AD) while the “Old Text” version was supposedly discovered by Kongzi’s (551–479 BC) descendants Kong Anguo (ca. 156 – ca. 74

BC) in the wall of Kongzi's clan estate in the 2nd century BC. The "Old Text" version was then lost and rediscovered in the 4th century AD and became the imperial version since the Tang period (618-907). In the Qing period (1644–1912), Yan Ruoqu (1636 – 1704) demonstrated that the additional "Old Text" chapters not contained in the "New Text" version were actually fabrications "reconstructed" in the 3rd or 4th centuries AD. The excavated scripts on bamboo slips from tombs of the state Chu in Jingmen, Hubei between 1993 and 2008 are believed to date from the late Warring States period (475 BC to 221 BC) around 300 BC which predates the burning of the books during the Qin dynasty (Liao, 2001). The Guodian Chu Slips and the Shanghai Museum corpus contain quotations of previously unknown passages of the work (Liao, 2001; Shaughnessy, 2006). The Tsinghua Bamboo Slips contain the "New Text" chapter "Golden Coffer" (*Jinteng*) with minor textual differences and some chapters in the same style which are not transmitted in the received text. It also includes documents that are versions of the Old Text chapters such as the three chapters of "Charge to Yue" (*yueming*) but the contents are completely different from the chapters confirming that the "rediscovered" versions are forgeries (Tsinghua University News, 2013). In this paper, Gu Jiegang and Liu Qiyu's (2005) *Discussion, Annotation and Translation on the Book of Documents (Shangshu jiaoshiyi lun)* is used as the primary text of the *Book of Documents* as it is currently the most comprehensive study of the *Book of Documents*. Only the chapter titles and page numbers of the quotes from this book are cited in the paper. In addition, James Legge's (1960) English translation of the *Book of Documents* will be adopted with necessary revision in this paper.

Based on the *Book of Documents*, Sun and Li (1995) pointed out Ji Dan's three views on education of royal family leaders: (1) they should be educated early; (2) they should educate their family members; (3) ethic and rulership should be key learning areas for royal family leaders. These views are recorded in the chapters "Announcement to the Prince of Kang" (*Kanggao*), "Announcement about Drunkenness" (*Jiugao*), "Timber of the Rottlera" (*Zhicai*), "Against Luxurious Ease" (*Wuyi*) and "Establishment of Government" (*Lizheng*) in the *Book of Documents*. The aims of the paper are to: (1) study what instructions of Ji Dan are recorded and why they are recorded with reference to the political and social context of the Western Zhou period; (2) construct a framework to explain the function of ancient Chinese family instruction. This framework is important since ethics and ruling are the two main areas of family education in imperial China (Liu, 2002) and it helps one to understand why and how ethics and politics are integrated in the tradition of Chinese culture. This theoretical framework may be able to provide a possible answer to why the *Book of Documents* is taken as a classic textbook for nobles in the Pre-Han periods as well as for all the people in later periods.

2. The Early Family Instruction in the *Book of Documents*

The chapters "Announcement to the Prince of Kang", "Announcement about Drunkenness", "Timber of the Rottlera", "Against Luxurious Ease" and "Establishment of Government" are five family instructions attributed to Ji Dan in the *Book of Documents*. However, pointing to differences in language between the announcements and the Zhou bronzes, Kern (2009) argues that "these texts were either partially updated or wholly created not by the sage rulers of the early Western Zhou but by their distant, late-Western or early Eastern Zhou descendants who commemorated them" (p. 145). Kern also states that in addition to the "multiple layers of textual redaction that extended over many centuries into the Han times (206 BC-220 AD)" (p. 146), "all our transmitted sources speak about the early Western Zhou period are likely later idealizations that arose in times of dynastic decline and from a pronounced sense of loss and deficiency: first in the middle and later stages of the Western Zhou, that is, after King Zhao's (r.977/75-957 BC) disastrous campaign south; and second in the time of Confucius (551-479 BC) and the following half millennium of the Warring States and the early imperial period" (p. 146). The term "Mandate of Heaven" (*tianming*) which does not appear frequently in early Western Zhou bronze inscriptions appears as "singularly central and critical to the political legitimacy and religious underpinnings of early Western Zhou rule" (Kern, 2009: p. 148). In addition, the many records of Ji Dan in the *Yizhoushu (Lost Book of Zhou)* are an attempt to emphasize the great contribution and supreme status of Ji Dan (Huang, 1992). The five texts of family instruction in the *Book of Documents* are typical examples of representations of commemoration of royal descendants of the late-Western (1046–771 BC) or early Eastern Zhou period (770 – 221 B.C.). The key figures that appeared in these commemorations, King Wen (c. 1100 BC) and his son King Wu (c.1050 BC), are the two sage kings while Ji Dan is a virtuous official of the early Western Zhou period. They made great contributions to the establishment of the dynasty and are highly respected by all state lords and descendants of the royal Zhou family. Their ethical rulership associated with "Mandate of Heaven" and virtue is represented in these five chapters in order to restore the supreme political legitimacy of the royal Zhou family. In the period of late Western Zhou, the royal family lost its authority and influence over feudal lords due to breaking down of the patriarch system and rite system. The royal Zhou family is no longer respected by feudal lords and mergers are common among states. The commemorative representation of instructions of the sage

