Volume 6, No. 2 (2018)

International Review for Spatial Planning and Sustainable Development

SPSD Press from 2010

SPSD Press from 2010

International Review for Spatial Planning and Sustainable Development

For investigation regarding the impact of planning policy on spatial planning implementation, International Community of Spatial Planning and Sustainable Development (SPSD) seeks to learn from researchers in an integrated multidisciplinary platform that reflects a variety of perspectives—such as economic development, social equality, and ecological protection—with a view to achieving a sustainable urban form.

This international journal attempts to provide insights into the achievement of a sustainable urban form, through spatial planning and implementation; here, we focus on planning experiences at the levels of local cities and some metropolitan areas in the world, particularly in Asian countries. Submissions are expected from multidisciplinary viewpoints encompassing land-use patterns, housing development, transportation, green design, and agricultural and ecological systems.

IRSPSD INTERNATIONAL
ISSN 2187-3666 (Online)

International Review for Spatial Planning and Sustainable Development
https://www.jstage.jst.go.jp/browse/irspsd
http://spsdpress.jimdo.com/volumes/
http://dspace.lib.kanazawa-u.ac.jp/dspace/bulletin/irspsd

SPSD

International Review for Spatial Planning and Sustainable Development

Volume 6, No. 2, 2018

SPSD Press from 2010

International Review for Spatial Planning and Sustainable Development

SPSD Press from 2010

International Review for Spatial Planning and Sustainable Development,
Volume 6 No.2, 2018

Content

International review for spatial planning and sustainable development, Vol.6 No.2 (2018), 1-11
ISSN: 2187-3666 (online)
DOI: http://dx.doi.org/10.14246/irspsd.6.2_1

From Concept to Action: Practice and Thinking in Urban Community Development and Community Planning in Chongqing

Ling Huang[1*], Yu-Ze Dan[1], Jian-Feng Xu[2], Miao Tong[1]
1 School of Architecture and Urban Planning, Chongqing University
2 Chongqing BOA Design Institute, Co., LTD.
** Corresponding Author, Email: hwawa1025@vip.163.com*

Received: May 11, 2017; Accepted: Aug 9, 2017

Key words: Community development, Community planning, Community empowerment, Public participation, Planner role, Chongqing

Abstract: Entering an era of a new normal, of emphasizing "people first" and "internalized development", the Chinese urbanization process is shifting from "incremental construction" to "stock management". Therefore, a new approach is required to respond to this change, where urban development is characterized by the slogan, "back to daily life", and problems of urban construction are reviewed on a community scale. Focusing on Yuzhong district, Chongqing, "community development" is a relatively new word. In 2010, the Yuzhong local government improved the regional Community Environmental Renewal and finished it by the end of 2011. Following this, Yuzhong district entered into a phase of urban community development. Based on five different research papers and practical projects in community development between 2010-2015, this paper reviews and analyses the process of community development and community planning in Yuzhong district; the changes reflect the transformation of the demand from urban development on one hand, and the transformation of planning from traditional spatial planning to comprehensive social on the other. Through comparative analysis of key issues, planning objectives, planning ideas, planning strategies, planning methods, public participation, and planning characteristics, this paper proposes starting with community daily life, utilising the community development planning platform to realise idea transformation and action innovation across multiple aspects, such as new methods of knowledge production, community development planning content, community management participation, planner roles, and education.

1. INTRODUCTION: IMPORTANCE AND URGENCY OF THE COMMUNITY DEVELOPMENT CONCEPT AND ACTION INNOVATION IN CHONGQING

China's city development has rapidly ushered in a "new normal". Under new conditions, development and innovation is restricted by traditional concepts and behaviours. The new national urbanization strategy prioritises people-oriented development (Qiu, 2012). The Third Plenary Session of the

18th CPC Central Committee aimed to modernise governance capacity, which required reflection upon the original urban construction concept and mode of development. This was not only a transformation of the national strategy, but also a novel concept for the urban and rural planning discipline. The rapid urbanization of China over the past 30 years places more emphasis on incremental construction than stock development, which leaves a large number of established community assets in cities ignored, or potentially seriously damaged, and further leads to the decline of community identity and the loss of urban characteristics. Ignorance of people and the daily living space of their communities, compounded by a lack of scientific understanding of the value of community assets, is one of the main reasons for these consequences. This and the social and human assets are in fact the basis for the sustainable development of community. As Churchill (1945) said, "The city is the people". Returning the focus to people's daily living space and re-examining the urban construction issue from the social perspective is of paramount importance in dealing with these new changes. Due to the omission of planning content at the community level in the legal urban and rural planning systems of China, it is particularly urgent to explore and summarise the corresponding community theories and planning methods. The factors motivating community development mainly include governmental, market and social forces. In China, traditional community development and construction mainly relies on government. Market forces have appeared gradually in some developed markets, but social forces have remained weak.

Due to geographical, economic and cultural differences, the community development conditions differ between cities and regions in a myriad of ways. Even different communities belonging to the same administrative jurisdiction vary from each other due to the different community structures and construction times. Thus, it is difficult for the Procrustean bed of policies, standards, objectives, planning ideas, methods and implementation strategies of old to effectively solve realistic community issues. Taking Chongqing as an example, in the past 5 years, over 20 million square metres of shantytowns in cities with hidden dangers have been removed, but there are still over 20 million square meters of old communities of moderately good quality, some of which have good locations, spatial features, cultural origins, and traffic accessibility. It is necessary to fulfil the potential of those communities and promote industry exploration, space optimisation, facility optimisation, service innovation, and generally people's livelihoods. Compared with other more developed cities such as Shanghai, Guangzhou and Shenzhen, Chongqing has been lagging behind in community development and planning for nearly 10 years. Chongqing has the typical characteristics of a mountain city. Its urban community is a complex and comprehensive social ecological system. Due to its terrain complexity and multidimensional structure, it has diverse, sensitive, and unique asset values, therefore, it is now urgent to explore the endogenous dynamic mechanisms and planning methods of urban community development in Chongqing to provide a scientific basis for community construction and city regeneration in the future.

After nearly 5 years of continuous urban community planning practice in Chongqing, it has become evident that, in order to achieve community improvement, "community assets" in community development planning significantly include residents' situations and differences. At present, the community development concept of "needs-based" to "asset-based" transformation, promoted by the UN, reflects the notion that the coupling of

economics and sociology can more effectively promote community development (referred to as ABCD (Phillips & Pittman, 2009; Huang, 2012). This paper attempts to organise the transformation process of Chongqing's urban community development from concept to action and also explores a community planning method based on the characteristics of local community assets (with the ABCD concept), through to a comprehensive comparison of the community practice projects in Chongqing between 2010 and 2015.

2. COMPREHENSIVE COMPARISON AND ANALYSIS OF COMMUNITY PRACTICE IN THE YUZHONG DISTRICT OF CHONGQING OVER THE FIVE YEARS

This research has been conducted from 2010 until 2015 and is informed by five community planning projects at the three levels of district, street, and community in Chongqing, over four stages of contemporary urban community development and planning, and through an important period of transformation from community-based spatial planning to comprehensive planning of a community-based society (Table 1).

Stage 1 was a cultural renaissance strategy in 2010. The pilot research on the improvement of the living community in the Yuzhong district of Chongqing (Jialingqiaoxicun and Dajingxiang) attempted to use the concepts of cultural capital and social capital to realise spatial and environmental improvement in old communities. It was the first of Chongqing's transformations from a large urban public space to a distinctive daily community living space. Two communities became city-level demonstration points, in which Jialingqiaoxicun was built into the national 3A scenic spot in 2014, after five years of community governance and innovation.

Stage 2 was planning the distribution of vendors' stands on the secondary trunk road and in the back streets of the community in Yuzhong district, Chongqing in 2011. The project emphasised public participation (including governance, urban management personnel, vendors, residents and experts), and acknowledged the existence of the informal economy and the demands of the community's people, allowing for the participation of planners in the development of the community space governance policy and its implementation at the community planning level; this further explored the content and methods of community planning and transformed the role of the planner. The concept of community was thereby established.

Stage 3 was the community development planning of Shiyoulu sub-district in Yuzhong district, Chongqing in 2013. The project was the first urban community development planning project in Chongqing, in a strict sense. According to the asset-based community development concept, through full investigation of the community assets, it put forward a comprehensive community development and action plan for two levels of community space optimization and the community governance strategy. At the same time, it allowed for the planner to organise public participation in the whole process, which was vigorously supported by community residents.

In 2018, the Minlecun Community Action Plan is being implemented as Minlecun is the demonstration site for community governance innovation in Yuzhong district. This planning process is the beginning of dynamic

mechanism research on community assets and the application of community planning.

Stage 4 was planning the distribution of sanitation facilities in Yuzhong district of Chongqing, beginning in 2014. Contending with the reality that Yuzhong district can only rely on stock for development, the project begins from the community perspective, and seeks to coordinate the spatial configuration of sanitation facilities and future urban and community space governance together with GIS integration technology and a Chongqing cloud technology platform; it is based on surveys and quantitative analysis of sanitation facilities in Yuzhong district and the community's demands. It is a specific action which applies new ideas, technologies and methods to community research and city stock planning and will be incorporated into detailed regulatory urban planning under the demand of full coverage of urban and rural planning in Chongqing. At the same time, a research project on the economic development and comprehensive improvement of street and lane spaces in three sub-districts, Lianglukou, Shangqingshi and Caiyuanba, began in 2015. This project emphasizes the collaborative development concept of economic development, spatial optimisation and community governance in streets and communities, and explores local paths.

Table 1. Comprehensive Comparison of Community Research and Practice Projects in Yuzhong District of Chongqing between 2010 and 2015: from Spatial Planning to Social Comprehensive Planning

Time	Project	Main Problems	Planning Goal	Planning Concept	Planning Strategy	Planning Method	Participation	Characteristic
2010	Jialingqiaoxicun and Dajingxiang community renewal	The community environment is dirty and messy; the community culture is rich but ignored.	Community environmental quality improvement based on cultural resources	Digging, demonstration and utilisation of community cultural assets	Construction of the community culture and community life line	Real-time planning and field design	Government department, street, community, residents, experts and constructors	Research first, spatial planning and design foremost
2011	Planning distribution of vendors in the back streets of communities	A large number of mobile stands affect the appearance of the cityaesthetic andit is difficult to manage them.	Promote mobile stands as the movable cultural landscape of the city	Spatial configuratio-n of informal economy	Distribute and manage mobile stands at different times, areas, categories and levels	Field planning	Government department, street, community, urban management personnel, mobile vendors, experts and residents	Field survey, space governance
2013	Community development planning in Shiyoulu sub-district	Contradictions develop between economic development, community fairness, and old and new community development; there is a need for change in community governance.	People-oriented community space optimization, and asset-based community governance upgrading strategy	Asset-based community development concept	Space optimization and community governance upgrading strategy	Community asset investigation, community development planning and community action plan	Government department, street, community, residents and experts	Trial of comprehensive planning of the spatial aspects of community activities
2014 - 2015	Planning distribution of sanitation facilities	Quantity and quality of facilities under the stock planning condition; non-identificat-ion of facility service	Comprehensi-vely use and integrate the stock facility resources, rationally configure new facilities, and efficiently use the social facilities	Asset-based community development concept	Effective social governance strategy, combining rational configurati-on of the direct environmen-tal sanitary facilities and open service of social, environmental, and	Investigation into the environmental and sanitary facility assets in the community, investigation of people's demand for them, and new facility planning and open facilities in society	Government department, street, community, residents and tourists	Starting at the scale of community, combining with successful management and including these successes into the planning system

					sanitary facilities together			
2015	Economic development and comprehensi-ve improvement of street and lane spaces in three sub-districts, Lianglukou, Shangqingshi and Caiyuanba	Fragmented and low-quality urban street space and industry	Specific street development positioning, balance of street space, economic development and community life	Asset-based community development concept	Street space optimization and governance strategy focusing on different aspects, such as life, economy, landscape and culture	Street asset investigation and field planning	Government department, street, community, residents and tourists	Combination of spatial improvement and economic development

Overall, as the only completely urbanised region in Chongqing, Yuzhong district initially faced the problem of urban stock development. Community is not only a space of mounting problems but also a place for breakthroughs of transformation and innovation. A good community should meet five standards: it should be full of vitality; it should have one or more spaces of assembly or social centres; it should have a collective consciousness; it should have an environment that promotes social and cultural atmospheres that are cherished by the people living in it; and, finally, the ultimate goal of community development, planning and construction, it should be promoted by the people living in it. Yuzhong district government completed the spatial environmental improvement of 72 communities and achieved initial results at the end of 2011, essentially realising the first step of "providing the clean, fresh and vibrant daily living space for residents" (Figures 1 and 2). The distribution planning of mobile stalls should include informal economic activities in the planning of space and have an integrated focus on beauty and harmony through new innovations in urban cultural landscape shaping (Figures 3 and 4). The aim of community development planning is to produce comprehensive sustainable community development strategies that can improve the community environment; community governance services must optimise community space through the planning platform, and gradually carry out and improve it through the action plan (Figure 5 and 6).

Figure 1: The central garden of Jialingqiaoxicun after the spatial environmental improvement

Figure 2: The central square of Dajingxiang after the spatial environmental improvement

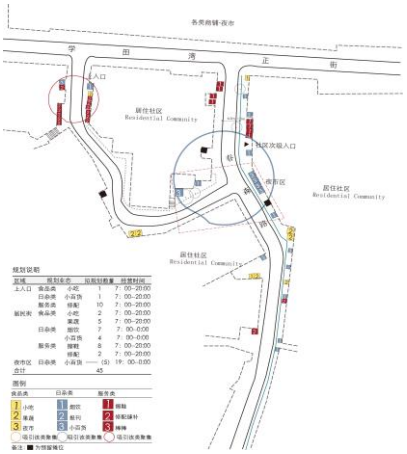


Figure 3: The planned distribution of mobile stalls on Chunsenlu.street

Figure 4: The mobile stalls—city sights on the go.

Figure 5: The pep rally of Meijianxincun during Shiyoulu sub-district community development planning.

Near-term Action Plan					
Service platform	Service Idea	Service Type	Service Item	Reference Pictures	Urgency
Senior Residents Service	Care for the older , as all will be old.	Housekeeping Centre	cooking, washing, cleaning		Class A
			personal care ,companion		
			shopping service		
			appliance repairing		
		Health Centre	health care service		Class B
			education service		
		Recreation Centre	reading, chatting, chess games		Class C
Public Service	A pleased resident A warm family A harmonious community	Community Affair Center	health insurance, welfare and other public services		Class A
		Community Service Center	hotline		Class A
			agency		
			express		
			journal		

Figure 6: The near-term governance plan of the Minlecun Community Action Plan.

Planning of sanitation facility distribution is the integration and deployment of facility management at the three levels of city, district, and community following the strategies outlined in research on temporal and spatial behaviour based on the existing stock conditions in Yuzhong district;

it looks at the accessibility of mountain communities, where walking is the standard mode of transport, and appropriately identifies construction land with the aim of maximising social public facilities in order to truly achieve the best coordination of space and policy planning. For three streets in this community, economic development and comprehensive spatial improvement aims at the development of back street economies, treating this as the starting point for improving the vitality of streets and lanes; the development modifies the street landscape with respect to the local culture, associating the space, economies and culture with the regional development of the city and shaping the structural network of related cities at the same time. This is the benefit of comprehensive planning of social space. The five-year community development process is a microcosm of the city development in Yuzhong district. From focusing on material space to social space, from updating concepts to method diversification, to action implementation, it uniquely responds to the time based requirements of shaping a walkable city.

3. LOCAL THINKING: COMMUNITY CAPACITY BUILDING - FROM CONCEPT TO ACTION

Throughout the community development and planning processes in China and the West, different countries and regions have their own special national conditions and geographical backgrounds, including at the level of political systems, economies, and cultures. The clear regional differences between communities dictate the necessity and importance of locally relevant community development. A target of sustainable community development is the construction and improvement of the capacity of the community, which is called community capacity building, the process of identifying, protecting, cultivating and constructing community assets. As it is the best method for sustainable community development, community planning should determine planning concepts, methods, content, procedures, organisational form, and achievement evaluation according to the actual situation so as to derive specific strategies and action plans.

3.1 Concept Transformation: New Interdisciplinary Knowledge Production Mode

Facing the accelerated normalisation of urban stock development, it is a priority to adapt our thinking and recognise the qualitative change of the new mode of knowledge production (Mode 2), as compared with the traditional mode (Mode 1). The fundamental change has been from a mono-disciplinary to multidisciplinary approach. Although Mode 2 does not completely replace Mode 1, it almost entirely distinguishes itself from Mode 1 in all aspects. In Mode 2, many actors interact with each other closely through the knowledge production process, which means that knowledge production is more socially accountable (Gibbons et al., 1994). Mode 2 lays the foundation for theories and methods to solve complex problems in community development.

Key theories affecting and guiding community development include the social capital theory, functionalism theory, conflict theory, symbolic interaction theory, communicative action theory, rational choice theory, and the structural theory of Giddens (Phillips & Pittman, 2009). These correspond to the aspects of community development which have been

emphasised: relation, structure, power, significance of sharing, communication for change, motivation for making decisions and integration of various irrelevant relations and paradoxes.

In 1993, J. Kretzmann and J. McKnight first put forward the "asset-based community development" model (hereinafter referred to as ABCD) in the book *Building Communities from the Inside Out: A Path toward Finding and Mobilizing a Community's Assets*. This presents a positive, outward-looking perspective of the process theory (Phillips & Pittman, 2009; O'Leary, 2005). Compared with the previous needs-based or deficits-based approach, the ABCD model begins not from the epistemological problems and needs of community, but from the community's assets or advantages. At the operating level, it does not investigate the community's needs or define the problems first, but identifies the community's assets and advantages with the key work of clarifying a "community capacity inventory" or "community asset map" (Wen & Huang, 2008; Phillips & Pittman, 2009; Chaskin et al., 2001; Huang, 2012). The community development strategy is focused on community asset building (Green & Goetting, 2010). Community assets are divided into three essential forms: physical, human and social assets, where other asset forms can be derived from these (Phillips & Pittman, 2009; Huang, 2012). Both developed and developing countries actively promote the ABCD model. Practice has proven that it is effective for rebuilding community economies, strengthening social integration, and promoting sustainable development of the community (Sherraden & Ninacs, 1998; Shaffer, Deller, & Marcouiller, 2006).

The above theory and "asset-based community development" idea is the theoretical foundation and basis for exploring the local direction of community development and planning in China.

3.2 Contents of Community Planning: Stock-based, Practical and Feasible

Firstly, the investigation of community assets focuses on three aspects, namely, community materials, human, and social assets, in order to analyse the spatial distribution of community assets (the community asset map) and obtain the community assets inventory. It is also necessary to investigate the needs of community residents, analyse the problems and development potential of the community on this basis, and, finally, develop the community planning goals and strategy through a dynamic effect analysis and evaluation of community assets.

The second step is the completion of the comprehensive planning of the community, including spatial construction planning and community governance planning, with an emphasis on planning coordination between the optimization and governance of community space.

The last step is the development of the community action plan and gradual implementation of the goal of comprehensive planning of the community through partitions, pilots and other forms. Regarding the case of Chongqing, it is recommended the comprehensive community planning be completed at the street level and scope the action plan to the level of community jurisdictions, which will help the overall systematic management of spatial optimisation and integrated management, producing facilitates reflecting the differences and characteristics of each community in the action plan (Huang & Luo, 2014).

3.3 Public Community Participation: Discover and Cultivate the Human Community Assets and Participate in Community Governance

Community governance must organize and implement public participation, fully cultivate and give play to the positive role of community organisation, and participate in the entire process from initial community planning mobilisation meetings to community asset investigation, so as to truly realise the collaboration between government departments, streets communities, residents, and experts. The difficulty of public participation management lies in the the degree and timing of participation, which directly relates to its efficacy. At the same time, cultivating the residents' ability to participate in the community governance should be a priority of the community development planning goals. Jialingqiaoxicun's success with autonomous management and community volunteers provides a good model for the sustainable development of communities in Chongqing.

3.4 Transformation of the Planner's Role and Community Planners' Education: Entering into the Community to provide Real-time Planning

When a city enters the stage of stock development, it is inevitable for the planner to transform from the role of blueprint planner to an action planner. At this time, the concepts, working contents, and working methods are all updated with an emphasis on field investigation, negotiation, and cooperation (Yu & Cao, 2013; Huang & Xu, 2013; Zhao, 2013). The community planner should be recognised as a general practitioner in the community who has a rich and comprehensive knowledge about the community, as well as planning skills and a desire to develop the values of social fairness and justice; they should be enthusiastic about serving the people through effective communication. The training and education of community planners can be carried out at two levels, through university and vocational school, or through experience in the community.

4. CONCLUSION AND PROSPECTS

It should be said that the direction of Chongqing's community planning is just the beginning. Compared with more developed cities in China, such as Shanghai, Guangzhou and Shenzhen, it is 10 years behind; yet this positively reflects on the economic level of the city. Circumstantially, Chongqing is forced to seek a regeneration path at the scale of the community; however, due to the lack of experience in relevant knowledge structures and practices, learning must take place alongside planning so as to expedite the exploration of theories and methods suitable for community development and planning in each locale. At the same time, community planning has a commonplace worldwide, namely, within the government power structure. This is no exception even in the United States, where community planning is characterized by the bottom-up approach (Li, 2013). At present, one of the characteristics of China's community development and planning is the government's dominant role, which is likely to exist for a long time. The

advantage of this mode of planning is that the government is able to provide strong external support for the community, allowing for rapid change, however, there are some clear disadvantages, such as the non-sustainability and residents' excessive dependence on the government, which weakens their initiative and growth opportunities, minimising their participation in community governance. Moreover, China's community is more a concept of administrative community under the jurisdiction of the community residents' committee (Liu, 2013), which is very different from the sociological understanding of community. Thus, at present, for the process of community development and planning, the contradiction of non-coincidence between the social boundary and governance boundary of community is an innate shortcoming in realising the goal of a quality living community.

Despite the existence of various problems and contradictions, since community complexity is also a part of social complexity, a view of development should be taken of its capacity to alleviate the problems of the future community, to identify and activate community assets, to aim towards cultivating and increasing community capacity, and to transition from dependence on government power and market forces outside the community to dependence on the benign development of the asset power in the community, so as to truly realise the best path for sustainable community development ; this approach combines the top-down and bottom-up approaches together. Developing this community practice from concept to action elevates the concept to a new level, which is valuable for its epistemological significance and practical guidance, moving society towards a more advanced stage of socialism.

ACKNOWLEDGEMENT

This paper is supported by National Natural Science Foundation of China (No. 51778078) and Natural Science Foundation of Chongqing (No. cstc2015jcyjA00051)

REFERENCE

Chaskin, R. J., Brown, P., Venkatesh, S., & Vidal, A. (2001). *Building Community Capacity*. New York: Aldine de Gruyter.

Churchill, H. S. (1945). *The City Is the People*. New York: Reynal & Hitchcock.

Gibbons, M., Limoges, C., Nowotny, H., Schwartzman, S., Scott, P., & Trow, M. (1994). *The New Production of Knowledge: The Dynamics of Science and Research in Contemporary Societies*. London: SAGE Publications Ltd.

Green, G. P., & Goetting, A. (Eds.). (2010). *Mobilizing Communities: Asset Building as a Community Development Strategy*. Philadelphia: Temple University Press.

Huang, L. (2012). "From Needs-Based to Asset-Based——Inspiration from Contemporary Community Development in Us". *Interior Design*, (5), 3-7.

Huang, L., & Luo, Y. (2014). "Community Development Planning and Other Methods Form a New View of Social Governance - a Case Study on Community Development Planning of Shiyoulu Street in Chongqing's Yuzhong District". *Journal of Human Settlements in West China*, (5), 13-18.

Huang, L., & Xu, J. (2013). "Research on Value Fundament and Role-Making of City Community Planner System". *Planners*, (9), 11-16.

Li, D. (2013). "Community Development History and Experience of American". *Urban Problems*, (2), 89-92.

Liu, J. (2013). *Contemporary China City*. Nanjing: Southeast University Press.

O'Leary, T. (2005). "Asset Based Approaches to Rural Community Development: Literature Review and Resources": Seminar Report by International Association for Community Development for Carnegie UK Trust.

Phillips, R., & Pittman, R. (2009). *An Introduction to Community Development.* New York: Routledge.

Qiu, B. (2012). "New Urbanization: From Concept to Action". *Administration Reform*, (11), 11-18.

Shaffer, R., Deller, S., & Marcouiller, D. (2006). "Rethinking Community Economic Development". *Economic Development Quarterly*, *20*(1), 59-74.

Sherraden, M. S., & Ninacs, W. A. (1998). *Community Economic Development and Social Work.* Binghamton: The Haworth Press.

Wen, J., & Huang, R. (2008). "On Asset-Based Community Development Strategy and the Enlightenment to China". *Journal of Social Science of Hunan Normal University*, *37*(6), 74-78.

Yu, Y., & Cao, C. (2013). "Community Planning and Management Innovation". *Planners*, (3), 5-10.

Zhao, W. (2013). "Discussion About the Fundament of Community Planning System and the Role of Community Planners". *Planners*, (9), 17-21.

International review for spatial planning and sustainable development, Vol.6 No.2 (2018), 12-29
ISSN: 2187-3666 (online)
DOI: http://dx.doi.org/10.14246/irspsd.6.2_12

Review on the Relationship between the Spatial Developments and the Change of Wooden Houses in Original Settlements in the Suburban Expansion of Bangkok

Walanrak Poomchalit[1*], Katsuhiko Suzuki[1] and Arno Suzuki[2]
1.Department of Architectural Engineering, Kyoto Institute of Technology
2.Graduate School of Science, Kyoto University
** Corresponding Author, Email: walanrak_p@rmutt.ac.th*

Received: April 18, 2017; Accepted: Oct 19, 2017

Keywords: Spatial Development, Original Settlements, Wooden Houses, Conservation

Abstract: This study examines the causes of the decadence of the wooden houses in trader communities settled during the period of King Chulalongkorn of Rattanakosin Capital, which represent old urban dwellings in the central region of Thailand. The conditions of remaining wooden houses and disappearing ones were compared to explore appropriate methods of reconstruction or repairs. Since modern developments started in Thailand, most of the original settlements disappeared amongst the rapid changes of urban transformation. Many of the original houses or communities have become abandoned, deteriorated or destroyed.

The results show that the speed of deterioration is related to the ability of the dweller to maintain their house. With urbanization, the economy of old communities becomes stagnant and the population ages. If the dwellers in such aging communities hope to improve their houses, a methodology to reduce the cost and the amount of labor is needed. Three things should be considered to achieve this goal: the dwellers' current construction skills, possible techniques that everyone can acquire without difficulty, and available local materials. Revitalizing such old houses will not just provide them a comfortable life but demonstrate the quality and value of early communities, and it will fortify the identity of the local area and help historical conservation.

1. INTRODUCTION

With urbanization, settlements often change. In cities such as the Bangkok metropolitan area that are continuously developing, traces of history, such as original early settlements, often remain in the middle of expanded urban areas along with new developments. Not only in Bangkok, but also in several places in Thailand, urbanization is continuously encroaching into early settlements. Interestingly, however, people in such old and decaying areas remain there without any interest in improving their home until they are at risk of it disappearing.

Where decadence is the deterioration of structures and their delapidation, because of decadence or abandonment early communities are often

confronted with expropriation due to new developments, occurring because their land is owned by the government. From the viewpoint of the public agencies, clearance of old and decayed areas improves the city and makes it more livable.

Expropriation causes controversy between the government and the people. Some people support the preservation of original early settlements as evidence of urbanization, history, and culture and for its value to local life, but this may conflict with public interests.

Even though the decadence may be an intangible perception or feeling, some physical elements can be used to describe it. Most visible in urban areas are architecture and landscape, such as buildings, houses, street furniture, pathways, and gardens and other greenery. However, when the government plans to improve neighborhoods, the simplest way is to remove all of the decadent urban elements and replace them with green space and beautiful landscaping; it is faster, more easily demonstrable, and less expensive than subsidizing for repairs on old houses.

The apparent decadence is a justifiable reason for clearance. If the original settlements are left untouched, old houses remain deteriorated. There are always arguments between those supporting conservation and those supporting development. If the only solution for a public improvement is to remove all of the decadent buildings, it is simply shifting the problem for homeowners; the lives of the dwellers would not improve without good economic and financial support. One solution is to improve the houses within their original setting.

The goal of this research is to find a possible solution for the recovery of the community living in decadence in the context of urbanization. Wooden houses around 80 to 100 years old are mainly focused on, as a guideline for creating a community recovery method that matches the character of most early settlements.

1.1 Background of research

In 2011, the celebration project for the 84th birthday of King Bhumibol was set up under the name "The celebration project of the King to improve the quality of life for 84 villages and communities**".** The objective of the project was the application of "the Sufficiency Economy Theory" - King Bhumibol's theory on the best way to improve quality of life - 84 being the number equal to the age of the king; these communities were selected to be pilot areas for the project, which would be implemented from 2011 to 2015.

The Khlong Rangsit community recovery project was one of the pilot implementations. It was a small original settlement located at the junction of sub-canal III and Rangsit Prayoonsak canal, and the aim was to improve the appearance of the area, to enhance the quality of life there, and to show the history of the settlement.

The area confronted several obstacles during the operation, such as local road constructions, flood barrier constructions and land deformation by the investors. The project continued nonetheless and improved the overall appearance of the community. Not all of the objectives, however, were accomplished. Only public spaces were renovated, excluding private houses, which account for the most visible decadence in the community; this issue was not confined to the studied community.

1.2 Research Objective

The appearance of original settlements was considered most significant; decadence and abandonment in a neighborhood are always the main reason for demolition.

To create appropriate methods to recover the old houses in local areas that restore the original architecture, and to improve the quality of life for the dwellers, the study had the following goals:

1) To define and identify the conditions of the decadence of wooden houses in earlier settlements.
2) To specify the causes of wooden house decadence in the context of spatial changes resulting from urbanization.

1.3 Target Area of Study

The expansion area is the focus of this research, especially in the suburban area where the old settlements created by the previous spatial development confront the current rapid spatial changes from urban development policies.

Micro and macro studies were conducted separately. The micro study is a case-study of the community at the junction of sub-canal III where the recovery project occurred during 2011-2015.

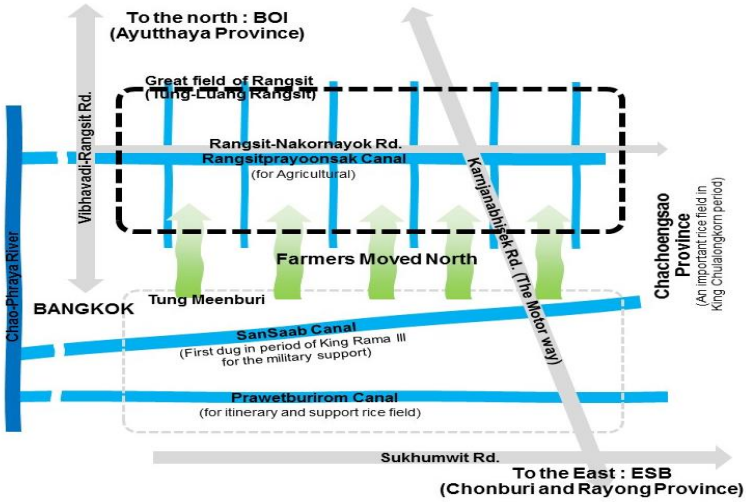


Figure 1. The location of the target area

The macro study examines the area that expands from a small community spot to the broad settlement area along Rangsit Prayoonsak canal. This area was developed under old policies during the period of King Chulalongkorn; King Rama V (1868-1910) of the Rattanakosint Era (Cheykeewong, 2007).

This area is located north of Bangkok in the present Patumthani province where the urban landscape changes rapidly. It is positioned between three important industrial regions, Ayutthaya, Chonburi and Rayong Province, two international airports, of Donmuang and Suvanabhumi, and three main mobility highways, Vibhavadi-Rangsit, Rangsit-Nakornnayok, and the main motorway; the eastern ring road rises to connect the industrial regions in the north and the seaport in the east. In this context, changes to the agricultural settlements are drastic.

Case-studies in other areas are also added for comparison.

2. RESEARCH METHOD

This research is a qualitative research based on observations in the studied areas, supported by previous studies.

2.1 Research Hypothesis

As is common in developing countries, the infrastructure in Thailand evolved under modern development theories and regulations. When Bangkok and the surrounding areas in the province were developed, the spatial changes affected the original settlements significantly. Urbanization in Thailand was a social and economic evolution, however, the development theories did not consider decadence in the communities, decreasing population, the decay of houses and the changing environment.

Decadence is the process of deterioration of a city. It is the consequence of the changes in the economy due to deindustrialisation, depopulation, abandonment, local unemployment, politics and so forth (Jackson, 1987). In an economic system, changes to significant structures in industries, transportation, and government policies result in urban decay (Andersen, 2003). In reality, these not only describe urban decay from deindustrialization, but also describe the decadence of old communities from urbanization.

In this research, the central hypothesis is organised under two criteria of decadence: where changes take place gradually or where they occur suddenly, and where the changes occur through the acceleration factors of politics or the economy. Both of these categories have seen communities disappear, but others may survive if the causes and conditions of the decadence can be specified.

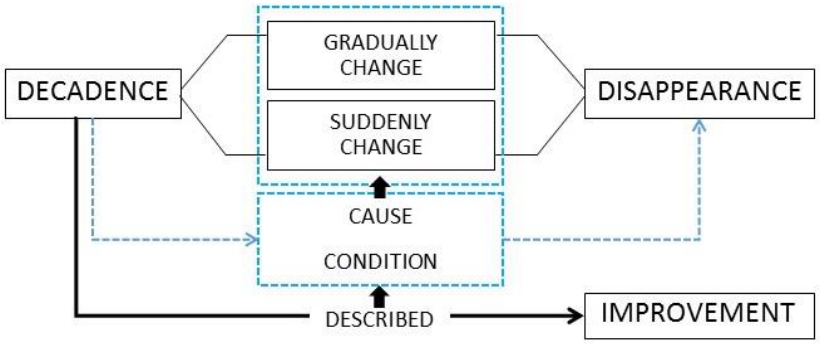


Figure 2. Research framework.

2.2 Research Framework

This research uses a deductive method with a case study in small communities following investigation objectives. The primary case study represents the conflict between development and conservation. Consequently, the general and specific problems were clarified by observing, surveying and interviewing.

Both decadence and development were reviewed. The deductive method makes it possible to compare reality against theories of urban planning, as

well as social and economic theories. The conclusion suggests how everyone can contribute to community recovery.

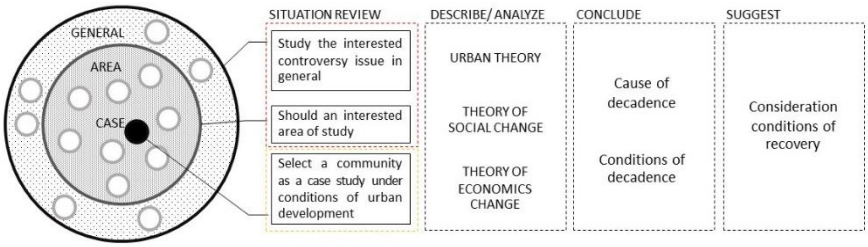


Figure 3. Research procedures

3. ANALYSIS OF DECADENCE

3.1 General problem of communitieas disappearing

In Thailand, there are several communities located on government-owned land. Therefore, expropriation always occurs when the government plans to develop or expand urban infrastructure. Legally, the government can expropriate the land from people for urban utilization. Communities with decadent housing located on government land are the first to be considered.

3.1.1 In urban areas

One case study is in the Pom-Mahakarn community located on the side of Ong-Ang Canal, the original moat of Krung Rattanakosin. Communities in the area have been shifted since 1959 when Bangkok had a policy for urban athleticism and traveling support (Phaithayawat, 2011). Until 1978, the Krung Rattanakosin project was operating to conserve important buildings and improve the urban environment of the capital city, following the example of European countries. The area was enhanced again under the 'Master Plan for Conservation and Development' of Krung Rattanakosin in 1994; they repaired the Mahakarn fortress with surrounding open space to distinguish it (Synchrongroup Co. Ltd, 1994).

However, this community was originally settled in the era of King Rama III (Phaithayawat, 2011). It contains wooden Thai houses in various styles, and is home to Thai musical folk drama and traditional lifestyles (Manager Online, 2016).

Figure 4. Wooden houses in the Pom-Mahakarn community (Manager Online, 2016)

Conservation became an issue for those who lived there. The community negotiated with the government, but it was inconclusive. They have since fortified non-governmental social relationships to protect themselves from disappearing. The government enforced the law in 1992 (Government Gazette, 1992) and 2004)Administrative Court, 2004(to remove communities.

After 50 years, some conflicts are still inconclusive. The controversy over conservation and development has led to long and ongoing negotiation between government and community.

3.1.2 In expansion areas

The area to the east and north of Bangkok is intriguing because it was an expansion area in the past. Different situations have occurred in the area along Prawet Buri Rom Canal to the east and Rangsit Prayoonsak Canal to the north.

Prawetburirom Canal was dug in the period of King Rama III for military support and was later converted for agricultural purposes during the King Rama V period. People who settled along the canal gained ownership over land dependent on their contribution to the digging of the canal (Division of National Archives, 1910).

Original settlements with wooden houses exist on both sides of the junction of the main and sub-canal. They appear decayed because the original dwellers moved out and left their homes with renters or to abandonment. The decay was likely gradual because the people moved away gradually. There is a possibility that some buildings became abandoned before renting. By observation, most renters seemed to be outlanders and also had low income.

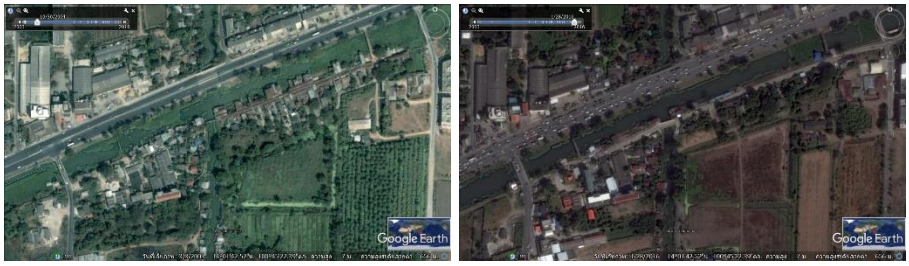
*Figure 5.*The settlement of the Khlong Preng community on both sides of Prawet Buri Rom Canal.

Figure 6. Decayed houses in the Khlong Preng Community along Prawet-Buri Rom Canal

.