kings and virtuous officials is a way to remind members of the royal family to follow the rulership of their ancestors as well as re-informing feudal lords about the great appointment to Heaven of the Zhou family. The hermeneutic approach with reference to the social and political environment of the Western Zhou period will be adopted to interpret the instructions in these commemorative representations of Ji Dan recorded in the *Book of Documents*. The findings of the above discussion will then be used to formulate a framework of family sustainability attributed to explain the purpose and function of these family instructions.

3. Ji Dan's Instructions Recorded in the "Announcement to the Prince of Kang", "Announcement about Drunkenness", "Timber of the Rottlera", "Against Luxurious Ease" and "Establishment of Government"

Tong (2013) defined Chinese family instruction as "a major source of spiritual education from clan seniors to juniors and from husbands to wives in ancient China which aims at guiding people to understand themselves and maximize their personal potential so as to sustain their clans in the inter-connected society" (p. 205). This is a spiritual interpretation which emphasizes that the instructions are delivered from clan senior to clan juniors. In the period of Western Zhou, from perspectives of social structure and legal relation, core family (jiating) refers to a unit which is formed through mirages in which members live together and share their resources; family clan (jiazhu) refers to a unit which is formed through blood relations in which although members do not live together and share resources, they are connected with political, economic and legal responsibilities; ancestral clan (zongzu) refers to a unit in which members carry the same surnames and share just moral responsibility (Wang, 2007). In ancient times, the Chinese term "jia" always included these three meanings and from a broad sense of view, the family instruction can be defined as a teaching and learning media delivered by senior members of the same ancestral clan, family clan and small core family to their junior members. This definition is adopted in the paper.

Accordingly, the chapters "Announcement to the Prince of Kang", "Announcement about Drunkenness", "Timber of the Rottlera", "Against Luxurious Ease" and "Establishment of Government", in the *Book of Documents*, are to a great extent, commemorative representations of descendants of the royal Zhou family. In these five chapters, Ji Dan is represented as a clan senior who delivers his speeches to his clan juniors Kangshu (Ji Feng, c.1042 BC) and King Cheng (Ji Song, 1055 BC – 1021 BC; r.1042 BC – 1021 BC). The "Announcement to Prince Kang" is an announcement of appointing Kangshu (c.1042 BC), younger brother of Ji Dan, to rule the Wei State in the fourth year of his regency (Gu & Liu, 2005).

The "Announcement about Drunkenness" and the "Timber of the Rottlera" are two chapters of speech following the "Announcement to the Prince of Kang" to instruct Kangshu how to rule in an ethical way. In the "Against Luxurious Ease" it is recorded that Ji Dan reminds his nephew King Cheng not to live in ease and know about the difficulty of farming and life of poor people while the "Establishment of Government" records Ji Dan's views on how to establish governmental institution and appoint officials with reference to the history of Xia (c. 2070 BC–c. 1600 BC) and Shang (c. 1600 BC–1046 BC). It is interesting that Ji Dan, being a senior official, can teach King Cheng, the official ruler of the empire, how to manage the nation. The supreme status of Ji Dan in the mind of descendants of the Zhou family is represented here because of his great contribution to the Zhou sovereignty. This also demonstrates the supreme status of clan seniors to clan juniors in ancient China.