The number of houses likely remained almost the same because of land ownership and the convenience of the location. The distances between each community along transportation routes are approximately 160-500 metres.

However, the settlements along Rangsit Prayoonsak Canal are not the same. They are shaped by local roads that were planned along the canal-side where the original communities settled, and they are probably disappearing because the width of the local roads is almost equal to the width of the communities themselves.



Satellite imagery in 2004 Satellite imagery in 2007

Figure 7. Sub-canal 7 in 2004 and 2007; before and after road (Google Earth, 2016).

This means that in the urban and expansion areas in general, developments inevitably destroy the original settlement, but some development projects may force settlements to disappear more rapidly.

3.2 The conditions of communities in the study area

3.2.1 The characters of the original settlements

The first development of the study area started in the period of King Rama V. Some continued in the King Mongkut (King Rama IV) era after the United Kingdom and the Kingdom of Siam signed the agreement of the Bowring Treaty in 1855. It made a change to the economic system of Siam shifting it to a free trade system (Cheykeewong, 2007). It affected Siam's political autonomy, but positively benefited the export trade of Siamese rice (Stiven, 1908).

Table *1.* Developments in the history of the study area

King Rama IV	
1855	Bowring Treaty between Siam and England changed the economic system from a monopolised to free trade system. It impacted the export of grain, teak wood and tin (Cheykeewong, 2007).
King Rama V	
1874-1905	The announcement of the abolition of slavery lead to more settlement in an expansion area in the north and to the east of Bangkok.
1890	Rangsit Prayoonsak Canal: digging of the first irrigation system, and labour communities settled at the junction of canals.
1895	Farmers moved from the south and settled to the east in the area around the sub-canal VII (Asawai, 2002).

To maintain the success of rice exports, rice fields were expanded from the south. Farmers who initially settled in Tung Sansaab moved to the north for higher yields around 1895 (Asawai, 2002). That was the first expansion of the population in the area around Rangsit Canal, and it further increased after the announcement of the abolishment of slavery. Farmers developed their houses and the area lost its original character. Only the communities of

Chinese labourers who dug Rangsit Prayoonsak Canal retained the characteristics of the previous settlement (Saetie, 2016). They settled at junctions during the canal construction of 1890.

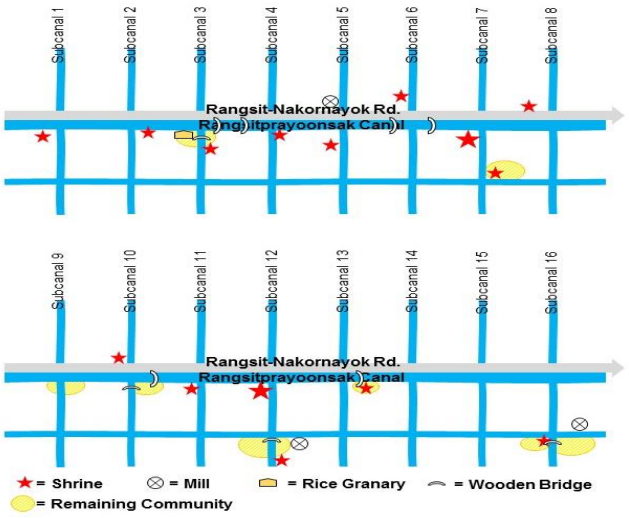


Figure 8. Characteristic of settlements along Rangsit Prayoonsak Canal.

The character of Chinese settlement in this area included shrines located near junctions, wooden bridges with large structures and wooden houses. Some communities grew to fill the distances that rice travelled on its trade routes. Approximately every 8-10 kilometers, communities of rice traders settled, so that every four or five sub-canals there was another trader community. They appeared in canals 3, 7, 12 and 16 (Figure 8). For rice trading communities, there are quays or rice piers, granaries and also mills.

3.2.2 Change in the study area and description.

The expansion of the urban area of Bangkok under the pressure of development has changed both suburban and rural areas, especially to the north and east where new settlements have rapidly grown.

There were many factors of modern development in the study area that accelerated the change.

Table 2. Development factors of change in the study area

1914	Donmuang International airport became operational (Airport of Thailand PLC, 2016).
1947	Rangsit-Nakornnayok Rd. was constructed.
1961	The first National Economics and Social Development Plan was enacted, following the concept of development as improving quality of life through infrastructure investment.
Around 1976-1986	Rice begins being traded along roads. The economy changed in waterside communities along Rangsit Canal.
1982	The fifth National Economics and Social Development Plan was enacted, following the concept of decentralisation and making changes to the economic structure of the country (Termpitayapaisit & Pha-eam, 2009).
2006	Suvanabhumi International Airport began its operation and increased transportation.

In the beginning, the change was gradual. Around 1976-1986, when the mode of rice transportation entirely changed from water to roads, economic

life shifted away from communities resulting in unemployment and changes in social structure. Depopulation occurred in every community. With the decentralization of the fifth National Economics and Social Development Plan in 1982, settlements relocated to new residential estates between workplaces, the service area of Bangkok, and transportation hubs.

Decadence in the communities varied due to access to facilties. The multiple nuclei model shows that medium and high-class residential areas expanded and encompassed the original settlements. Unfortunately, the original settlements could not access the new infrastructure and became decadent due to their lack of development. This has been termed 'cultural lag' (Thavinpipatkul, 1996).

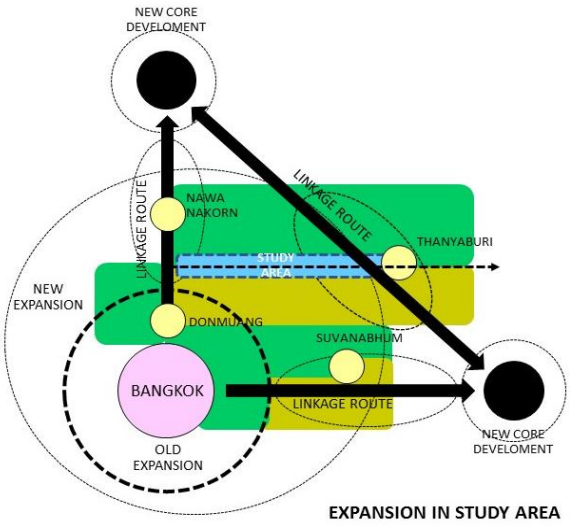


Figure 9. Influence of development policy on the study area: Analysis of expansion in study area [By author] based on Harris and Ullman's Multiple Nuclei Model (Harris & Ullman, 1945)

The government efforts to resolve this problem by removing old buildings in order to replace them with convenient facilities has led to a cultural lag, simultaneously creating development and dependency, leading to decadence and the risk of disappearing communities.

3.3 Analysis of recovery project and acceleration

3.3.1 General decadence in the target area

From surveying and interviewing in the communities, it was found that most of the remaining people are between 45 to 80 years old, and young people are less than 15 years old (Pikulwech, 2016). With the development of modern shop-houses built nearby around 1987-1988, people have been moving away seeking more convenient housing and have left their original houses behind (Teeralapsuwan, 2016). While there are renters, many houses are abandoned which has led to deterioration.

Deterioration happens to the whole house: the walls, doors, windows, roof, and main load-bearing structures such as posts and beams. Some

houses have collapsed, while some have been rebuilt or repaired with temporary structures, but are not in a liveable condition.


Decadence in canal 3


Decadence in canal 9


Decadence in canal 10


Decadence in canal 12


Decadence in canal 13


Decadence in canal 16

Figure 10. Decadent appearance of houses at sub-canals 3, 9, 10, 12, 13 and 16

3.3.2 Background of the problem in the case study area

Nueng Satawat community continually confronts expropriation for urban and facilities' development as shown in Table 3.

Table 3. The developments in the study area

c, 2008	Local government reclaimed land for local road construction. Conflict between community and local government began.
2012-2014	A flood barrier was built. Most communities had left and the remaining became separated from the canal. The character of the waterside community was lost. Many cultural and architectural elements from the original settlements disappeared.
2016	The position of the local road project was specified and progress was made on its construction (Panjawittayakom, 2016). Communities without a barrier from the road remain at risk.

Since 2008, with an increasing number of residences and vehicles, traffic congestion along Rangsit-Nakornnayok Road has needed to be alleviated. The government reclaimed land alongside Rangsit Canal which put the Royal Irrigation Department in charge of local road construction (Intrawitchayanan, 2016). The road passed through the middle of communities where pedestrian pathways were located and the community was divided.

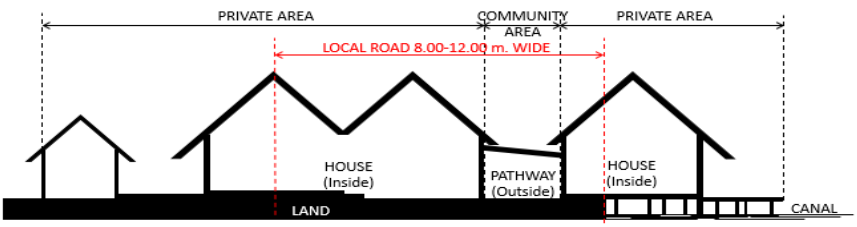


Figure 11. Community settlement and the placement of local road.

Figure 12. Road without connection at Sub-canal 3
(Google Earth, 2016).

This development increased migration because of the instability of living in development areas. Houses were abandoned and most of the remaining people were not able to improve or maintain their houses because they had a low income.

However, after a flood crisis in 2011, the Royal Irrigation Department planned to construct a flood barrier of 165-170 metres (Poomchalit, Sanguandsap, & Mukasirisuk, 2013). The operation was completed by the end of 2014. The barrier separated the community from the canal. The Royal Irrigation Department was able to reduce the impact to communities through another solution, but the characteristic quality of the waterfront communities was lost. Many bridges, quays, and entire settlements in some cases disappeared during the construction.

Waterside image before flood barrier. Waterside image after flood barrier.

Figure 13. The community before and after the flood barrier was constructed.

In 2016, the Royal Irrigation Department expropriated the land along the flood barrier to connect the local roads. The 8 metre-wide road was intended to pass through the community (Maneewong, 2016), however, the unclarified direction of the road is creating instability and uncertainty, and the dwellers have since abandoned the village to ruin.

3.3.3 The character of buildings and their decadence

In the past, there were approximately 250-300 households in this community, where the main occupation was rice trading, but now there are less than 30 households.

With the growth of the rice trade, communities became nodes along water trade routes. However, when the rice trade entirely changed to road-based transportation between 1976-1986, the community economy was significantly affected. People moved out for higher income jobs and left their elders in the original houses. At present, there are 25 families, with

approximately 50 people in this community. Most people are between 50 to 80 years old (Poomchalit, Sanguandsap, & Mukasirisuk, 2013).

As evidence of the past prosperity, there are three granaries remaining in this community, where the last quay for paddy boats can be found before the entrance into Chao-Phraya River (Poomchalit, Sanguandsap, & Mukasirisuk, 2013).

The houses have long, narrow floor plans and are connected to the walkways and terraces. In its original state, the floor of an entrance hall was made of packed soil, and there was a small wooden step before the inner hall. Between that step and inner hall was a panel door, and the same at the front of the house. This plan provided the bedroom and kitchen, located at the back of these houses, with more privacy. There were no toilets inside the original dwellings because the Cinese believed that toilets were unsanitary and needed to be separated, on the outside. The primary structure was mostly timber, but parts such as the roof were made of bamboo. The rooves used to be thatched with grass, but the modern houses are covered with metal sheets, with panels approximately 1.2 meters wide and 2.4 meters long (Rajamangala University of Technology Thanyaburi (RMUTT), 2014).

Concerning appearance, the decadence is obvious from the walls, roof, door, entrance, and the disposition of structures. The owners do not have the capacity for maintenance. Some houses were abandoned, while others were left to renters because the owners had moved out.

Decadence due to living activities

Decadence due to lack of maintenance

Figure 14. The decadence of houses in the community

Decadence occurred because the residents could not adapt themselves to advancements in modern technology and the changing condition of society. Old communities often have specific habits and cannot adjust easily. Consequently, when the rice trade moved to transport by road, the people who were experts at sailing became unemployed. This sudden loss of income was the prime reason they were unable to maintain their houses.

3.3.4 Acceleration factors of recovery

The Sufficiency Economy Philosophy project was mandated to maintain evidence of early settlements and the local history of Rangsit Canal. The whole 5-year program was set to improve the overall appearance along the canal (Poomchalit et al., 2003).

The first year was a process of value awareness motivation to community people.

The second year was a process to provoke the people to improve their community.

The third and fourth year was continued from the second year based on conservation concept.

The fifth year was promoted the community value to public.

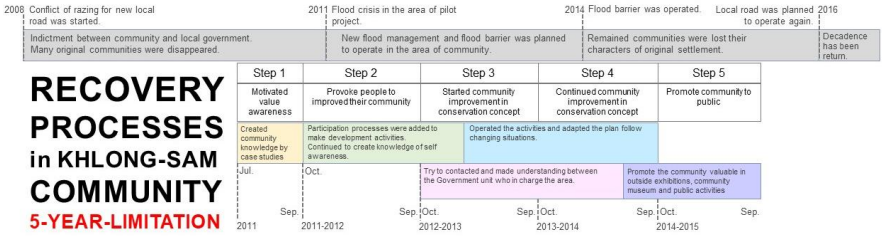


Figure 15. 5-year program of community improvement, analysis by author.

The project, while aiming to motivate the community to work together, started with visiting the villages and sharing the aim of community improvement in order to make both an attractive tourist destination as well as creating a comfortable environment for residents. Residents were encouraged to hold a session to share their knowledge and analyse a suitable method for improvement, and to set an improvement plan. During this participation process, the opinion of older adults was influential in the entire community's decision making.

During 2012-2014, there were many activities for community improvement such as cleaning the community environment together with residents of surrounding areas, removing debris from the flood crisis of 2011. To make more space for participation, they improved unused spaces by making small gardens with wooden decks for relaxing and doing various activities. They repaired the wooden bridge, improved the community museum and added more signs and storyboards for sharing the local history. Some conflicts developed through a lack of understanding, but they were solved through the process of brainstorming together. It was a time when community engagement was improved to provide a better environment for living (Rajamangala University of Technology Thanyaburi (RMUTT), 2013).

During the community improvement activities shown in Figure 15, people adapted unused space in front of the middle granary to make a small park. They added more green areas and wooden decks for relaxing.

Young boys and girls joined in this activity under the direction of a man who had construction skills, he was a technician in this community. For the construction activities, such as the wooden bridge repairs, the builders were all grown men under the direction of that man. Young boys joined this activity as technician trainees. They helped with material handling and with some simple joinery. Elders acted as consultants and contributors. They gave information about the original style, function, and details of the bridge. Women prepared the materials for construction (Rajamangala University of Technology Thanyaburi (RMUTT), 2013).

The last activities were the community museum renovations and the fixing of furniture. For these activities the participants were mostly women, however some elders and children joined in these activities. This shows how they were able to do everything using simple techniques they had learned and basic construction tools such as hammers, saws and nails.

The last activity in this project aimed to promote the values of the community to the public and included exhibitions outside the village. Everyone loved participating in this event because participants were interested in the tales of the local history, especially those told by the elders.

In review of project reports and additional notes from observation, the conditions of participation were analysed in two parts.

The first part analysed age and gender. Most participants were women, young people and children. There were fewer men in the activities because the activities took place during the daytime and most of the men were out for work, even during the weekend.

The second part analysed construction ability. Most of the participants were able to use basic construction tools for simple work such as hammering, pulling nails, and making joinery. The elders always acted as consultants or contributors. Some people had construction skills, but the women who were home-based were only able to use basic tools and perform basic joinery.

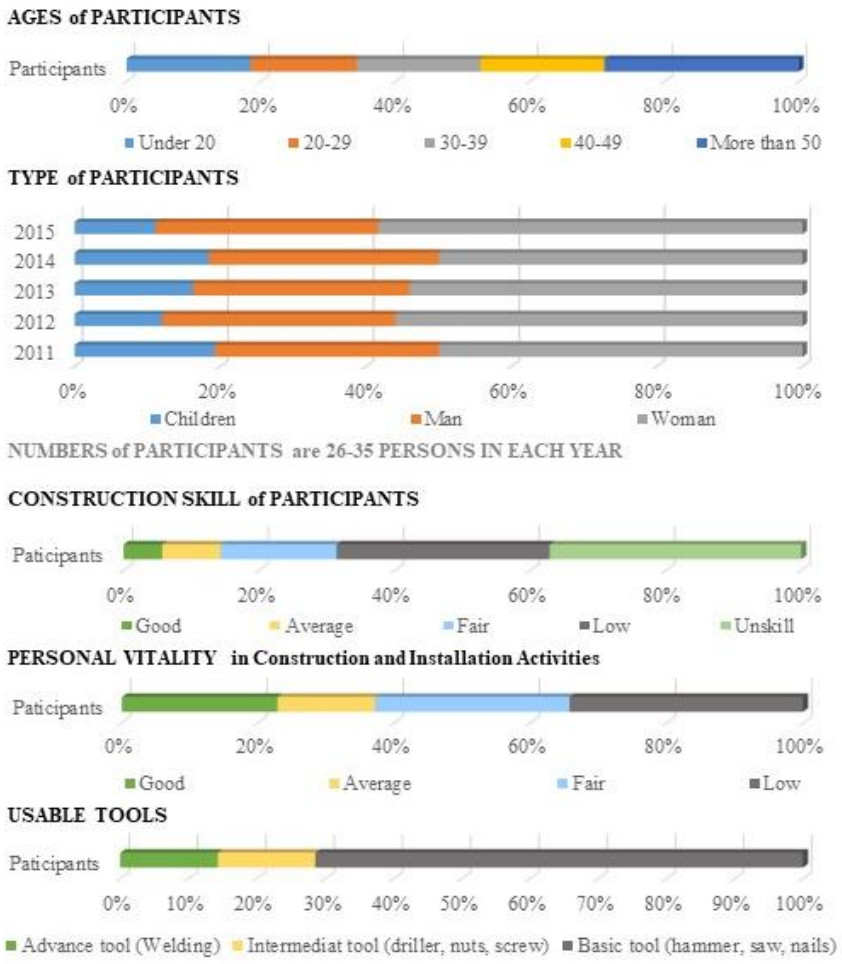


Figure 166. Analysis of construction's activity by author.

When the plan for the local road was finalised with the community, the cohesion of the community became fragmented. This was because the project separated the people into two groups of different opinions. Some people decided to get a subsidy and move out, while others wanted to negotiate again and find the best way to improve their dwellings after the road construction. They needed a construction method that required less investment because they would have less income once the road came. Their budget and the insecurity of their habitation led many people to think that house recovery may be a waste of money**.**

Because of their income, they had to do house maintenance and community renovation themselves. Age, gender and vitality were significant factors in dividing tasks within the community.

4. CONCLUSION

4.1 Causes and condition of decadence

From the study of the target area, it was observed that several development policies changed the spatial character of early societies. Urban and suburban communities were transformed gradually by laws, regulations and administration, along with the occupations and the function of local people.

Where urban theories describe developments and transfigurations, urban decadence theories describe how an area changes. The government development policies altered the economy and society in the area so that unemployment and depopulation were the most significant results of the change. They always occurred at the same time.

In this research, the causes and conditions of decadence came from different levels of development. The main cause of deterioration was the change in economic and social structures, while the level of decadence depended on the community configuration. The relationship between them is as shown below in Table 4.

Table 4. The relationship between decadence and developments in the target/case study area

Cause of decadence	Conditions of decadence
Policies, laws and regulations	- Instability from living under the rules and regulations is mostly responsible for the disappearance of community. The threat of expropriation forces people to move out and dismantle their communities. Those who remain are disincentivised from investing in maintenance due to future uncertainty.
Spatial structure of settlement was changed	- Convenient infrastructure is always out of reach.
Change in economic structure	- People with lower incomes do not have a large enough budget for maintenance on their house. The cost of improving the appearance of the houses exceeds this budget.
Change in social structure	- Age and gender are the underlying determinators of skill and vitality, which affects the local capacity for construction.

From the table shown, the decadence of the community depends on the government's development policies that affect the change of spatial, economic and social structures. The predictability or stability of living is another critical decision factor, as well as a resident's income, age and gender.

4.2 Consideration conditions of the recovery method

From this research, it was found that the primary causes of decadence are young people's migration in search of work and more convenient lifestyles. The spatial and economic changes compel them to move out. For recovery of life in the original community, repopulation with families is urgent. Houses should be improved despite difficulties in the local economy. To meet suitable standards for living, the following should be considered:

1) The method of repair or reconstruction must be suited to the income of people in the community. Materials that are available in the local area must be considered first.
2) The maintenance should require only the simplest techniques that everyone of all ages and genders can do by themselves. It should not be complicated, and it should use basic tools.
3) The construction method must be suitable for the construction skill level of the people. However, the new construction method must provide enough load-bearing capacity for each house and retain the character of the original dwellings.

Under such conditions, cooperation within the community is the best solution. Construction and renovation guidelines for a livable neighborhood should be provided, and appropriate techniques should be taught to all dwellers so they can maintain their houses by themselves.

However, road construction plans for the near future discourage community investment in the improvement of the appearance of old wooden houses. Therefore, the remaining wooden houses of old communities depends on negotiations between the community and the local government who are responsible for the land development. It largely looks as if communities will inevitably disappear; on the other hand, through the continuing efforts of the government to conserve early settlements as historical sites, the communities may still have a chance of remaining. If they do disappear, the characters of earlier communities and their wisdom, traditional knowledge and way of life will be lost.

While the number of residences supplied for low and middle income dwellers has increased, renovated old houses may be a better alternative in some cases.

Helping homeowners to maintain their properties will extend the lifetime of houses and thereby the good appearance of their dwellings. Determining the construction techniques and materials that are available and suitable for the dwellers' skill levels is imperative. Moreover, wood is a breathable material that regulates the temperature of buildings (Salonvaara, Ojanen, & Simonson, 2004). That makes it a suitable construction material for the climate in Thailand and wooden houses, therefore, should remain in in the country as a favoured option.

The urban areas are still expanding and encroaching on the early settlements, threatening the existence of old houses. The old communities with elderly or low-income residents cannot afford to fight back against the situation, and their longevity depends on the residents' ability and willingness to maintain their houses themselves. Members of old communities should be aware of appropriate construction techniques and help each other.

5. REMARK AND NOTATION

From this research, there are some notations to be emphasized:

1) Because the details of local histories have never been recorded, the transfer of local knowledge is lacking. People always look at the decadence and evaluate communities based on their appearance; transferring knowledge and improving the public perception is imperative.
2) Findings in this research may be applied to future research and outcomes. Material usage, techniques, and skills of construction must be considered to plan a suitable recovery method.

REFERENCES

Administrative Court. (2004). *Expropriation (the Request to Revoke the Notification of Buildings Demolition Date of Pom-Mahakarn Community Because of the Royal Decree Issued over Demarcation of the Land Expropriated).* (Vol. 9) Judgement of Administrative Court.

Airport of Thailand PLC. (2016). "History". Retrieved from http://airportthai.co.th/main/th/741-histories on November 26, 2016.

Andersen, H. S. (2003). *Urban Sores: On the Interaction between Segregation, Urban Decay, and Deprived Neighbourhoods.* Aldershot: Ashgate

Asawai, S. (2002). "Thanyaburi City". *100 Years of Thanyaburi City*. Thanyaburi: Thanyaburi District Administration.

Cheykeewong, U. (2007). *The Monarch of the Chakri Dynasty (King Rama I-Ix).* Bangkok: SE-EDUCATION Public Company Limited.

Division of National Archives. (1910). "Property Prawet Canal". *Document Box. King Rama V Ministry of Agriculture 9 Department of Canals 9-11 Box 2. xz.5 Agriculture/10*.

Government Gazette. (1992). "The Decree Defines the Area of Land Expropriated in Bowonniwet District, Bangkok". Vol 109, Section 42, P145.

Harris, C. D., & Ullman, E. L. (1945). "The Nature of Cities". *The Annals of the American Academy of Political and Social Science*, *242*(1), 7-17.

Intrawitchayanan, J. (2016) *The Conflict between Community and Government of Local Road Operation in Khlong-Sam*. Kyoto: Kyoto Institute of Technology.

Jackson, K. T. (1987). *Crabgrass Frontier: The Suburbanization of the United States.* New York: Oxford University Press.

Manager Online. (2016, April 7). "Retracing 234 Years 'Mahakan Fortress'... Mildly Breathe of Community". Retrieved from http://manager.co.th/OnlineSection/ViewNews.aspx?NewsID=9590000035607.

Maneewong, M. (2016) *Size and Position of the Local Road*. Kyoto: Kyoto Institute of Technology.

Panjawittayakom, S. (2016) *Local Road Situation in the Area of Nueng Satawat Community*. Kyoto: Kyoto Institute of Technology.

Phaithayawat, S. (2011). "The Social Phenomenon of Pom Mahakan Community: The New Dimension for Modern Thai Way". Suan Sunandha Rajabhat University.

Pikulwech, K. (2016) *Settlement and Living in Khlong7 Community*. Kyoto: Kyoto Institute of Technology.

Poomchalit, W., Sanguandsap, P., & Mukasirisuk, P. (2013). "Design Guidelines to Minimize Conflicts between the Royal Irrigation Department and Nueng Satawas Community: A Case Study of Flood Barrier Construction Along Rangsit Canal". Faculty of Architecture, Rajamangala University of Technology Thanyaburi.

Poomchalit, W., Sanguandsap, P., Mukasirisuk, P., & Phalinyot, N. (2003, October 15-16). "The Internal Strengthening Procedures of Sustainable Conservation: A Case Study of Nueng-Satawat Community". Proceedings of ICOMOS Thailand Conference on Asian Forgotten Heritage, Chiangmai, Thailand.

Rajamangala University of Technology Thanyaburi (RMUTT). (2013). "The Celebration Project of the King to Improve Quality of Life for 84 Villages and Communities: Khlong Rangsit's Life Recovery". Faculty of Architecture, Rajamangala University of Technology Thanyaburi.

Rajamangala University of Technology Thanyaburi (RMUTT). (2014). "The Celebration Project of the King to Improve Quality of Life for 84 Villages and Communities: Khlong Rangsit's Life Recovery". Faculty of Architecture, Rajamangala University of Technology Thanyaburi.

Saetie, H. (2016) *History of Khlong Rangsit*. Kyoto: Kyoto Institute of Technology.

Salonvaara, M., Ojanen, T., & Simonson, C. (2004). "Indoor Air Quality in a Wooden House". Retrieved from https://www.researchgate.net/publication/228510969_Indoor_Air_Quality_In_A_Wooden_House.

Stiven, A. E. (1908). "Rice". *Twentieth Century Impression of Siam*. London: Lloyd's Greater Britain Publishing Company Ltd.

Synchrongroup Co. Ltd. (1994). "Master Plan for Conservation and Development of Krung Rattanakosin". Bangkok, Thailand: Office of Natural Resources and Environmental Policy and Planning, Ministry of Science and Technology.

Teeralapsuwan, A. (2016) *Settlement and Living in Khlong12 Community*. Kyoto: Kyoto Institute of Technology.

Termpitayapaisit, A., & Pha-eam, T. (2009). "National Economic and Social Development Plan Issue I-Xi". National Economic and Social Development Board.

Thavinpipatkul, D. (1996). *Urbanization and Social Change in Developing Countries.* Bangkok: Chulalongkorn University Publishing.

International review for spatial planning and sustainable development, Vol.6 No.2 (2018), 30-49
ISSN: 2187-3666 (online)
DOI: http://dx.doi.org/10.14246/irspsd.6.2_30

The Formation and Development of Shopping Areas in Chiang Mai, Thailand from the Foundation of Chiang Mai (1884) to 2000: the Transition of Shopping Streets to Complex Shopping Buildings

Chompoonoot Chompoorath[1*] and Hiroaki Kimura[2]
1 Doctor Candidate, Graduate School of Science and Technology, Kyoto Institute of Technology
2 Professor, Department of Architecture and Design, Kyoto Institute of Technology
** Corresponding Author, Email: chompoonoot.ch@gmail.com*

Received: June 5, 2017; Accepted: Sept 9, 2017

Key words: Urban elements, Shopping space, Spatial transformation

Abstract: This study of the formation and transformation process of shopping streets in Chiang Mai, Thailand aims to identify relative social factors and urban developments, based on architectural data, in order to examine the spatial transformation of shopping streets into complex shopping buildings; in order to understand the transformation process, the research also makes use of historical data, detailing past events significant to the process.

The formation of shopping spaces in 1884 falls into two categories pertaining to urban elements: permanent elements such as the river and streets, and temporary elements such as the public plaza that has convertible functions. The river in Chiang Mai is a significant historical route for long distance transportation that directly affected street formation, trading space along the street, and the development of the shopping street. The process of the formation of the shopping street before the 20th century organically followed from the pattern of the urban configuration. The development of permanent urban elements such as street and transportation routes, especially the 1921 opening of the train in Chiang Mai, affected transportation by river and the shopping street directly related to the river, but promoted the areas surrounding the train station. The establishment of shopping streets from 1920 are the consequence of the development of permanent urban elements such as street and public transportation. Urban expansion also affected the shopping street in Chiang Mai. The shopping street lost its role as a place of trade due to developments in the 1980s, which gave priority to cars over pedestrians. These irreversible changes to the urban environment, and the shaping of the trading area, are not mainly caused by urban developments, but come from economic stimulation from government policies, especially for the promotion of tourism.

This study of the formation of shopping streets in Chiang Mai describes the key factors of formation and transformation of shopping streets and identifies key factors that should be focused on, including economic advantage and sustainable urban development.

1. INTRODUCTION

Chiang Mai was established as a free state of Lanna Kingdom in 1296 and was annexed to Siam in 1884. The urban area is located between Suthep

Mountain on the west and Ping River, which was long used as a transportation route, on the east. Therefore, the area connected to the river and city area played a significant economic role. Urban development, particularly on shopping streets, was dictated by social factors in each city. In the case of Chiang Mai, to understand the formation and transformation of shopping streets, it is necessary to refer to historical data on significant incidents in Chiang Mai that impacted commerce and affected characteristics of the shopping area. These events can be described across six periods:

1) Fourteenth century: Foundation of Chiang Mai
2) 1884: Annexation of Lanna to Siam
3) 1921: Arrival of Chiang Mai-Bangkok train route
4) 1932: Change of regime from Absolute monarchy to Democracy
5) 1960: The First stage of the National Economic and Social Development Plan
6) 1986: The second stage of the National Economic and Social Development Plan

In the current context, the character of the shopping area as a shopping building complex is different from the original shopping street style. This study aims to identify the development processes that shifted shopping areas from horizontal spaces at the street level to vertical spaces such as department stores, and seeks to identify the possibility of sustainable commercial areas in Chiang Mai city. The objectives of this study are: 1) to identify the formation and development of shopping areas in Chiang Mai, and 2) to identify development processes that shifted shopping areas from horizontal spaces at the street level to vertical spaces.

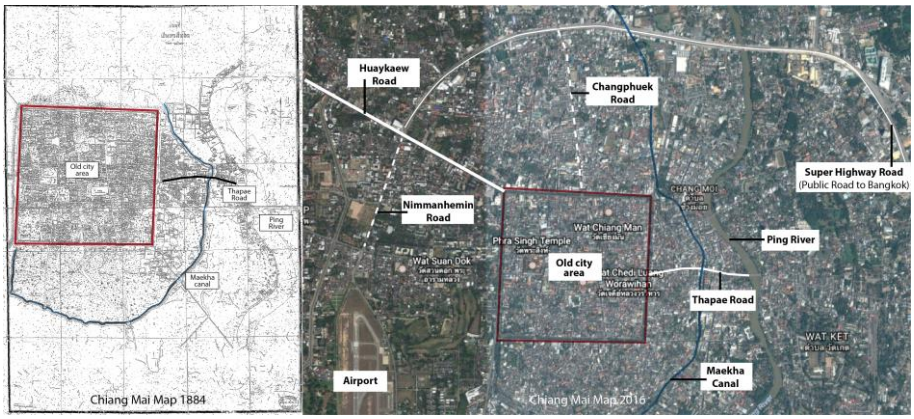


Figure 1. The characteristics of Chiang Mai city planning. Left - Chiang Mai map, 1884 (Map reference from Chiang Mai city map 1884, Archives, Payap University) Right Aerial photograph of Chiang Mai in 2016 (Map reference from Google Maps)

2. METHOD

This study uses historical data on the development process of shopping streets, therefore, the primary methods are: (1) a review of the historical literature to identify aspects of the transformation of shopping streets in the city and the selection of appropriate data for this study, primarily used to develop a theory related to the environment of trade around the town hall, used for classifying the characteristics of the shopping street in the scoped area; (2) a study of the historical period focusing on economic and social impact; (3)

tracing historical maps as base maps for studying the processes of significant urban development in the city, and analysing the connection between social factors and the development of shopping streets, which defined the cityscape area for studying the characteristics of shopping buildings in Chiang Mai; and lastly, (4) a focus on spatial development and scope in architectural urban theories to determine trends in the spatial organisation of the original shopping area, in order to determine the probability of sustainable development in the context for future planning.

3. LITERATURE REVIEW AND THEORY

This study reviews the historical data and focuses on significant incidents which have particularly impacted shopping areas by dividing historical periods according to research on "Chiang Mai Capital" (Nethipo, 2009), which are further divided by economic development. The Modern age of Chiang Mai began when the Siamese Government annexed Lanna States during the reign of King Rama V (2464 B.E.), and significant periods are divided into six groups: 1) the period before the inauguration of Chiang Mai railways (before 2464 B.E.); 2) the post-train period (2464 B.E. to 2475 B.E.); 3) the period between the 2475 revolution until the first National Economic and Social Development Plan (2475 B.E. to 2500 B.E.); 4) the first stage of the Economic Development Plan (2500 B.E. to second half of 2500 B.E.); 5) the rapid economic expansion period (2520 B.E. to 2540 B.E.); and lastly, 6) the economic crisis after 2540 B.E. The historical terminology from "Chiang Mai History" (Ongsakul, 1986)divides historical periods from the formation of the Lanna States into three periods of government: the annexation of Lanna, the period after the democratic revolution, and, lastly, the period of the Economic Development Plan.

The spatial study describes the formation and development of shopping areas from the perspective of significant events in Chiang Mai, the most important being the spatial transformation from shopping areas to department stores, because lifestyles change according to the "human aspect of urban form" (Rapoport, 1977), which describes how urban developments are related to social and cultural elements that have influence over the architecture in the city. This is especially true in the shopping area, according to consumption and lifestyle. This theory describes how urban lifestyles, patterns of consumption, and new urban elements impact the urban environment.

In consideration of urban areas as sustainable shopping areas for future planning, this study makes use of the concept of the Central City Mall (Rubenstein, 1978), the idea that the Central City Mall is strongly related to public city space, and classifies shopping space into three categories: full malls, transit malls, and semi malls. All types of malls require solutions for public transportation in order to reduce personal cars, arrange areas for solely public transportation use, develop pedestrian urban areas for public space concerning plazas, trees, benches, lighting and other amenities, such as sculptures, before a commercial area can be considered sustainable.

4. THE EVIDENCE OF SHOPPING AREAS IN CHIANG MAI

4.1 Before the Nineteenth Century — the Foundation of Chiang Mai (Early Chiang Mai in Subsistence Economics)

The archaeological evidence from the fourteenth century reveals that there were three markets in Chiang Mai: Hua-wiang market, Klang-wiang market, and Chiang-reuk market. In the fourteenth century, markets were related to the sacred legitimacy of the Mangrai Dynasty, where the royal family and nobility earned a substantial portion from various business monopolies, including from long distance trade and local markets.

1. Klang-wiang market, as the king's settlement and area of nobility, was established as a place of commerce, which the royalty significantly economically benefited from. Streets played an important economic role in the facilitation of transport, both of goods and people into the city (Easum, 2012). Klang-wiang market was connected to Chiang-ruek market as a space for transportation, using Ping River as a channel for long distance trade. In addition, the location of Klang-wiang market relates to other aspects of Lanna city. It is possible that the market was located in the city's open space (Khuang), and that the characteristic places of commerce in that period were temporary markets in open spaces.

2. Chiang-ruek market facilitated long distance trade in the fourteenth century and Thapae Street was the connecting route from the centre of Chiang Mai city to the river. This market began much earlier in Chiang Mai's history, but definitely grew after the sixteenth century when the city's outer wall was erected and the city expanded from the eastern side to Ping River formally (Easum, 2012).

In the past, the royal family negotiated with foreign merchants, which gave long distance trade an important role in city economics and meant that it was simultaneously monopolized by the royal family. Due to settlement policies that legally forced outsiders to settle on the eastern bank of Ping River (outside the city area), Ping River became an essential trade route and Thapae Street played a significant role in connecting the production areas and commerce areas, centralising the trade area and thereby economically benefitting the royalty.

3. Hua-wiang market lay at the northern edge of the city (Figure 2) and was one of the three markets in the fourteenth century, but disappeared in the nineteenth century. Between the thirteenth to seventeenth century, society was structured as a feudal system where serfs were stratified in an ownership system beneath feudal lords and capital goods such as land and natural

resources belonged to royalty.

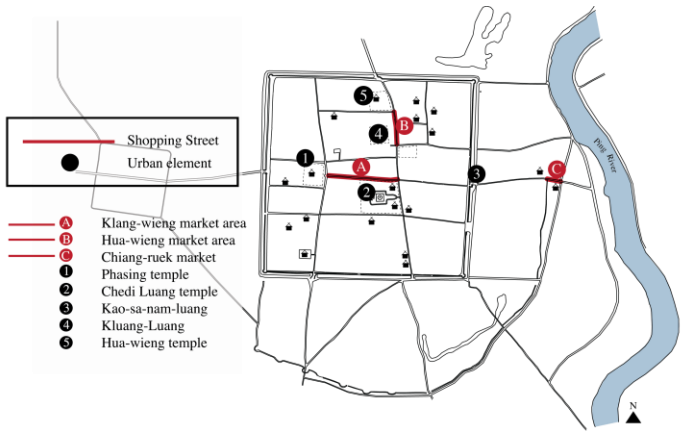


Figure 2. Location of temporary market in Chiang Mai, 14th century

From the location of Hua-wiang market at the northern edge of the city and the location of *Khuang-luang* (biggest open space of Chiang Mai city), it can be expected that the market was set up in the Khuang (open public space) of the city.