3.1 Personal Quality of Rulers

According to the five chapters, a ruler who wants to secure his sovereign must practise the "virtue of reverence". The "virtue of reverence" is a broad concept in the Western Zhou period which requires rulers to respect Heaven's will and ancestors, regulate themselves strictly, work hard for state affairs, be kind to the people, and only employ punishment in unavoidable circumstances. All these seem to be responses to the misbehaviour of the Yin rulers (Wang, 2009). However, not all the Yin rulers are tyrants and some of them can be role models for the Zhou rulers. In the chapter "Announcement about Drunkenness", on one hand, Ji Dan encourages Prince Kang to follow the wise kings of Yin from Tang, the Successful (Cheng Tang), down to Di Yi who have "completed their royal virtue and revered their chief ministers" (*Jiugao*, p. 1403; Legge, 1960b, pp. 406-407). On the other hand, he also reminds Prince Kang not to follow King Zhou of Yin who not only is addicted to drink but also "greatly abandoned to extraordinary lewdness and dissipation, for pleasure's sake he sacrificed all his majesty" (*Jiugao*, p. 1407; Legge, 1960b, p. 408). Ji Dan is represented as a wise and virtuous clan senior who always encourages Prince Kang and King Cheng to follow the instructions of King Wen and King Cheng in these five chapters. In the chapters "Announcement to the Prince of Kang", "Announcement about Drunkenness" and "Timber of the Rottlera", Ji Dan instructs Prince Kang how to rule the people of Yin and avoid being a drunkard while teaching King Cheng not to live in ease and how to organize the government structure and selection of officials in the "Against Luxurious Ease" and "Establishment of Government". The instructions of King Wen, King Wu and Ji Dan are represented in these speeches aiming at setting role models for descendants of the royal family.

3.2 Ideal Rulership Proposed by Ji Dan

The ideal rulership of Ji Dan is presented in four major areas: (1) education; (2) laws and punishment; (3) principle of employing officials; (4) management strategies.

In the early Zhou, “cultivation of the virtue of reverence” and “love the people” were two major principles of ideal ruling. The virtue of reverence of the ruler is reflected by his performance in the above four areas and the assessment mechanism is the feeling of the people. If a ruler performed well in the four areas, the people would feel the love of their ruler and love him in return. In the chapter “Announcement to the Prince of Kang”, Ji Dan reminds Prince Kang that: (1) if feudal lords have not educated their households, junior officials and heads of department in the state well but just apply terror and violence, they would set aside the royal charge and “in everything reverence the constant statutes, and so proceed to the happy rule of the people” (*Kanggao*, p. 1341; Legge, 1960b, p. 395); (2) the people of Yin could not be good if they receive no education. In the chapter “Announcement about Drunkenness”, Ji Dan once again tells Prince Kang:

O Feng, in our western regions, the princes of States, the managers of affairs, and the youths, who in former days assisted our ancestor (King Wen), were all able to obey his lessons, and indulge in no excess of spirits; and so it is that I have now received the appointment which belonged to Yin (*Jiugao*, p. 1403; Legge, 1960b, p. 406).

Here Ji Dan emphasizes that education is an effective way to guide officials and the people to behave properly. However, there are always cases in which the aims of education cannot be achieved and therefore laws and punishment are required. In the chapter “Announcement to the Prince of Kang” Ji Dan has delivered very detailed instructions on how to apply laws and punishment to rule the people of Yin to Prince Kang: (1) have an serious understanding of penalties and exercise the death penalty to those who consistently and intentionally commit small crime; (2) let those prison officers know and follow the principle of how to decide a case so as to well-order these penal laws of Yin; (3) put a criminal in prison for five to ten days so as to have a good examination of the case before making a decision; (4) declare laws in order to impose punishments; (5) follow the regular laws of Yin to determine a case, and adopt correct and rational laws of Yin; (6) apply penal laws laid down by King Wen to punish those unfilial and unfriendly family members; (7) arrest and kill those state officers who never carry out the national laws and injure the sovereign in a quick way according to laws; (8) punish those lords who cannot educate their own families and sub-ordinates no matter at home or abroad to observe royal orders; (9) advocate laws and decrees; (10) rule the Yin people by taking account of the laws to reward (*Kanggao*, pp. 1291-1379; Legge, 1960b, pp. 381-398). It seems that the instructions remind Prince Kang to pay special attention to apply reward in addition to punishment, let all the people know about the system of laws and punish unfilial family members and those people who do not observe royal orders. Although this announcement is specifically to Prince Kang since it is a public announcement in an appointment ceremony, all other key lords and senior officials should be presented. In this circumstance, all these instructions may also apply to the people of Zhou. In short, as stated in the “Establishment of Government”, rulers must carefully deal with punishment according to normal cases (*Lizheng*, pp. 1661-1710; Legges, 1960b, pp. 508-522).