4.2 1884 — Annexation of Lanna to Siam (1884 to 1920)

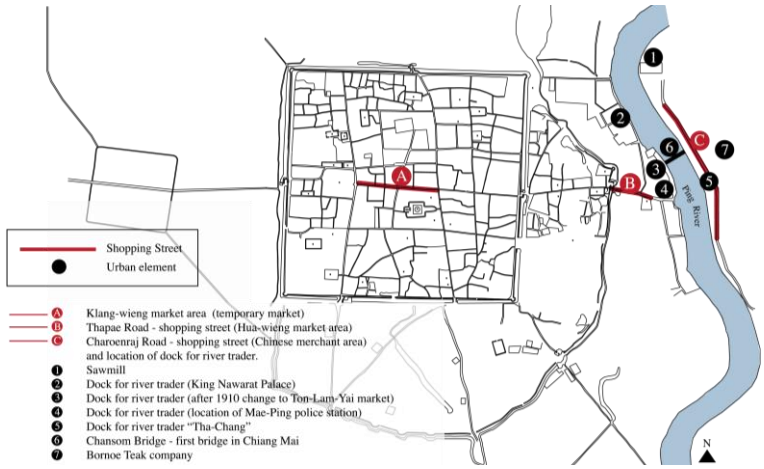


Figure 3. The location of urban elements related to commerce in 1884 (Map reference from Chiang Mai city map 1884, Archives, Payap University)

Regarding the transformation of the old city due to political factors, the Siamese assimilated Chiang Mai into Siam, especially in the last decade of the nineteenth century. Lanna was annexed as part of the royal marriage of the Lanna princess "Dararassami" and King Rama V of Siam (Phra Poraminthra Maha Chulalongkorn Phra Chunla Chom Klao Chao Yu Hua) in 1886. In 1890, initially, the city land was sold to the Siamese government by the Lanna aristocracy to allow for authority and easier governance (Easum, 2012). In addition, the old sacred royal centre which was the base of traditional government for the Lanna elite, including its political authority, was relinquished to Bangkok, including temples, markets and the open space of Khuang-Luang in particular (Easum, 2012). The Siam government office

(Sara Rattaban) was established at the centre of the old city in 1919, and the provincial court in Lanna royal parliament (Kao-Sa-Nam-Luang) was created as a space for royal ceremony (Meechubot, 2008). Furthermore, many areas around Khuang were sold and converted into shophouses for other commercial use (Easum, 2012).

Historical evidence shows that Klang wiang market and Chiang-ruek market still existed until the nineteenth century. The area of Klang-wiang market was expanded to Khuang-luang, and Chiang-ruek market was expanded from the old city gate to Ping River and developed rapidly in the wake of the sixteenth century's effect on urban development at Thapae Street.

The expansion of the commercial district in Chiang Mai is more obvious after 1884 because of the transition to capitalism that affected economic development and brought the formation of urban elements such as bridges, docks, and markets. The main point of trade in this period was along Ping River, due to the importance of long distance trade and the settlement of Chinese merchants along Ping River near Wat-ket temple to the east and along Charoenrad Road on the other side; this was the first Chinese merchant community and it still retains evidence of shophouses in the Wat ket area (Ongsakul, 1986). The river was used for trade during the Mantra Dynasty between around 1290 to 1558 A.D., and continued on into the nineteenth century.

One of the urban elements that indicate the economic growth of Chiang Mai in the nineteen century is Jansom Bridge, the first bridge in Chiang Mai, which was constructed in 1890 by the American medical missionary Marian Cheek, who had already proven himself an extraordinary evangelist (Bristowe, 1976); the bridge connects the Wat- ket community and the opposing dock of Waroros Market at present. This bridge was created 20 years before the origin of the Waroros market.

Figure 4. Location of urban elements related to commerce in 1910 —Wararot Market was established

According to a Chinese merchant family of Chiang Mai Market, between 1855 and 1921 there were an additional seven docks along Ping River: Wat-ket Temple, the location of Waroros Market, the remains of King Kaew-Nawarat's Palace, the Borneo Teak Company, the remains of Ton-Lamyai Market, and the Tha Chang and Mae Ping police stations (Chuchat, 2006) (Figure 4). In this period, people from both sides of Ping River crossed the

river by boat until the establishment of the first bridge near Tha Chang in 1890, made from teak wood (Bristowe, 1976). Kitichai Wattananikorn (2015) from "*Nai-Hang-Pa-Mai"* gives the explanation that *"After the teak bridge was constructed, the activities in the early morning had many people cross it and the market was open before late morning."* This was the historical character of Chiang-ruek Market.

The historical records indicate that two markets continued to exist in Chiang Mai city, and in 1910 the Warorot Market was established after the political power of the Lanna king was further reduced in the wake of the annexation. The Royal family simultaneously continued business after their long term of market monopolisation had diminished. They changed the open space of "Khuang-maen" to the Waroros Market which had been under the purview of the Lanna royalty.

From Kawila's restoration, the commercial area was spatially separated according to ethnic difference: the area outside of the city gate, near Ping River, was reserved for non-resident traders and foreigners. Westerners settled on the eastern bank of Ping River, including the Christian church, the college, and a teak company. Marian Cheek was rewarded by King Inthawichayanon and he ordered teak for the construction of housing and a hospital, until he finally turned it into a business and established his teak company called the "Borneo Company" (Watthananikorn, 2015). In addition to the Chinese merchant community on the eastern bank of Ping River, there was another area on the east side of Ping River which was essential in connecting the market to the west side of the river. The construction of bridges had a significant impact on the economic connection.

4.3 1921: Arrival of the Chiang Mai-Bangkok Train (1921 to 1931)

The significant social factor that affected the shopping street was the arrival of the Chiang Mai train. The railway station impacted on the cessation of transportation by river, which led to the formation of a new shopping street on Charoen-muang Road, which connected the railway station to Ping River, along with the construction of a new bridge that connected Charoen-muang Road to Thapae Road, called Nawarat Bridge. Consequently, the city was expanded to the east side of Ping River.

4.3.1 The city elements that indicated the development of commercial areas between 1921 and 1931

4.3.1.1 Train

The most important element that dictated new development was the railway connection from Bangkok to Chiang Mai. Goods carried from Bangkok to Chiang Mai increased in number and took a much shorter time compared to river transportation. It also encouraged commerce in Chiang Mai. Chinese merchants in Chiang Mai and Bangkok could deal directly with one another, which was preferred to trade with Myanmar, which was an international trade that was rife with communication difficulties. Therefore, the Chinese merchants progressively gained bargaining power over their counterparts in Myanmar (Tai-Yai) and with the Indians (Ongsakul, 1986). Shops on Charoen-muang Road (San-pa-koi) began to sell construction materials and motorcycles and bicycles as a result of imports from Bangkok in this period, which supplied luxurious goods (Chananan, 1986).

4.3.1.2 Markets

Nearby Warorot Market, another important market called "Ton-Lam-Yai Market" was also situated on the west side of Ping River (Figure 5). Between 1921 and 1945, the second generation of Chinese merchants settled down and did business extensively in Warorot and Ton-Lam-Yai Markets.

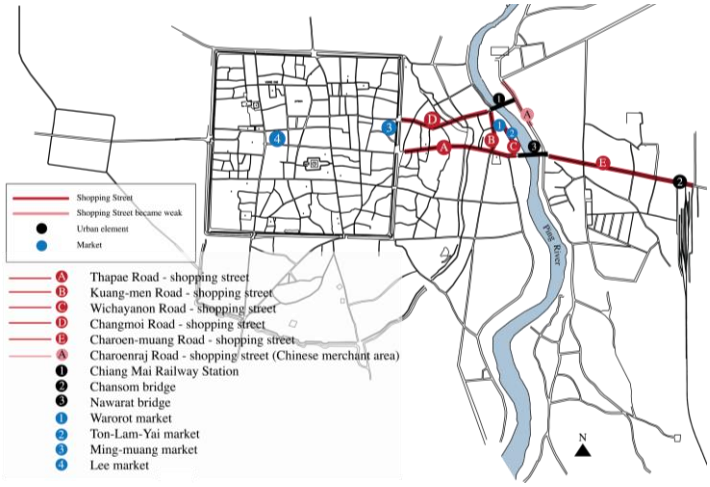


Figure 5. Location of urban elements related to commerce from 1921 —Chiang Mai Railway station was established (map reference from City of Chiang Mai, Siam map 1923 by American Presbyter Mission, Archives, Payap University)

4.3.1.3 Bridge

Another significant urban element was the "Nawarat Bridge", the second bridge in Chiang Mai. Because of the establishment of the Chiang Mai railway station, in this period people could access the shopping areas easily by bicycle or on foot. Trucks were used for long distance transportation transmitting goods and people between the countryside and city. Some were modified as pigsty trucks, known as "Rod-Kok-Moo" (Pigsty carriage). It is found that Chinese merchants started truck shops in Charoen-Muang Road (San-Pa-Koi).

Therefore, a new shopping street appeared between the railway station and the city, known as Charoen-Muang Road or "Sanpakoi". Historical evidence for this road can still be seen in the form of shop-houses along both sides of the street. Another permanent market was formed called "Sanpakoi Market" and it gave birth to a new community. It can be assumed that the arrival of the railway station led to the end of port usability, since the Charoenrat community (Wat Kat) became too dull, and the merchants in Wat Kat moved their business to Warorot Market.

4.4 1932: Regime change from Absolute Monarchy to Constitutional Monarchy (1932-1959)

In 1932, as there was a crucial change in the government system from an absolute monarchy to a constitutional monarchy, the ideology, urban elements, and architectural characteristics of Chiang Mai were dramatically affected. In addition, World War II changed the economic focus. The change of regime affected the character of urban development. As the city was traditionally used as a centre of provincial administration and government offices, government employees moved to the old city area and became a new elite class in Chiang Mai (Nethipo, 2009). Moreover, the government

constructed a road linking Chiang Mai to Bangkok, which additionally stimulated urban growth.

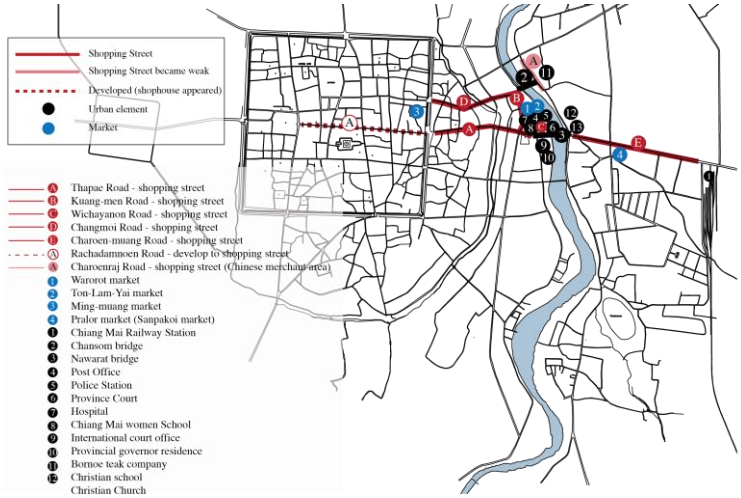


Figure 6. Location of urban elements related to commerce from 1933 - Government facilities office nearby Warorot Market (map reference from Chiang Mai city map 1932, Chiang Mai Sukhaphiban, Payap University)

As for the impact of World War II, it caused an economic recession that significantly affected urban development. Shopping streets ceased operating and went out of stock, and living expenses increased as a result of economic deflation. Trading was confined in 1933 so that the shopping street remained unchanged from the end of World War II on Thapae Road, Charoen-Muang Road (Sanpakoi), and in Warorot Market.

From 1944 onward, Chiang Mai city was expanded to the east of the city, which is visible in the aerial photograph from William Hunt (2474-2493, Figure 7). Dense communities on Charoen-Muang Road began consolidiating after the arrival of the railway station. The map of 1933 (Figure 6) displays public service offices, such as the police station, post office, hospital, provincial court located in northeastern side of Thapae near Nawarat Bridge, and the Warorot and Ton-Lam-Yai markets. These obviously indicated the significance of these communities to Thapae and the economic progress of the Warorot Market area. In 1940, moreover, the wood craft market called "Ming-Muang Market" was established on Mun-Mueang Road in the old Chiang Mai area at the east side of Ku-Mueang (rectangular canal) with shop-houses in the front.

4.5 1960: First stage of Economic Development Plan (First Economic Development Plan to Fifth Economic Development Plan, 1960-1986)

After the end of World War II, the USA selected Thailand as a location for a military base (Potjanalawan, 2015) in 2500 B.E.(A.D. 1957). Because of this, public roads were constructed extensively. With the first Economic Development Plan, Thailand sought to build infrastructure to solve the economic situation. By constructing public roads, products could be easily transferred, and this established political solidarity through economic growth. Tourism was also promoted and supported according to the first Economic Development Plan.

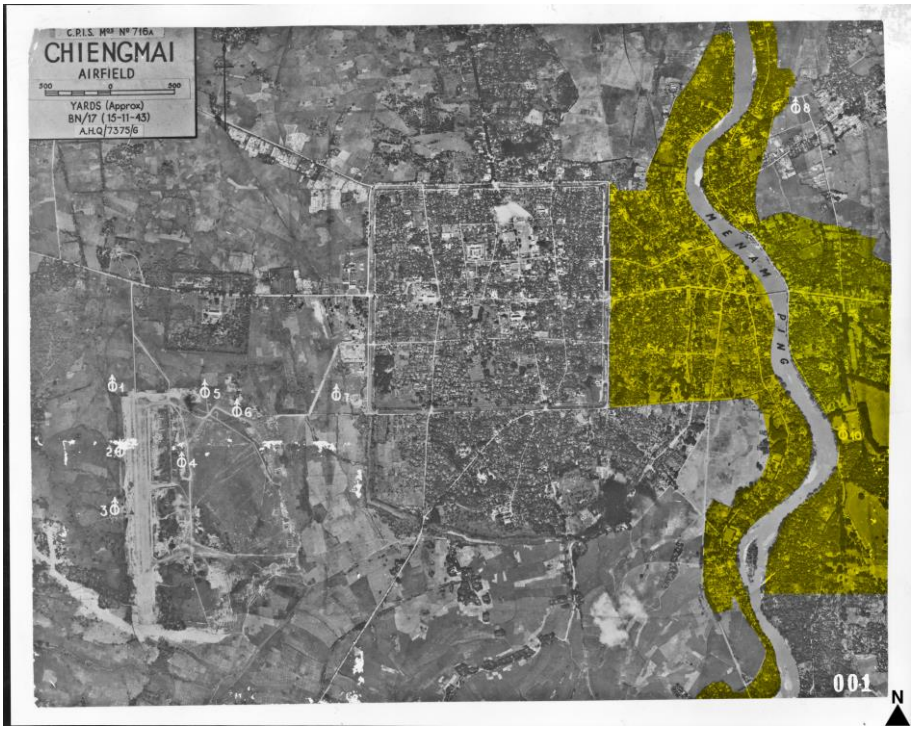


Figure 7. Aerial photograph of Chiang Mai, 1931 to 1950, from William Hunt (map reference from Library of Center for Southeast Studies, Kyoto University)

4.5.1 The Impact of the Economic Development Plan on Shopping Streets: Construction of Public Roads

Before the issue of the Economic Development Plan, the shopping streets had one and two-storey wooden shop-houses settling along both sides. Almost everyone used bicycles, animal carts, or walked to get around the city. Beginning in 1956, the city municipality began disallowing animal carts in the city and they were entirely outlawed in 1967. Cars, as the main vehicle for business, were promoted extensively in accordance with public road construction. That was the beginning of the use of cars to access shopping areas, and it brought a new shopping lifestyle. The construction of the Super Highway Road in 1964 was the crucial point of city expansion. The highway route encircles the city from east to north and crosses Nimmanhemin Road which began extensive development in the following period. Moreover, the Super Highway Road also crosses Chang-Phuek and connects to Mae-Rim beginning from the north city gate, a convenience which led to the establishment of the Chang-Phuek bus terminal. Chang-Phuek Road too was developed as a shopping street through the gradual construction of shop-houses along the street. Therefore, the shop-houses on Chang-Phuek Road were visible during the bus terminal's establishment.

Another factor that affected Chiang Mai shopping streets was the establishment of Chiang Mai University in 1964; while the Super Highway Road had an obvious impact on the city's expansion in the north and east, Chiang Mai University covered the north-eastern area — from Huay-Kaew Road— to Suthep Road on the west. It promoted development in the nearby area, which later supported people that migrated to work and study.

Regarding the promotion of tourism, the Tourism Authority of Thailand in 1959 shifted Chiang Mai to a centre of northern tourism because public

transportation and infrastructure were completely supported. This promotion of tourism led to the formation of the tourist industry and a boom in hotels, souvenir shops, tourist markets and other tourism-based companies. In 1974, Chang-Klan Road was developed into a night market called the "Night Bazaar" in order to support tourists; it sold local handcrafts and local products as souvenirs (Ongsakul, 1986). It links with Thapae Road and Wichayanon Road where handcraft products are sold by small traders (Wattanaputi, 2002). Data from an interview revealed that around 1977, a new road was constructed from Wichayanon Road to Thapae Road on the west side of Nawarat Bridge called "Prisanee Road" (Post office Road). This street used to be the shop-house area behind Ton-Lam-Yai Market. After Prisanee Road was constructed, this street became the main street supporting transportation from Wichayanon Road.

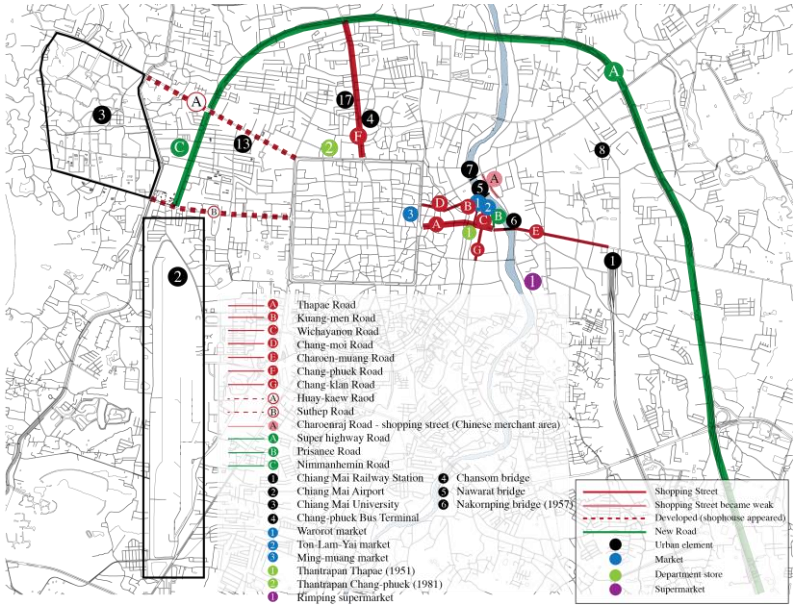


Figure 8. Location of urban elements related to commerce from 1960

4.6 1987: The Second Stage of the Economic Development Plan (Sixth Economic Development Plan of the Twenty First Century, 1987 to 2000)

4.6.1 Evidence of the commercial area in Chiang Mai, 1986 - 2000

In this second stage, the city developed continually and Chiang Mai remained the centre of commercial transportation and tourism promotion in northern Thailand according to the core city policy. The construction of three looped super highways on the outskirts, that later affected Chiang Mai, expanded increasingly from 1987.

4.6.2 The impact of the Economic Development Plan on shopping streets: Tourism Promotion and Roads

Tourism promotion is an important creator of new services for tourists. Shopping streets were specifically arranged to support local people and tourists. The Night Bazaar in 1974 was the first tourist market.