Regarding the principle of employing officials, the chapter “Establishment of Government” records very important views attributed to Ji Dan. The basic principle is to “let us be thinking of officers of complete virtue, to regulate the people whom we have received” (*Lizheng*, pp. 1686-1687; Legge, 1960b, p. 519). In the record, Ji Dan reminds King Cheng not to employ officials just based on appearance rather than virtue or there will be no wise and intelligent ones to take up positions of the Three Ministries (sanzha): Ministry of Governmental Affairs (chengren), Ministry of Civil Affairs (changbo) and Ministry of Laws (zhunren). In the chapter, examples of Chengtang, the founder of the Shang period, and King Wen and King Wu of Zhou are quoted to demonstrate the function of these competent and virtuous ministers. Chengtang observes this principle and lets them harmonize all the people in the capital of Shang as well as display his bright virtue in every place under Heaven. It also states that King Wen and King Wu also follow this employment principle and understand the minds of the three ministers and their subordinates so as to do good things for the people according to the will of Heaven. The second principle of employing officials is to set up a government structure with clear roles and duties. It also states that in addition to the Three Ministries, the other key positions of the central government established by King Wen and King Wu are: administrator (renren), legal administrator (zhunfu), pastor (muzuo), guard (hufen), keeper of robes (zheyi), keeper of royal horses (quma), junior officer (xiaoyin), personal attendant (zuoyou xipu), overseer (baisi), and treasurer (shufu), while in the feudal states there are high and low ranking state lords (dadu xiaobai), men of arts (yiren), state officers (biaochen baisi), grand historiographers (taishi), chiefs of regions (yinbai), administer of land (situ), minister of war (sima), minister of work (sikong), and their subordinates. All these position holders must be competent and virtuous according to the record of Ji Dan’s instructions in the “Establishment of Government”.

Moreover, management strategies of rulers are also important to the safety of sovereignty. In the “Announcement to the Prince of Kang” (*Kanggao*, pp. 1291-1379) Prince Kang is reminded to be tolerant towards the people of Yin since it is the will of Heaven to recognize the royal house of Zhou and make the Yin people newborn. Based on this vision, Ji Dan instructs Prince Kang to respect those who may be respected, threaten those who may be threatened, listen to good views of the Yin people, think deeply about wise instructions of those accomplished men of Yin-shang on how to understand the people’s mind, try his best to carry on moral administration by using that to set the people of Yin at rest, remember the Yin people’s good things, and be generous to their corvee, make their clothes and food rich so that Heaven will not blame you and cast you off when the people are in their tranquillity. Since it is difficult to rule a state which holds the former sovereignty, Prince Kang is advised to be careful and cautious and always act with all his heart. In the “Timber of the Rottlera” (*Zicai*, pp. 1421-1430), Ji Dan tells Prince Kang that a king should establish lords, educate and enlighten the people, and the key to educate lords and officials for a king is to enlighten the people and always put the people’s heart at rest. According to the instructions, if Prince Kang could rule the people of Yin in such a way, he could keep the people of Yin from generation to generation.

The main instructions of “Against Luxurious Ease” (*Wuyi*, pp. 1530-1552) are to follow the previous virtuous kings of Yin and Zhou and not to rule the people in luxurious ease. In addition, in the chapter, King Cheng is encouraged to be dignified in manner and held in awe and veneration, taking the decree of Heaven as the standard to rule the people with respect and caution, understand the difficulty of farmers and the people, speak carefully to harmonize the people, observe the patriarch system, and be mild, kind and respectful. King Cheng is also reminded not to indulge in sightseeing, ease and pleasure, excursion and hunting, and let the people pay tribute or taxes for their luxurious living.

3.3 Aims and Beliefs of the Ji Dan’s Family Instruction in the Book of Documents

Why are the family members of the royal Jis keen on sustaining their sovereignty? This question can be answered from materialistic and spiritual perspectives. The kings of Zhou are owners of all resources in the world including people and land. Once you can control resources, you can control the lives of yourselves and other people, which means authority. This is a matter of survival as if you have resources you are strong enough to protect yourself and others. The Jis family was a strong leader of various tribes in the west during the Shang period. After taking over the sovereignty of the Shang, the Jis family established the Zhou dynasty and became the leader of all tribes. This supreme status ensured rich materialistic life and authority for the Jis family. To maintain the family’s sovereignty is the duty of all family members as it means continuation of the royal family. In that period, defeated tribes were taken as slaves and sacrifices for worships and burials (Wang, 2009). The loss of sovereignty does not only mean loss of resources but also means the risk of turning whole tribes into slaves and the extermination of an entire tribe. Hence all members have the obligation to safeguard the status of the royal family. From an ethical perspective, the concept of filial piety (*xiao*) carries three major functions in ancient China: (1) to make parents honourable; (2) not to put parents in blame; (3) to support parents’ living (Kang 1992). The first two functions can be grouped together as they are related to the prestige of family while the third regards how to love parents within the family. In section one of “Li Lou” in the *Book of Mengzi*, it states that “There are three things which are unfilial, and to have no posterity is the greatest of them” (Liu, 1997, p. 2723; Legge, 1960a, p. 313). It is important to have male descendants to carry on the family name of the father’s side as they are expected to worship their ancestors in temples and further develop their ancestors’ great achievement (Kang, 1992). This concept has a strong impact on the mindset of many people in ancient and even contemporary China.