The development of transportation roads was indicative of the increasing

use of cars. In 1987, "Niyom-Panich Store", the business under the Chinese merchant family "Sakdathorn", became a dealer of Toyota cars, as well as of Yamaha, Honda and Suzuki motor vehicles. Within a short time, the majority of people started using cars and motorcycles.

Because Thapae Road links with the Night Barzaar, the tourist market, former urban elements failed to serve the new social behaviours. The new accessibility of shopping centres for local people rendered a change in the old shopping streets' function. Thane Road used to be a famous shopping street for local people, as indicated by various commercial building types, such as shop-houses, a department store, and a theatre, but was flattened around 1992 when the Thantrapan Thapae department store was sold.

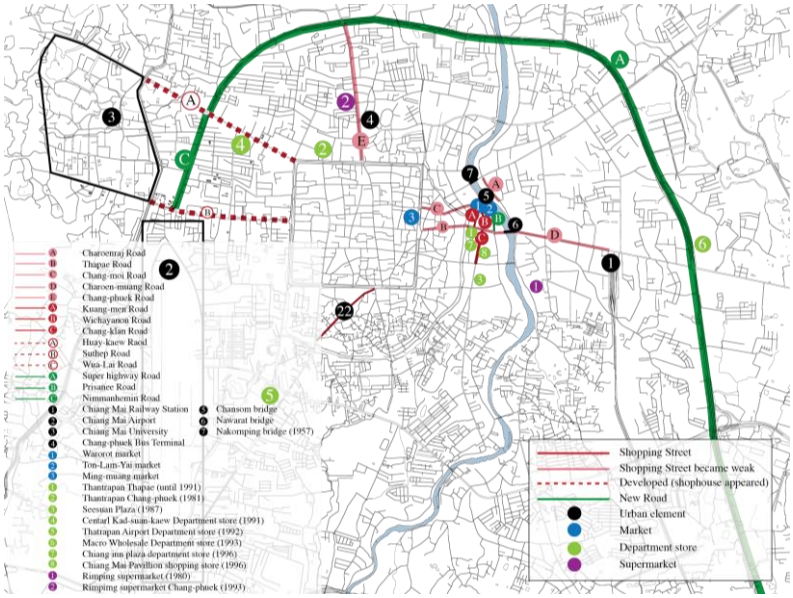


Figure 9. Location of urban elements related to commerce from 1986

4.6.3 New commercial building type

While the shopping streets before 1990 lost customers, especially on Thapae Road, with the dissolution of the Thantrapan Thapae department store, there was a simultaneous arrival of a new department store in 1991, "Central Kad-Suan-Kaew", which belonged to a Bangkok investor. Therefore, after Thantrapan's owner sold his business, in 1992 he invested in establishing a department store complex called "Thantrapan Airport" on Mahidol Road. The former shopping street began supporting tourism and thereby served local people passively.

5. CHARACTERISTIC OF SHOPPING AREAS IN CHIANG MAI

5.1 Characteristics of commercial areas in Chiang Mai before the nineteenth century

Originally, markets (spaces for exchange) located in *"Khuang"* (open public space of the city), served as temporary trading spaces in the early

morning. There was Hua-wiang Market, the market named according to *"Hua-Khuang"*, the place at the northern edge of the city near Chang-phuek Gate and Hua-wieng Temple, and Klang-wiang Market, which was located in the centre of the city near *"Khuang-muang"* (open space in the centre of Lanna). This market was characteristically a temporary market that started in the early morning and ran until the late morning. The economics of the market significantly depended on the royal family and important elements of the city respectively. However, Chiang-ruek Market became an important market because of its close proximity to Ping River and its connection out of the city. It was able to develop easily into a permanent commercial area without impacting on religious places.

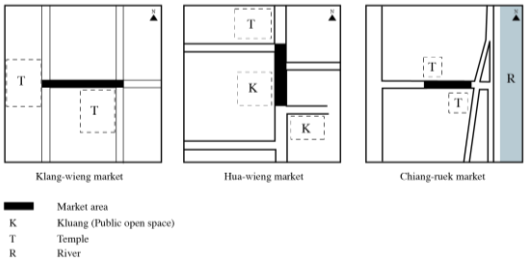


*Figure 10. I*mportant urban elements nearby a market street in 14th century

5.2 Characteristics of commercial areas in Chiang Mai between 1884 and 1921

5.2.1 Klang-wieng Market – the market street that disappeared

Historical evidence shows that the Klang-wing Market only ran until 1884. As the function of the old city area developed, Klang-wieng Market fell out of use. Chinese merchants had land rights in the old city area. The centre of the old city lost its sacred environs and the middle class moved to settle down in this area, as shown in the historical photo of 1924 (Figure 11).

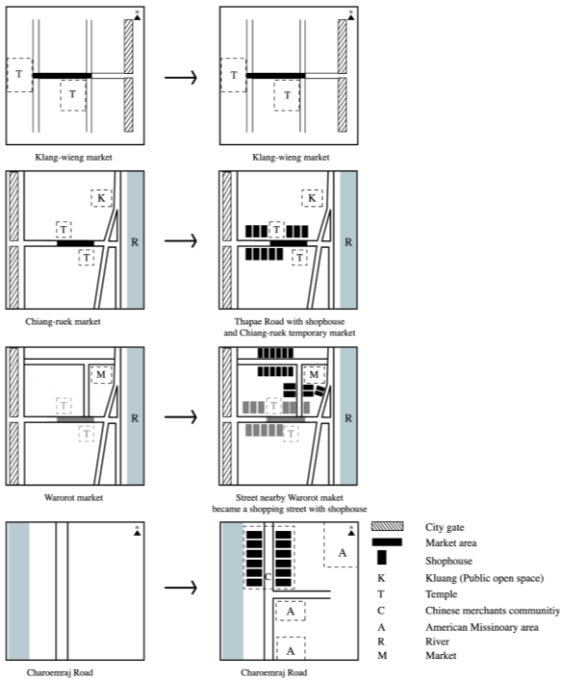


Figure 11. Diagram of the street's development into a shopping street due to its proximity to the river

5.2.2 Warorot Market – first establishment of a permanent market

Warorot Market was established in 1910 in the area that used to be the Kluang-men (Royal crematorium). Due to the annexation of Chiang Mai to Siam, the Lanna royalty's revenue from taxation had decreased and the Dhararasmi princess gave an order to transform "Kluang-men" into a market using her brother's name "Inthawarorot" as its namesake, and so it was named "Warorot" (locally called "Kad-luang"). The characteristic style of the market as an open building with a wooden Lanna-style roof, and open on its northern and southern sides, was the style of the open temporary marketplace (Kad-mua).

5.2.3 Charoenraj Road (Wat ket) - shopping street and Chinese community

In 1884, because of a flourishing river trade, Chinese merchants built shops along the Ping riverside. Later, this area became the first Chinese merchant community of Chiang Mai.

5.2.4 Thapae Road (Chiang-ruek Market) - shopping street

Thapae maintained an important role as the commercial area from the fourteenth century onward because its geography suits the trading environment. It was therefore able to develop into a permanent commercial area in contrast to Klang-wiang Market, which specifically relied on sacred places and its significance for the royal family under feudalism. Therefore, the transformation of open space to commercial space was difficult; spaces along the street were set for temples and palaces in this period.

After the annexation of Chiang Mai to Siam, the power of Lanna began to decline. The areas that once belonged to the Lanna royal family were sold off and became commercial areas in the next period. The Klang-wiang temporary market disappeared finally while Thapae Street continued its role and the Warorot Market was set up as a permanent market, replacing "Khuang-maen" and becoming a significant market in Chiang Mai's history.

Thapae Street was located outside the city and people came to settle along the street for trade. They had temporary open markets along the street, and the residents developed their accommodation into shop-houses. Later, temporary open markets disappeared after the development of streets and transportation; only shop-houses can still be seen as historical evidence of commerce on Thapae Street. Warorot Market became the most important market in Chiang Mai.

In conclusion, markets were developed from open markets in Khuang, but shop-houses were developed from housing along the streets of commercial areas.

5.3 Characteristics of commercial areas in Chiang Mai from 1921 to 1931

From 1921 to 1931, although the cessation of urban commercial elements such as ports had a small effect on Thapae shopping street, the arrival of new

urban elements such as the train highly affected Thapae Road. Thapae Road remains a commercial centre because of its location as a linking space. When the railway station was established, Charoen-Muang Street, the new shopping street, was linked to Thapae Road, which was also connected to Warorot Market, the most significant market in Chiang Mai.

The historical evidence that can still be seen through historical photography, is the wooden shop-houses situated on both sides of Thapae Road. Warorot Market became a significant shopping area for local people in Chiang Mai. Wooden shop-houses ran parallel along the street from Warorot Market to Thapae Road, and similarly to Klang-men Road, Wichayanon Road, and Chang-moi Road.

In addition to the annexation of Lanna to Siam, government offices moved to the old city area and the middle class began to settle their residences; consequently shop-houses appeared on Ratchadamnoen Road.

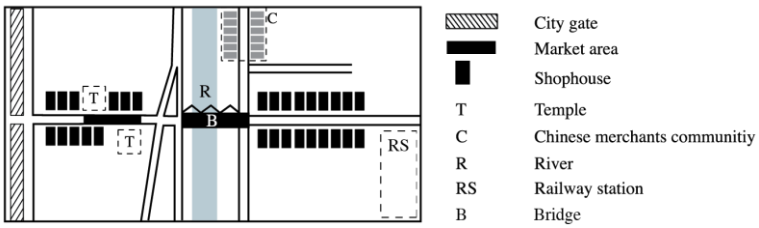


Figure 12. Diagram of the street's development into a shopping street due to its close proximity to the river

5.4 Characteristics of commercial areas in Chiang Mai from 1932 to 1959

Shopping streets in this period remained considerably stable because of World War II. Trading proceeded gradually for established traders. In addition, because of war, economic policies ceased. The shopping streets from 1933 to 1960 were no different from the period of 1921 to 1932, and the shopping streets and markets served only local people.

Warorot Market in this period featured high wooden columns with a zinc roof in the Lanna style of architecture. Inside, there were meat stalls, shrimp paste kiosks, and other market stands. At the southern end of the market, there were wholesale shop-houses with two storeys. The west side of market had two-storey shop-houses facing the main buildings of the market, which were crockery shops. Behind the two-storey shop-houses, there were three-storey shop-houses located on Wichayanon Road.

There were shop-houses along both sides of the street that had expanded from two former routes, Wichayanon Road and Klang-men Road, which also had a parallel link to the north of Thapae Road to Warorot Market to support more merchants.

5.5 Characteristics of commercial areas in Chiang Mai between 1960 to 1990

In this period of economic development, one in three significant businesses in Chiang Mai were department stores that mostly imported products from Bangkok and sold goods locally at inflated prices. Notably, in the last decade of the 20th century, around 1980 to 1990, there was a significant arrival of western style department stores with merchandise sections catering to high

and middle class families, government officers, and university students (Noranitipadungkarn & Hagensick, 1973). The first department store in Chiang Mai was founded by a Chinese merchant family who had firstly operated a shop in Warorot Market and later expanded business to Thapae Road following the Thantapan Thapae department store in 1951. Another department store located in Wichayanon Road was also started by a Chinese merchant who had a clothing shop in Warorot Market and later expanded business into a 3x10 unit shop-house on Wichayanon Road, and later into a large scale store in 1981, further expanding to Thapae Road and Chang-kran Road from around 1982 to 1990.

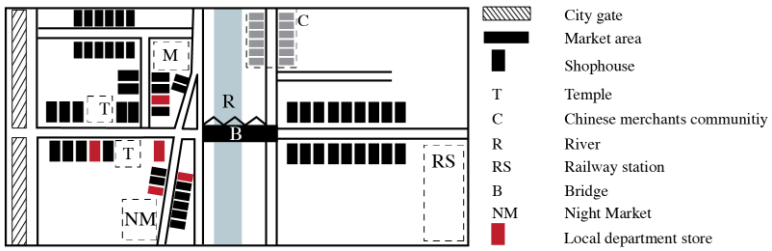


Figure 13. Diagram of the expansion of the shopping street from the old shopping street

1951— Thapae Road continued its role as the main shopping street and the first department store was established on Thapae Road (Thantrapan Thapae).

1961— Development of Suthep Road and Huay-Kaew Road to support Chiang Mai University staff and students.

— Chang-Phuek Road became the new main shopping street because of the construction of the Super Highway and Chang-Phuek bus terminal.

1974— Chang-Klan Road played an important role as a night shopping street for tourists.

1981— Maneenopparat Road near Chang-phuek Road saw the establishment of Thantrapan Chang Phuek

1982— Wichayanon Road, a shopping street linked with Warorot Market, had a large scale store called “Sor-kan-ka Department Store”

In the period between 1960 to 1985,the most significant urban element was the roads, which affected the city development and new shopping streets. Because of the first Economic Development Plan, cars and motorcycles became the main mode of transportation for the majority of people accessing shopping areas. Therefore, the shopping lifestyle had changed according to social conditions. The local department stores were developed on each shopping street, e.g. Thapae Road, Wichayanon Road, and Changkran Road.

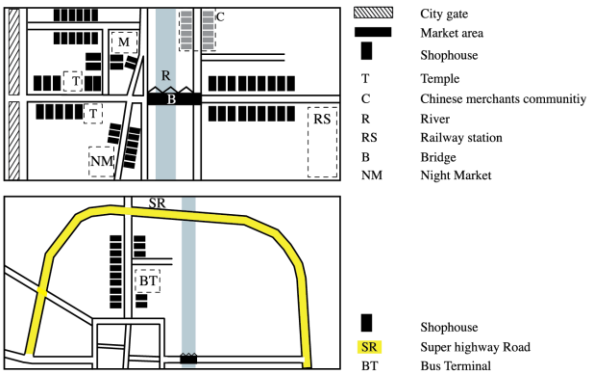


Figure14. The old shopping area and the establishment of new roads affected formation

of new shopping streets

5.6 Characteristic of commercial areas in Chiang Mai after 1990

The shopping lifestyle had already changed due to the import of luxurious goods, and the majority of people in the middle class had the capacity to purchase goods previously restricted to the elite class. Therefore, shops were built to match the growing demand.

At first, luxurious goods were sold in shop-houses on shopping streets, as historical photos show: the Japanese toy shop of a Japanese merchant on Thapae Road, the electric appliances store on Charoen-Muang Road, and retail shops in Warorot Market.

The transformation of the shopping lifestyle in 1990 was a result of the development of transportation. In the past, local people accessed shops by bicycle or by walking, and shops were appropriately accessible. Local people bought consumer goods at nearby grocery markets (shop-houses in the community) and markets.

With the development of transportation, cars and motorcycles became essential vehicles that suited the new urban lifestyle. Chinese merchants started car businesses in Chiang Mai, which changed the accessibility of street side shops. In addition, the foundation of complex department stores with parking areas was better suited to this new shopping lifestyle, and this affected shop-houses in shopping streets.

Supermarkets also extended to many streets, which caused the city's expansion and new communities appearing on its outskirts. Thus, the shopping areas spread in all directions.

6. PRIMARY ANALYSIS OF THE BEGINNING OF DEPARTMENT STORES IN CHIANG MAI

Initially, the local department stores in Chiang Mai were developed from shop-houses in shopping street areas. The significant examples include Thantrapan Thapae (1951), Sor Kanka1 at Wichayanon Road (1982), Sor Kanka2 at Thapae Road, and Sor Kanka3 on Chang ran Road (1982 to 1990).

In the last decade of the 20th century, there were new western style department stores that sold many products and contained many shops in one building and which contained parking areas; these stores began appearing around the city, e.g. Seasuan Plaza at Chang ran Road (1987), Central Kad suankaew at Huay knew Road (1991), Thantrapan Airport at Mahidol Road (1992), Chiang Inn Plaza, and Chiang Mai Pavilion at Chang kran Road (1996).

After the arrival of complex department stores from Bangkok, shopkeepers in Chiang Mai were dramatically affected. Local department stores Thantrapan Thapae (Figure 15), for example, established in 1951, closed down in 1992 because of the arrival of Central Kad Suankaew (Figure 15).

In the case of Thantrapan Thapae, the owner divested funds into a new complex department store called "Thantrapan Airport" (Figure 15) to compete with Central until it was taken over by CPN from Bangkok in 1996. Thantrapan Thapae closed down as a result of the shopping street downfall at the end of the 20th century. This significantly demonstrates the

interconnectedness of shopping streets, shop-houses, and department stores on the street.

In the case of the Sor Kanka department store on Wichayanon Road (1982), the characteristic of the building as a 3x10 unit shop-house remained until the end of the 20th century. The business downfall implicitly led to its reformation as a local fashion shop utilising only its first floor as an outlet. It remains in existence until today because Wichayanon Road still plays a role as a shopping street linked to Warorot Mrket. However, Sor Kanka2 on Thapae Street ceased its operations during the last decade of the 20th century following the downturn of Thapae shopping street. In the case of Sor Kanka3, it was renovated from an old hotel into a department store around 1990 on Chang klan Road. Nowadays, it continues its business using the first and second floor as shopping spaces and the fourth to fifth floor as a hotel for tourists who want to stay close to the Night Bazaar shopping street on Chang kran Road.

Regarding other local department stores located around Chiang Mai city, these closed down because of the arrival of Bangkok shopkeepers with higher investment capacity.

Figure 15. The character, of significant department stores in Chiang Mai (pictures by author, http://www.kadsuankaew.co.th/, https://th.wikipedia.org)

7. CONCLUSION - THE TRANSITION OF SHOPPING STREETS TO DEPARTMENT STORES

From the spatial study of the shopping areas in Chiang Mai from the foundation of Chiang Mai to the 1990s, the description of the characteristics of the shopping space can be categorised into three periods: shopping streets (1884 to 1969), the beginning of car-oriented streets (1970 to 1990), and shopping buildings (1991 to 1999). The shopping space in Chiang Mai transformed very obviously in the 1990s and brought in a new era with a new shopping lifestyle.

From 1884 to 1980, shopping areas still existed in linear spaces where shop-houses were located along streets, and their expansion followed uniform patterns, expanding from significant shopping streets to larger shopping areas. Streets had played a role as urban public spaces and people interacted with the urban area as a shopping area directly; although the first department store was established in 1951, the building was located in a significant shopping street until the transformation of the shopping area occurred, associated with the establishment of the Super Highway Road in 1969, when the nature of transportation altered the urban development of the city. Therefore, the character of transportation for accessing shopping areas by car changed with the advent of the Super Highway Road, but the character of old shopping spaces has been retained as shop-houses can still be seen along the shopping streets.

After the extreme period of urban development, the majority of people used cars to access Chiang Mai as the centre of Northern Thailand, and the city expanded through road construction. Lacking public transport, however, the people of Chiang Mai and those living in nearby districts had to use personal transportation. The characteristics of shopping streets are not accessible by cars and they have seen a dramatic decline in customers since 1990. In addition to Chiang Mai's role as the economic and tourist centre of Northern Thailand, demand and purchasing power have increased the potential for investment in trade.

The complex "department stores" have been established independently from shopping streets with parking space supporting access by personal transportation.