Based on these two materialistic and ethical rationales, royal family members have to try their best to sustain their sovereignty. This aim is supported by two beliefs: (1) observe Heaven’s will; (2) love the people. The tribe of Zhou was under the rule of the Shang which linked the natural concept of Heaven (*tian*) with the Upper God (*shangti*) and attributed all things to orders of Heaven (*tianmian*) (Liu, 1996). These beliefs are in fact a response to the misbehaviour of the Xia and Yin rulers and the tradition of witchcraft and theocracy. The Xia is a nation of various tribes. At that time, the concepts of nation, tribe and clan were not clear and the tribe and the nation belonged to a combined conception (Wang, 2009). It was believed that the sovereignty was controlled by the power of witchcraft and theocracy evidenced by records in the *Book of Mozi*, the *Classic of Mountains and Seas* (*Shanhai jing*), the *Records of the Grand Historian* (*Shiji*), the *Discourses of the States* (*Guoyu*) (Wang, 2009). In the period of Shang, the people believed that there were three categories of Gods: (1) *ti*, the supernatural god who controls everything; (2) natural gods such as soils, rivers and mountains; (3) ancestral gods including virtuous kings and capable officials which is a strategy to consolidate sovereignty by linking it up with God and ancestors of the Yin. Wang (2009) states that this kind of linkage not only turns some leaders of Yin into tyrants

but also leads to collapse of the Yin's sovereignty and brings the belief of witchcraft and theocracy from the peak to an end. In order to consolidate sovereignty, leaders of early Zhou conceptualized Heaven's decree in a way based on the virtue of rulers to justify their taking over of the Yin. In the chapter "Announcement of Duke Shao" (*Shaogao*) in the *Book of Documents*, it states:

We should by all means survey the dynasties of Xia and Yin. I do not presume to know and say, "The dynasty of Xia was to enjoy the favouring decree of Heaven for so many years," nor do I presume to know and say, "It could not continue longer." The fact was simply that, for want of the virtue of reverence, the decree in its favour prematurely fell to the ground. Similarly, I do not presume to know and say, "The dynasty of Yin was to enjoy the favouring decree of Heaven just for (so many) years," nor do I presume to know and say, "It could not continue longer." The fact simply was, that, for want of the virtue of reverence, the decree in its favour fell prematurely to the ground. The king has now inherited the decree - the same decree, I consider, which belonged to those two dynasties. Let him seek to inherit the virtues of their meritorious sovereigns (*Shaogao*, p. 1441; Legge, 1960b, p. 429-430).

Here, Ji Shi (Duke of Shao, died ca. 1000 BC) queried Heaven's decree by referring to the fall of Xia and Yin and the rise of Zhou. This quote demonstrates that the Jis believe that Heaven will get back its decree if the chosen one does not have the "virtue of reverence". This view also appears in another chapter "Announcement about Drunkenness":

I (Ji Dan) have heard it said likewise, that in these times the last successor of those kings (of Yin) was addicted to drink, so that no charges came from him brightly before the people, and he was reverently and unchangingly bent on doing and cherishing what provoked resentment. Greatly abandoned to extraordinary lewdness and dissipation, for pleasure's sake he sacrificed all his majesty. The people were all sorely grieved and wounded in heart, but he gave himself wildly up to spirits, not thinking of ceasing, but continuing his excess, till his mind was frenzied, and he had no fear of death. His crimes accumulated in the city of Shang and though the extinction of the dynasty of Yin was imminent, this gave him no concern, and he wrought not that any sacrifices of fragrant virtue might ascend to heaven. The rank odour of the people's resentments, and the drunkenness of his herds of creatures, went loudly up on high, so that Heaven sent down ruin on Yin, and showed no love for Yin - because of such excesses. There is not any cruel oppression of Heaven; people themselves accelerate their guilt, and its punishment (*Jiugao*, 1407-1408; Legge, 1960b, pp. 408-409).

In this quote, Heaven gets back the decree from Yin because of King Zhou's lewdness and misbehaviour of the Yin people. This common belief of early Western Zhou is recorded in most chapters attributed to early Zhou leaders in the *Book of Documents* as well as in records of the *Book of Songs* (*Shijing*) and bronze inscriptions in the Western Zhou. Typical examples are the poems "King Wen" (wen wang) and the "Da Ming" (*Daming*) of the *Book of Songs* (Liu, 1997: 502-506, 506-509) and the Tripod of Duke Mao in the King Xuan Period of Western Zhou (from 827 to 782 BC). (D.C. Lau Research Centre for Chinese Ancient Texts, 2014a). Heaven only appoints virtuous people to be lords of the people. The Zhou family is chosen to take over the Yin family because of the virtue of King Wen (Yang, 2008). Wang (2009) describes the emphasis on "virtue of reverence" as the basic principle of ruling is a move from theocracy to humanism and interprets the "virtue of reverence" in a broad sense to cover attitudes and behaviour such as to respect Heaven and ancestors, to love relatives and friends, to dedicate to ruling, to be careful in applying punishment, to promote education and to advocate virtue.

How can "virtue of reverence" be achieved? The people of Zhou learned from the fall of Yin that they had to love the people if they wanted to demonstrate their "virtue of reverence" to Heaven. In section one of the "Great Declaration" (*Taishi* one), it states:

I (King Wu) lead the multitude of you to execute the punishment appointed by Heaven. Heaven compassionates the people. What the people desire, Heaven will be found to give effect to (Lu, 1997, p. 181; Legge, 1960b, pp. 287-288).

King Wu thought that Heaven would follow the will of the people; if the people were for you Heaven was for you too and vice versa. In the second section of the "Great Declaration", it states "Heaven sees as my people see; Heaven hears as my people hear." (Lu, 1997, p. 181) This means that the feeling of people is a mirror of ruler's "virtue of reverence". If their rulers take care of their people, their people will display appreciation for Heaven and then the rulers can keep Heaven's decree. King Wu thought that people's discontent was seen and heard by Heaven and therefore he had to lead the alliance to conquer Yin. Based on this belief, Prince Kang is reminded to love the people by Ji Dan "as if you were guarding your own infants, and the people will be tranquil and orderly"

(Kangao, p. 1323; Legge, 1960b, p. 389). Ji Dan is recorded to reiterate the importance of loving the people in the chapter “Announcement about Drunkenness” which states “the ancients have said, ‘Let not men look only into water; let them look into the glass of other people’” (Jiugao, p. 1409; Legge, 1960b, p. 409). From the speeches of early rulers of King Wu and Ji Dan discussed above, Heaven’s will is linked up with the people’s will which is in line with the proposal that there is a shift from theocracy to humanism during the transition period from Shang to Zhou. This kind of humanism requires the Zhou rulers to have a certain specific personal quality and rulership studied above.

4. A framework of Family Sustainability of Ji Dan’s Family Instruction

As a senior clan member in the royal family of Early Zhou, Ji Dan is represented as a capable and virtuous official who has clear expectations of his clan juniors as discussed above. As discussed in previous sections, the main instruction in these five chapters of family instruction can be summarized in a framework as follows.