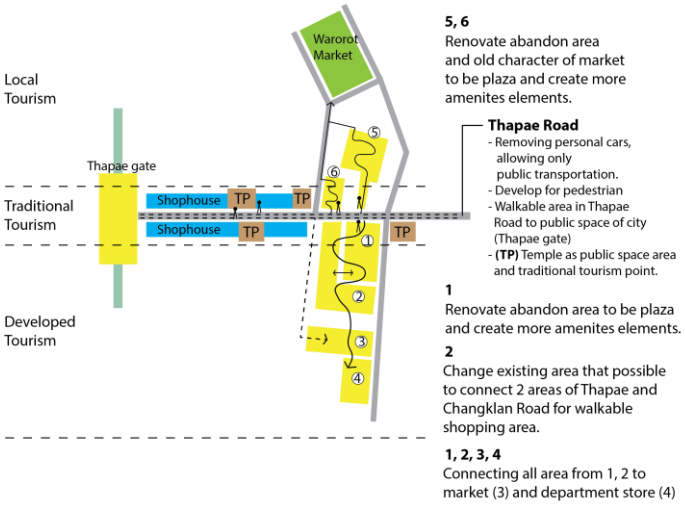


Figure 16. Commercial Area in Chiang Mai on the west side of Ping River (Warorot Market, Thapae street, Night Bazaar): Location of city public space and the area has the potential to link three areas and create new public space.

The main factor determining the shift in development form horizontal to vertical development has been the expansion of roads and increased access for updated modes of transport. Therefore, the original character of shopping spaces that do not accommodate cars and support the new urban lifestyle may cease to exist, especially as shopping spaces of the city. The development of original shopping areas could be shaped by increased public transportation. It should develop according to the basic principle of the Central City Mall (Rubenstein, 1978), by allocating walkable pedestrian areas. In the case of the Thapae area, including the Night Bazaar area and the Warorot Market area, it is possible that they could be developed by connecting all areas and creating an element of public space (Figure 16). It could be done by demolishing buildings without historical value. By that means, a public plaza would be created and would connect open space and local tourist shopping areas (i.e. Warorot Market), cultural tourist shopping areas (i.e. Thapae Road), and developed tourist shopping areas (i.e. Night Bazaar), together (Figure 17).

Figure 17. Create new shopping area connecting three areas together for a more sustainable shopping area and walkable city.

REFERENCES

Bristowe, W. S. (1976). *Louis and the King of Siam.* Chatto & Windus.

Chananan, P. (1986). *Bot Bat Nai Tun Por Ka Tee Mee Tor Kan Kor Lae Kayay Tua Khong Tun Niyom Pak Nua Khong Prated Thai Pho. So.2464 - 2523 (the Roles of Merchant Capitalists in the Rise and Expansion of Copitalism in Northern Thailand 1921-1980).* Bangkok: Faculty of economics, Chulalongkorn University.

Chuchat, C. (2006). *Phoka-Rue-Hang-Mang-Pong Nai Hoi Luang Lum Mae Num Ping (Pho. So.1839 - 2504) (Scorpion-Tail Boat Merchants in the Ping River Valley, 1839 - 2504 B.E.).* Chiang Mai: Sun Suksa Phumpanya Thongthin.

Easum, T. M. (2012). "Urban Transformation in the Colonial Margins: Chiang Mai from Lanna to Siam". (PhD. Dissertation), University of Wisconsin-Madison.

Meechubot, W. (2008). *Yon Adit Lanna: Ton Ruam Ruang Naru Chak Phanthi Muang Nakhon Chiang Mai (Look at the Past: Story Worth Knowing from Map of Chiang Mai).* Bangkok: Chulalongkorn University Press.

Nethipo, V. (2009). *Thun Chiang Mai (Chiang Mai Capital).* Bangkok: Openbooks.

Noranitipadungkarn, C., & Hagensick, A. C. (1973). *Modernizing Chiengmai : A Study of Community Elites in Urban Development.* Bangkok: Research Center, National Institute of Development Administration.

Ongsakul, S. (1986). *History of Lanna.* Bangkok: Amarin.

Potjanalawan, P. (2015). *Kam Nerd Prated Thai Pai Tai Pa Ded Kan (the Beginning of Thailand under Dictator).* Bangkok: Matichon Books.

Rapoport, A. (1977). *Human Aspects of Urban Form: Towards a Man—Environment Approach to Urban Form and Design.* Oxford: Pergamon Press Ltd.

Rubenstein, H. M. (1978). *Central City Malls.* New York: John Wiley & Sons.

Wattanaputi, C. (2002). *Kon Muang: Tur Ton Kan Pa Lid Sum Sang Mai Lae Puen Tee Tang San Kom Muang (Lanna People: Appearance, Reproduction and Social Space of Lanna People).* Bangkok: Matichon Books.

Watthananikorn, K. (2015). *Nai Hang Pa Mai - See San Cheevit Adit Lanna (Woods Proprietor - the Various Lifestyle of Lanna).* Chiang Mai: Santhipap Printing.

International review for spatial planning and sustainable development, Vol.6 No.2 (2018), 50-63
ISSN: 2187-3666 (online)
DOI: http://dx.doi.org/10.14246/irspsd.6.2_50

Assessing Local People's Preferences for Landscape Character in Teknaf Peninsula for Sustainable Landscape Conservation and Development

Mariym Sultana Marry[1*], Kazuo Asahiro[1], SM Asik Ullah[1], Masao Moriyama[2], Masakazu Tani[1], Maiko Sakamoto[3]
1 Graduate School of Design, Kyushu University
2 Graduate School of Engineering, Nagasaki University
3 Graduate School of Frontier Sciences, University of Tokyo
** Corresponding Author, Email: mariyam_mary07@yahoo.com*

Received: March 1, 2017; Accepted: May 19, 2017

Key words: Landscape conservation, Landscape character area, Local people's value, GIS

Abstract: Sustainable development requires better understanding of the human-landscape relationship in forested landscapes, one that facilitates more locally relevant and sustainable management. It can be more easily understood by the process of landscape characterisation and humans' valuation. Therefore, this study assesses local people's preferences and perceptions about the physical landscape, which is crucial for managing landscape and livelihood. The study investigates the diversification of landscape character types and landscape character areas (LCA), local people's perceptions about and preferences for different LCAs, and how and why they prefer some LCAs to others. An LCA is a distinct type of landscape that is relatively homogenous in character. Two different villages located in Teknaf peninsula, Bangladesh, are examined where the villages were selected by calculating vegetation cover within a buffer of 1 kilometre. Landform and vegetation data were collected as physical characteristics of the landscape to identify the LCA, and data for local people's perception and preferences were collected through focus group discussions and questionnaire surveys by selecting 10% of the households of each village in March 2016. The findings show that in Kerantali the diversification of landscape character types was more than in Tulatali. Homestead garden areas are highly preferred in Tulatali and forest is highly preferred in Kerantali. Kerantali's people receive poor material benefit from forest areas, whereas Tulatoli's people receive more material benefit from homestead garden areas. Furthermore, our findings indicate that homestead gardens play an important role as a supplement to forests.

1. INTRODUCTION

Rural people are highly dependent on their surrounding landscapes (Fagerholm et al., 2012). They use natural resources available in their local landscapes for their daily needs (Kramer, Healy, & Mendelsohn, 1992; Silvano et al., 2005).
Thus, as they are directly connected with the surrounding landscape, it is important for any decision makers or conservationists to know what kinds of

services or benefits they perceive to gain from their surrounding landscape, which landscape type they prefer more for their daily needs, and how the landscape can be managed in accordance with their needs and preferences.

Landscapes are able to provide many different goods and services to society. Wandén and Schaber (1998) identified aesthetic services which have ethical values (e.g. right to existence for all living creatures), provisional services which have production values (e.g. production of food, fibre, fruits), and regulating and supporting ecosystem services which have life support values (e.g. carbon fixation by green plants, protection of the soil against erosion, the maintenance of soil structure and fertility by a healthy soil flora and fauna, and biological control of crops and fruits by insects). The capacity to provide goods and services is not evenly distributed over a regional landscape as it depends on the socioeconomic and biophysical components of the landscape (Wiggering et al., 2006; Syrbe et al., 2007). In order to identify physical components, landscape characterization is a widely used tool that helps to identify a single character area, such as forest, depending on a particular landscape component or character such as vegetation (Heritage Council, 2006).

However, local people perceive different services from different landscape character areas (LCAs) and modify some parts of these LCAs according to their needs and preferences. Moreover, a landscape is composed of different LCAs that provide various services to local people. Therefore, it is necessary to manage landscapes by considering both their character and the role that local people play as they are the key local stakeholders, actively using, managing and changing the surrounding landscape (Campos et al., 2012).

Some considerable studies have been done on local people's preferences towards landscapes. Most of the studies have focused on visual (Cheng, 2007; Abkar et al., 2011; Dramstad et al., 2006) and aesthetic preferences (Chen, Xu, & Devereux, 2016; Howley, 2011; Thompson & Boyd, 1998) for reserved or protected landscapes (Sowińska-Świerkosz & Chmielewski, 2014; Szell, 2012), particular landscape patterns, such as mountains, lakes, and forests (Brown & Brabyn, 2012; Muhamad et al., 2014), and urban landscape patterns (Chen, Xu, & Devereux, 2016). However, there is now a growing demand for assessing preferences for multiple services, including provisional, aesthetic, supportive and cultural preferences (Muhamad et al., 2014; Brown & Brabyn, 2012; Sowińska-Świerkosz & Chmielewski, 2014). Assessing people's preferences and perceptions about visual, aesthetic or cultural services towards landscapes is already popular in developed countries (Cheng, 2007; Abkar et al., 2011; Dramstad et al., 2006; Chen, Xu, & Devereux, 2016; Howley, 2011; Thompson & Boyd, 1998), but in developing countries, rural residents are mainly concerned about landscapes' provisioning services whereas urban residents tend to appreciate more regulating and cultural services (Martín-López et al., 2012).

Perceptions are likely to differ among people living in different landscapes because of the various aspects of their perceptions of the surrounding environment being based on their experiences with nature (Berkes, 1999; Campos et al., 2012) over different spatial and temporal scales (Hein et al., 2006; Rodríguez et al., 2006). In addition, people who are living in different landscapes perceived the same services from diverse landscape components. For instance, those who live close to the forest perceived different provisional services from the forest, but in other landscapes they may have perceived the

same services from the household garden or agricultural field. However, such differences in perception between different landscapes may lead to conflicts over natural resource management. In order to establish sustainable landscape management, it is important to know which landscapes are composed of which LCAs, and how local people perceive and prefer those LCAs. To our knowledge, no such study has been conducted for rural landscapes in developing countries. This research will help to identify landscapes with specific compositions of LCAs and local people's preferences and perceptions about those LCAs for provisioning services so that local people's relationships can be correlated with particular landscape characteristics which helps to manage landscapes and local livelihood in a sustainable way.

For conducting this research, the Teknaf peninsula located in Bangladesh has been selected. This is a unique area in Bangladesh where both coastal and hill landscapes exist. Recently this landscape has been highly degraded due to anthropogenic activities, natural disaster, and the over-exploitation of natural resources (Miah, Bari, & Rahman, 2010). Now the population is increasing and the land use pattern has changed dramatically (Rahman, Asahiro, & Tani, 2011). As a result, both forest and marine resources have been degraded (IUCN, 2005) and it is an area of great concern for conservationists. The main objective of this study is to identify what kind of LCA exists in two different landscapes and to assess the differences of local people's perception and preference about those LCAs.

2. MATERIALS AND METHODS

2.1 Study Area

The Teknaf peninsula is located in the Teknaf upazila, Cox's Bazar district. The peninsula comprises about 153 villages. Among them are two villages named Kerantali and Tulatali, which were selected based on the vegetation characteristics (Figure 1) by calculating the vegetation cover within a 1 kilometre buffer area from the centre point of villages. One village was selected for 50% vegetation (Kerantali) and the other one for 30% vegetation cover (Tulatali). Tulatali is located on the western side of the peninsula, far from the forest, with an area of approximately 519039.803 sq. metres. Kerantali is located on the eastern side of the peninsula near to a forest, with an area of approximately 578240.595 sq. metres. In the village of Tulatali, there are 195 households, one mosque, one Madrasa, and one fishing ghat, and in Kerantali, there are 215 households, one primary school, one NGO school, one small market, and one fishing ghat. A major portion of the population of Tulatali are engaged in agricultural activities and fishing in the sea, whereas the major sources of income are in the tertiary sector, in occupations such as shop keeping, labouring in rice factories, industrial labour, and other jobs related to fishing activities or forest work, including forest guard work or firewood collecting.

2.2 Study Design

The following study design (Figure 2) was followed to complete the study, and this figure shows that data were collected in two steps. The first is landscape character data, collected from a desktop study and the other is local

people's perception and preference data, collected from face to face interviews and questionnaire surveys respectively.

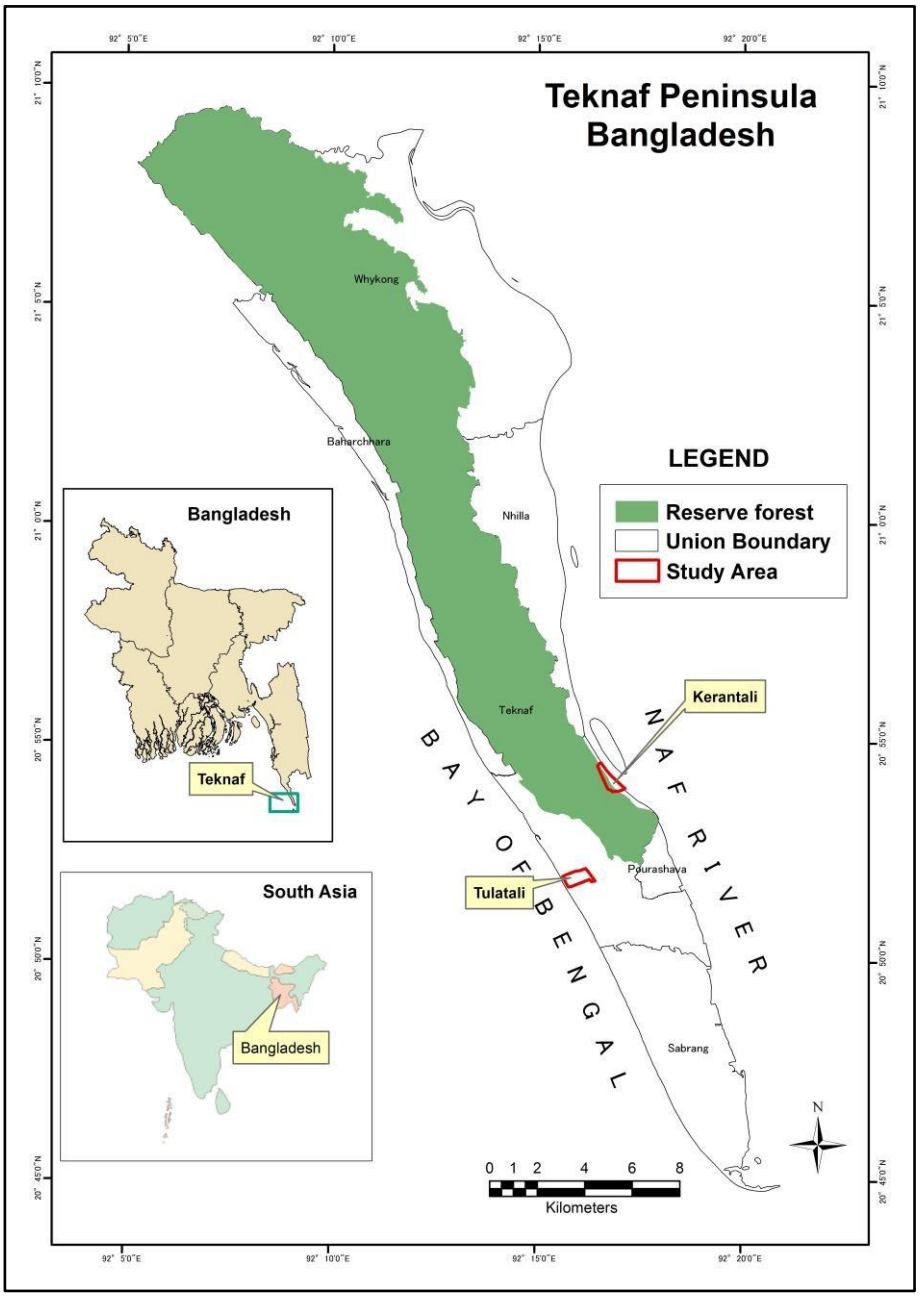


Figure 1. Study Area

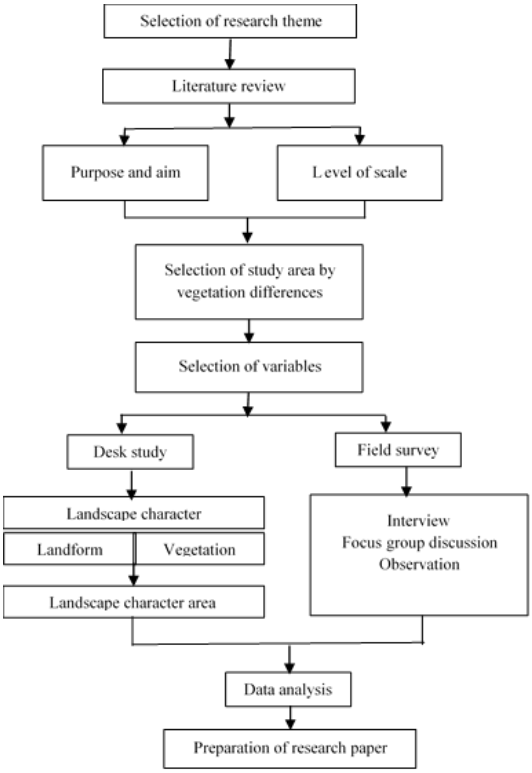


Figure 2. Study Design

2.3 Data Collection

2.3.1 Landscape Character Type Data

Data on the landscape characteristics of two villages were collected from landform and vegetation maps, which aid in the classification of the LCAs associated with different physical landscape characteristics. A landform map (Figure 3) was prepared from a 5m resolution digital elevation model, which was composed from all of the ALOS satellite images taken between 2006 and 2011, and were finalised by the NTT DATA Corporation in September, 2015. The Hammond method was followed and ArcGIS 10.4.1 software was used to make a landform map that shows four categories of land type: plain land (0-30m), plain land with relief (31m-90m), high land (91m-150m) and high mountainous land (151m-300m).

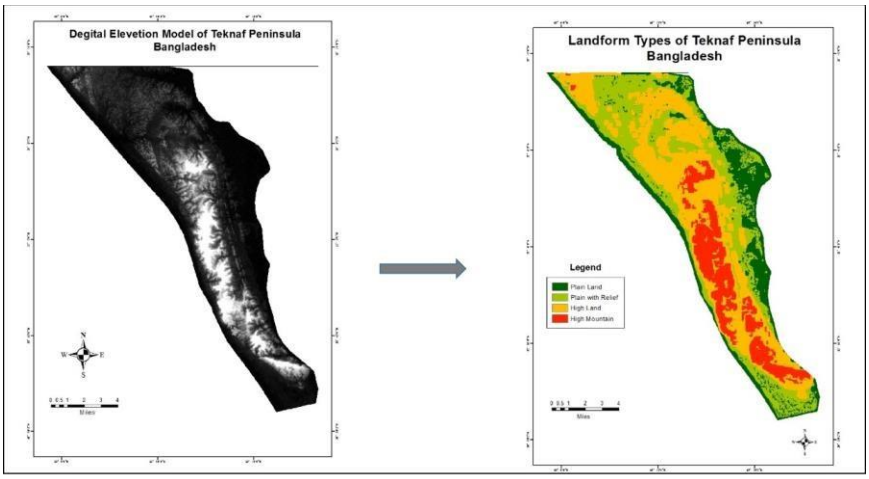


Figure 3. Landform Types in Teknaf Peninsula

Vegetation data were collected from a vegetation map. The vegetation map was prepared in two steps. First, a map was prepared from Landsat 8 images taken from October to March, 2013 using the NDVI (Normalized Difference Vegetation Index) method. Three categories were identified from the first map (Figure 4): G land, which includes grass land, and agricultural land; Mosaic land, which is considered water bodies, fallow land with bushy vegetation, and road; and high vegetation land that combines all forest (planted and natural), homestead gardens, and betel leaf fields. The satellite images were almost three years old and various high vegetation groups were in a merged category, therefore an image from Google Earth, 2016, was used to modify and make individual data layers of betel leaf fields, planted forest areas and homestead gardens (Fig. 2.4). The second vegetation map was a combination of those data layers and the first map. This final map shows 6 categories of vegetation: betel leaf areas, grass land areas, mosaic areas, homestead garden areas, natural forest and planted forest areas (Figure 5). All categories of landform and vegetation data were calculated for two villages.