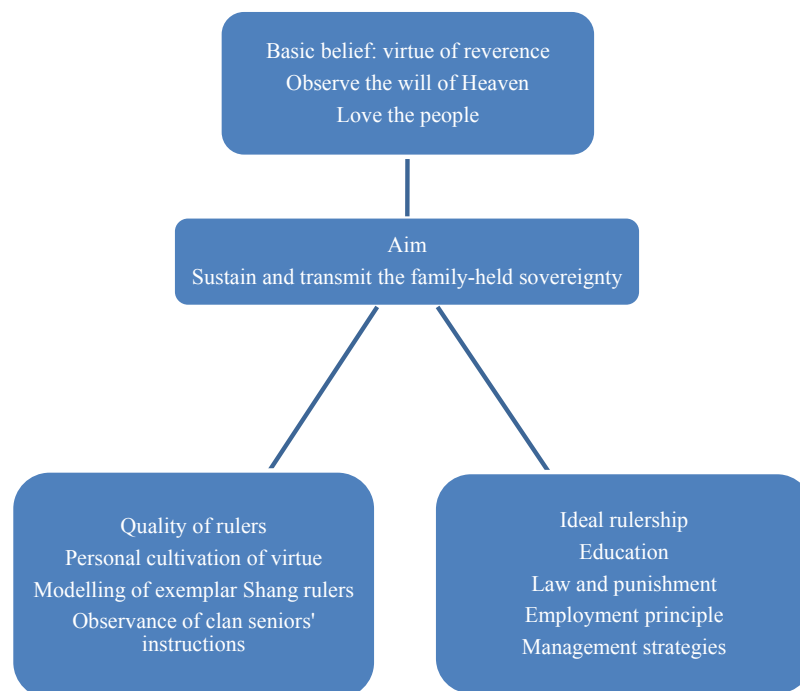


Figure 1. Framework of family sustainability in Ji Dan’s family instruction

The aim of Ji Dan’s instructions is to sustain and transmit the family held sovereignty. To actualize the aim, two basic beliefs “observe the will of Heaven” and “love the people” based on “virtue of reverence” are proposed to support the aim with a clear expectation of the quality of rulers and rulership as discussed in the previous sections. This functional framework is specifically applicable to the royal family of Zhou, the Jis.

Ji Dan is a holy figure of the royal Jis family of Zhou and his instructions represented in the five chapters are likely an idealization of rulership commonly held by Ji Dan’s descendants in the declining period of the royal family (Kern, 2009). Why are Ji Dan’s instructions represented in such a supreme status? It may be because the descendants of the royal family want to restore the feudal and patriarch systems adopted by Ji Dan to secure the declining sovereignty of the royal family of Zhou. At that time, the royal family was the owner of all resources in the nation and by implementing the feudal and patriarch systems, ownership of resources and roles could be defined clearly without disputes. Under these systems, all feudal lords were under the supreme ruling of the kings of Zhou. However, in the late Western Zhou and Eastern Zhou (770-221 BC) periods, this supreme status of the ruler family was challenged by strong feudal lords and mergers of states were common because of the increasing population of states (Jian, 1999). It is possible that under this political context, members of the royal family want to reiterate the legitimacy of the Jis to their descendants and other feudal lords through the speeches of Ji Dan. As a clan senior of the royal family, Ji Dan always emphasizes that King Wen is chosen by Heaven to take up the sovereignty and what he has done is just follow the ways of his ancestors King Wen and King Wu in the *Book of Documents*. In the chapter “Document on offering sacrifices to Heaven” (*Fengchan shu*) of the *Records of Grand Historian (Shiji)*, it

states that Ji Dan worships Heaven as well as King Wen (Han, 2004) and the inscription on the Tianwang gui, a ceremonial food vessel of King Wu for worshipping King Wen, also records that King Wen is monitoring his descendants in Heaven (D.C. Lau Research Centre for Chinese Ancient Texts, 2014b). All these prove that the people of Zhou hold a tradition of worshipping ancestors. This tradition established in the period of Shang was further developed by the early leaders of Western Zhou to strengthen the supreme status of clan seniors based on blood relation. The deification of ancestors is in fact the deification of the eldest son of the great clan or the royal family (dazong) (Liu, 1996). All other branches of the same clan are small clans (xiaozong) which are subordinates of the great clan. According to the patriarch system, only the eldest son of the great clan can be the successor of ancestors who can perform worship to Heaven and ancestors. This is a clear political and social class system which can settle the problem of “ownership” of resources and authority as well as advocate the supreme status of clan seniors. Under this political and ethical context, the supreme status of family instruction of clan seniors is emphasized which bears special meaning in times of dynastic decline and from a pronounced sense of loss and deficiency. The “updated” or “created” speeches of Ji Dan and other early Zhou leaders in the form of family instruction is a way to restore the authority of the royal family. Hence from this perspective, Kern’s view on the time of these speeches of early Zhou leaders recorded in the *Book of Documents* can be confirmed.

The feudal system in the Western Zhou was based on blood relation in which the kings of Zhou belonged to the great clan (dazong) and were leaders of all small clans. Hence the kings and officials of the Western Zhou were all under the same clan or the same big family and that was a fusion of political and ethical relation. This kind of fusion also created class differentiation and role expectation. Within the same clan, members of small clans were all subordinates of the king (great clan) while within the small clans, members were also subordinates of their clan leaders according to their ages and roles. The smallest unit is what we mean core family nowadays which is formed by a couple and their children. The ethical behaviour of filial piety (xiao) is an ethical mechanism based on blood relation to maintain the harmony of the whole clan and the transmission of sovereignty. Filial piety is a core term in the ethics of Zhou which in general means respecting your ancestors, clan seniors and parents, and supporting their living (Liu, 1996; Zhou, 2006). In the chapter “Announcement about Drunkenness”, it records Ji Dan’s saying:

Ye people of the land of Mei, if you can employ your limbs, largely cultivating your millets, and hastening about in the service of your fathers and elders; and if, with your carts and oxen, you traffic to a distance, that you may thereby filially minister to your parents:- then, when your parents are happy, you may set forth your spirits clear and strong, and use them (*Jiugao*, p. 1388; Legge, 1960b, p. 404).

Prince Kang is reminded by Ji Dan to educate the people of Yin whom they conquered. No matter whether farming or doing business far away they must take care of and respect their parents and elders. In this regard, observing clan seniors’ and parents’ instructions is a kind of filial piety practice. This can explain why the distant descendants of King Wen, King Wu and Ji Dan put up their ancestors’ instructions to restore the authority of the royal family. In another chapter “Charge to the Marquis Wen” (*Wenhou zhi ming*), it records the king’s words:

Uncle Yi-he, you render still more glorious your illustrious ancestor. You were the first to imitate the example of Wen and Wu, collecting (the scattered powers), and continuing the all-but-broken line of your sovereign, your filial piety goes back to your accomplished ancestor, and is equal to his. You have done much to repair my losses, and defend me in my difficulties, and of you, being such, I am full of admiration (Lui, 1997, p. 254; Legge, 1960b, p. 618).

The meaning of “your filial piety goes back to your accomplished ancestor” (zhuixiao) is to follow up the works of their ancestors that is to maintain their sovereignty. Another key ethical concept with a close relation with filial piety in this period is paternal concern (ci) which refers to cultivation and care for children by the father. In the chapter “Announcement to the Prince of Kang”, Ji Dan reminds Prince Kang:

O Feng, such chief criminals are greatly abhorred, and how much more detestable are the unfilial and unbrotherly! - as the son who does not reverently discharge his duty to his father, but greatly wounds his father's heart, and the father who can no longer love his son, but hates him; and the younger brother who does not think of the manifest will of Heaven, and refuses to respect his elder brother, and the elder brother who does not think of the toil of their parents in bringing them up, and is very unfriendly to his junior (*Kanggao*, p. 1336; Legge, 1960b, pp. 392-393).

The role expectations of father, son, elder brother and younger brother are stated in the paragraph. The senior members of the family and clan should love and care for their juniors while the junior members should also love and respect their seniors. Hence, senior members of the same clan and family are expected to care about their juniors’ personal development and contribution to the clan and family. Family instruction is a medium for them

to show their love and care. To demonstrate their respect to the seniors, juniors should normally follow their seniors' instruction. In this paragraph, those elder brothers who do not care about their juniors are taken as "unfriendly" (buyou). Although in this paragraph, only male members are referred to, the concept of filial piety also extends to the service provided by wife to husband before and after death in the period of Western Zhou (Wang, 1992).

The concepts of filial piety and paternal concern are two key ethical elements in this framework of family sustainability. This framework is not only valid for the sustainability of the royal family of Zhou as it can also be extended to family instruction of senior officials and common people by replacing its two basic beliefs with Confucian belief of benevolence (ren). The personal quality such as cultivation of virtue, modelling exemplar rulers and observance of clan seniors' instructions can be taken as Confucian ethical quality while the use of education, law and punishment, employment principles and management strategies are general administrative skills of officials. Wang (2006) pointed out that Confucianism was the major philosophy of Chinese family instruction which emphasized the responsibility of family members to try their best to sustain their family and clans. Zhu (2008) argued that the issue of personal cultivation in ancient China was in fact a fusion of family management and state ruling. This framework seems to be in line with their views and helps to explain why the *Book of Documents* was adopted as one of the five classics that students have to study.

5. Conclusion

In the above discussion, the five chapters of royal family instruction in the *Book of Documents* attributed to Ji Dan are studied in terms of educational aim and its philosophical beliefs, personal quality and ideal rulership with reference to the political and social context of the Western Zhou period. A framework of family sustainability which is supported by the ethical concepts of filial piety and paternal concern is constructed according to the findings. This framework can be extended from the royal family instruction to family instruction of officials and common people as sustainability of family is the major responsibility of Chinese and cultivation of virtue and development of administrative skills are still two key areas of education for Chinese. The relationships among royal family instruction, officials' family instruction and commoners' family instruction can further be explored to sort out the why and how the royal family instruction was transmitted to different social classes. The answer may help us understand more cultural variation of social class in the Pre-Qin period. In addition, further study of how ethical concepts such as filial piety and paternal concern in the Western Zhou family instruction are adopted by the Pre-Qin Confucianism may provide a new understanding of Confucianism.

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