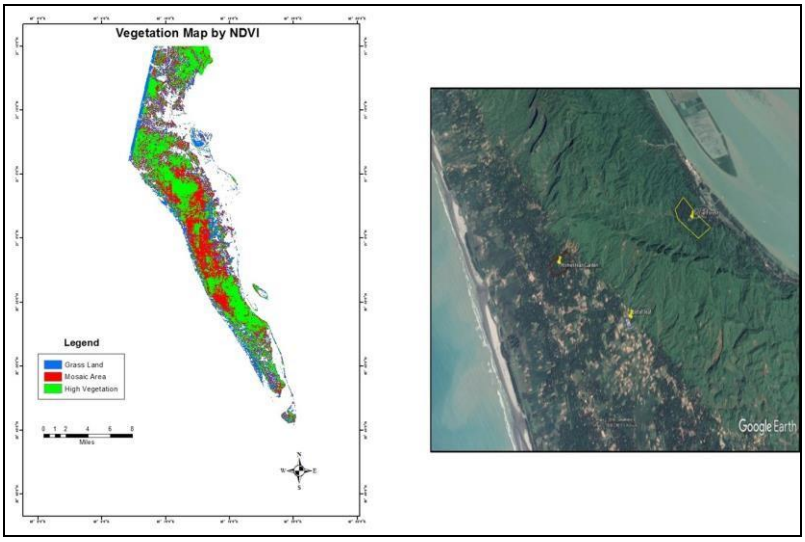


Figure 4. Vegetation Map Methodology

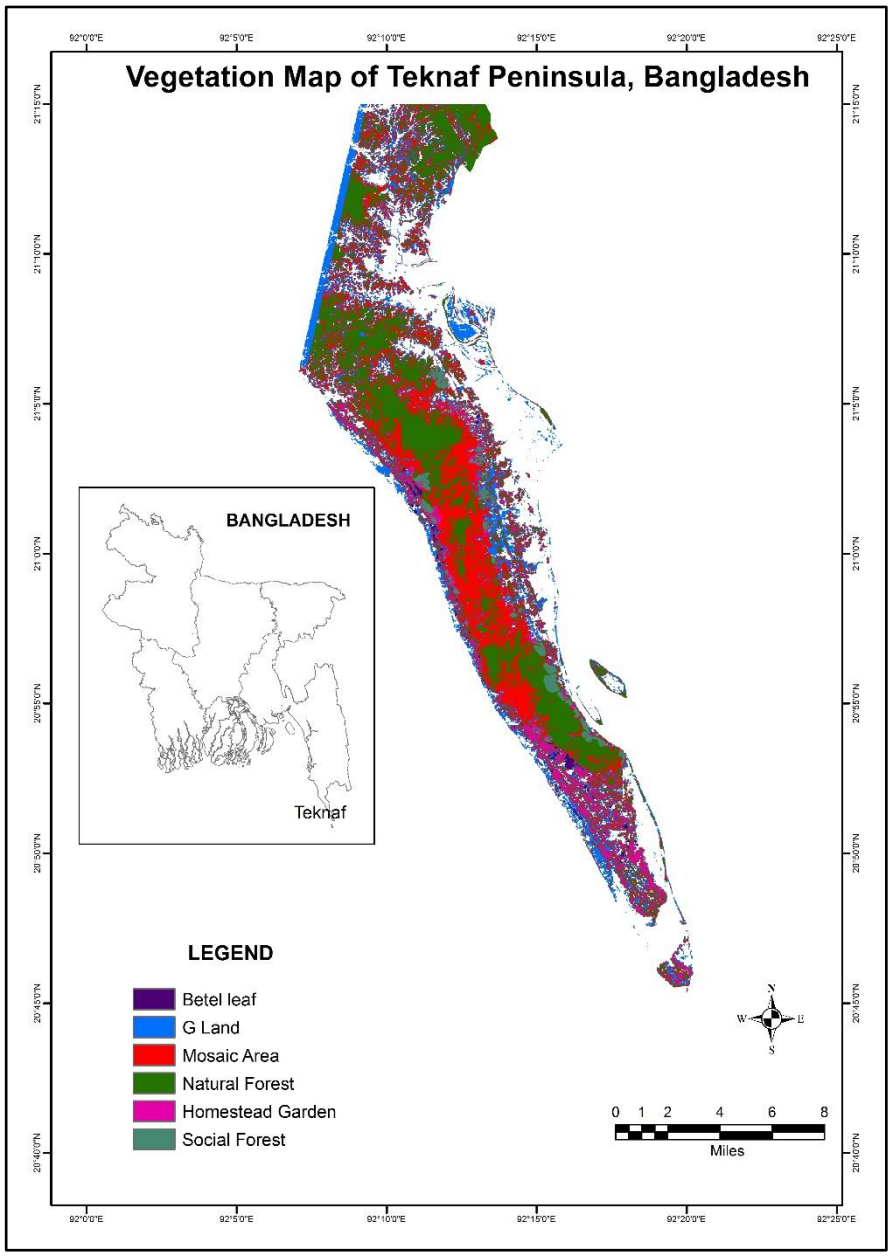


Figure 5. Vegetation Types in Teknaf Peninsula

2.3.2 Landscape Character Area

LCA is based on a spatial hierarchy. In most cases at national, regional and local level, the classification breaks down LCAs further by landscape character types and areas. In accordance with the previous classifications for landscape character types and areas by Wascher (2005) and Heritage Council (2006), Tekanf peninsula can be considered as an LCA at the regional scale and the study area can be considered as two different landscape character types at the local level; in this research, the target was to classify landscape character area at the local level (Figure 6). However, the landform and vegetation character were used for classifying the LCA at the local level by customizing the landscape codes for European Landscape Character Types from Wascher (2005) (Figure 7), and this area was identified using a Google Earth image from 2016.

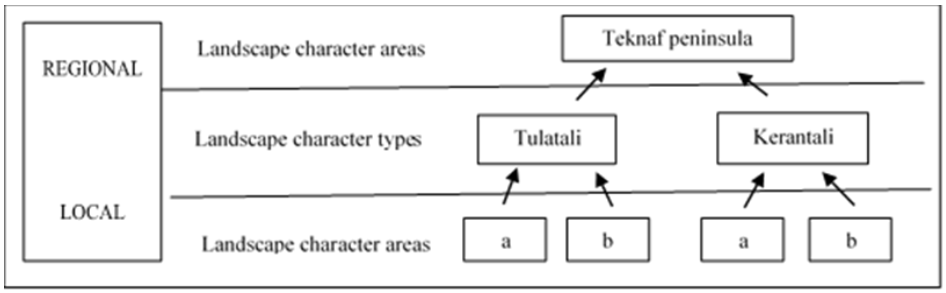


Figure 6. Classification of landscape character area at regional and local level

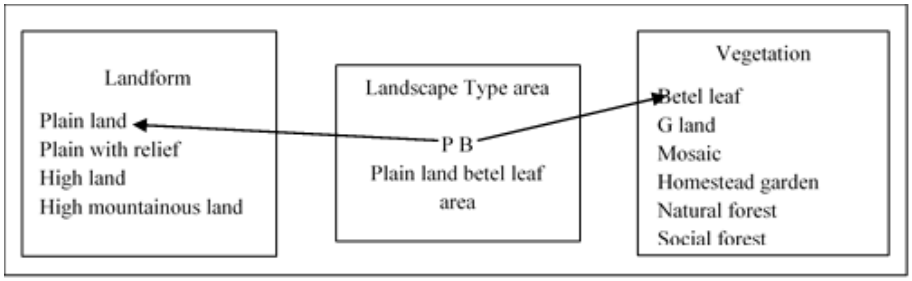


Figure 7. Landscape codes used for landscape character areas in study area (customized from Wascher (2005))

2.3.3 Local People's Perception and Preference Data

Data on local people's perception and preferences of the provisioning services of different LCAs were collected through questionnaire surveys with the local population. The population was sampled by means of simple random sampling, where 10% of households from each village were selected. In Kerantali there are 215 and in Tulatali there are 195 households. There were 21 households from Kerantali and 19 households from Tulatali village sampled. The survey was conducted in March, 2016.

This questionnaire consists of two parts, socio-demographic information and preferences for LCAs. The former includes factors such as age, gender, income, occupation, education, and house status and land assets, included in order to understand their socioeconomic condition. The latter focuses on people's perception and preferences about different LCAs.

As mentioned above, according to the Millennium Assessment, four types of services (provisioning, regulating, supporting and cultural) were identified to assess how people perceived the landscape (Muhamad et al., 2014). For this research, six types of provisioning services were identified. Those are: main food and crops, vegetable, fruits, construction tools, firewood and marketable items. Each respondent was asked which landscape character area they use as the source of each service. The answer indicates how different LCAs were perceived by local people.

A five-point scale, ranging from 1 ('Not needeed') to 5 ('Extremely needed'), was applied for evaluating people's preferences for different LCAs.

2.4 Data Analysis

Several data collection methods were used to collect quantitative data. In this study, people's perceptions and preferences were treated as quantitative data, though generally it is considered qualitative data; however, perception data were collected as the number of perceived services from different LCAs

and preference data were collected on a five-point scale system that was counted as qualitative data. On the other hand, landscape character types and areas were calculated as quantitative data.

In this study, the data were analysed in two ways: an analysis of existing LCAs of each village, and an analysis of data on people's preferences and perceptions about those LCAs.

Firstly, landform and vegetation data was calculated for each village using TNTmips software and the landscape character types determined by following customized landscape codes (Figure 6). Then, the landscape character types and areas were calculated, and through analysis of the dominant types, LCAs were identified at the local level that is used for provisioning services to people.

Secondly, the number of perceived services from each LCA was calculated and ranked according to people's preferences.

3. RESULT

The main focus of this paper is to identify LCAs in two different landscape type areas (villages) using landscape characterization, and to assess the differences of local people's preferences and perceptions about those landscape character areas. Results are described as follows:

3.1 Landscape Character Type and Area

From the desktop study, physical character data were obtained from landform and vegetation maps for each village (Table 1). The landform of Tulatali is almost entirely flat land with some local relief and there are no high land or high mountainous areas, whereas Kerantali can be recognised as a high mountainous area due to its larger percentage of high land and high mountainous area. Kerantali also has some flat land area. Among the vegetation categories, larger portions of Tulatali are covered by G land type (grass or agricultural), whereas a larger portion of Kerantali is covered by planted forest.

Table 1. Landform and Vegetation data of Tulatali and Kerantali

Tulatali				**Kerantali**			
Landform		**Vegetation**		**Landform**		**Vegetation**	
Types	Area (%)	Types	Area (%)	Types	Area (%)	Types	Area (%)
Flat land	31	Betel leaf	4	Flat land	14	Betel leaf	1
Flat with relief	69	G land	47	Flat with relief	1	G land	4
		Mosaic land	15	High land	29	Mosaic land	20
		Homestead garden	34	High mountainous	56	Homestead garden	13
						Natural forest	7
						Planted forest	55

By using the customized landscape codes (Figure 7) method and the Google Earth image from 2016, several existing landscape character types were identified in order to determine existing LCAs for two villages. Seven LCAs were identified and calculated from Tulatali and ten LCAs were identified and calculated from Kerantali. Table 2 represents where Tulatali is dominated by flat G land (agricultural fields), flat G land with relief

(agricultural fields) and flat homestead gardens with relief, whereas Kerantali is dominated by high mountainous planted forest with a higher diversity of landscape character type than Tulatali.

Table 2. Landscape character types of Tulatali and Kerantali

No	**Tulatali**		**Kerantali**	
	Landscape character types	**Area (%)**	**Landscape character types**	**Area (%)**
1	Flat betel leaf land	3	High mountainous social forest	61
2	Flat G land (agricultural field)	25	High mountainous betel leaf	1
3	Flat mosaic land	10	High mountainous homestead garden	7
4	Flat homestead garden with relief	23	High mountainous natural forest	2
5	Flat betel leaf with relief	3	High mountainous mosaic	6
6	Flat G land with relief (agricultural field)	25	High mountainous G land (grass land)	4
7	Flat mosaic land with relief	11	High land natural forest	5
8			High land mosaic	5
9			Flat homestead garden	8
10			Flat mosaic land with relief	1

Based on the above landscape character types, different LCAs were identified for each village that are used by people for provisioning services (Table 3). In Tulatali, the agricultural field area was identified from both flat G land and flat G land with relief, the waterbody, and fallow land area was identified from flat mosaic land and flat mosaic land with relief. In Kerantali, high mountainous G land type was identified as grass land area with no agricultural field area, but with a larger portion of forest area.

Table 3. Landscape character areas of Tulatali and Kerantali

No	**Tulatali**		**Kerantali**	
	Landscape character area	**Area (%)**	**Landscape character area**	**Area (%)**
1	Agricultural field area	50		
2			Forest	71
3	Betel leaf area	7	Betel leaf area	1
4	Homestead garden area	36	Homestead garden area	16
5	Waterbody area (mosaic land)	1	Waterbody area (mosaic land)	6
6	Fallow land area (mosaic land)	6	Fallow land area (mosaic land)	6

3.2 Rural People's Perceptions and Preferences

In Tulatali, homestead gardens are widely used for collecting construction tools, firewood, and marketable items; betel leaf field areas are only used by six households for collecting marketable items; agricultural land is used for collecting the main food, vegetables, and marketable items; the waterbody is only used for collecting marketable items by one household and there is no service perceived from fallow land (Table 4).

Table *4.* The number of respondents who perceived services from existing LCA (Tulatali)

Services	**Landscape Character Area**				
	Homestead garden	Betel leaf	Agricultural land	Waterbody	Fallow land
Main food and crop	-	-	3	-	-
Vegetables		-	4	-	-
Fruits	3	-	-	-	-
Construction tools	14	-	-	-	-
Firewood	15	-	-	-	-
Marketable items	14	6	2	1	-

In Kerantali, the forest area is used by the highest number of households, but homestead gardens are used for the highest number of services. Most of the houses use the forest area for collecting construction tools, firewood, and marketable items; homestead gardens are used for collecting vegetables, construction tools, firewood, and marketable items; the betel leaf field area is only used for collecting marketable items by one household; the waterbody is only used for collecting marketable items by one household; and there is no service perceived from fallow land (Table 5).

Table *5.* The Number of Respondent who perceived services from existing LCA (Kerantali)

Services	**Landscape Character Area**				
	Homestead garden	Betel leaf	Forest	Waterbody	Fallow land
Main food and crop	-	-	-	-	-
Vegetables	1	-	-	-	-
Fruits	-	-	-	-	-
Construction tools	3	-	10	-	-
Firewood	2		10		-
Marketable items	2	1	4	1	-

According to the perception of provisional services from two villages on different LCAs, an importance index has been made (Figure 8) and also based on the current amount of LCAs, an index has been made (Figure 9) so that local people's perceptions can be compared with existing LCAs. From the importance index, homestead gardens are highly perceived by Tulatoli people, where it is slightly less well perceived for offering services by Kerantali people. Fallow land has no importance for either of the two villages but shares an equal area. The forest is important forKkerantali people, but when comparing with its total area, the betel leaf has higher importance in Tulatali than in Kerantali.

A five-point scale, ranging from 1 ('Not needed') to 5 ('Extremely needed') was used for evaluating and ranking the local people's preferences for different LCAs, and Table 3 shows the comparative preference ranking between the two villages. In Tulatali, homestead garden areas are ranked 1, where the forest ranked 1 in Kerantali; homestead garden was ranked 3 in Kerantali, where the forest ranked 6 in Tulatali; agricultural land is ranked 2 in Tulatali, but it is ranked 4 in Kerantali where there is no agricultural land; the waterbody is ranked 2 in Kerantali, but in Tulatali it is ranked 4.

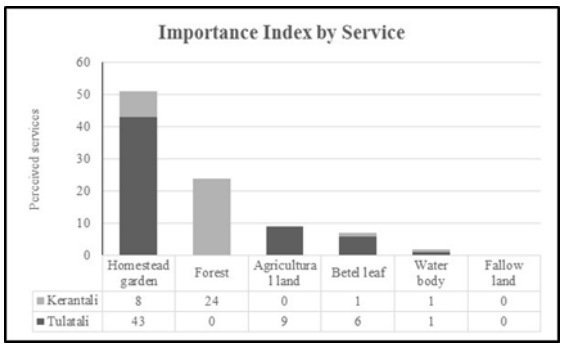


Figure 8. Importance Index by Perceived

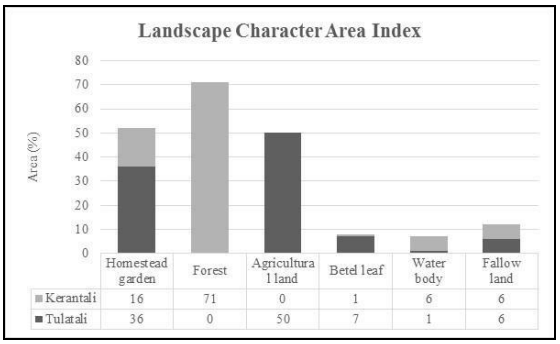


Figure 9. Landscape Character Area Index

Table 6. Comparative preferences' ranking of landscape character area

Landscape Character Area	Tulatali	Kerantali
Homestead Garden	1	3
Betel leaf Field	3	5
Agricultural Land	2	4
Forest	6	1
Fallow land	5	6
Waterbody	4	2

4. DISCUSSION

This paper shows that these two villages are significantly different according to the character of their landform and vegetation, even though they are located on the same peninsula; these particular characteristics generate diversified and sometimes similar landscape character types, but not all similar landscape character types support identical LCAs. For instance: flat G land in Tulatali is identified as agricultural field area, while also being identified as grass land area. However, from this study it can be said that flat land with relief and lower vegetation supports a larger agricultural field area and homestead garden areas (Tulatoli) and high mountainous areas with high vegetation support larger areas of forest (Kerantali) in the context of Teknaf peninsula.

The present study revealed that rural people living in the forest area of Teknaf perceived higher levels of provisional services from forests, while people living far from a forest perceived nearly the same services from homestead garden areas. In Tulatali, there is more agricultural field area than homestead garden area, but the perceived services from homestead gardens

are greater than for agricultural field areas. On the other hand, in Kerantali, almost 50% of the people perceived construction tools, firewood, and marketable item services from the forest area, and for other services they have to depend on the market. The waterbody area is larger in Kerantali than in Tulatali, but the number of perceived services is the same and, most importantly, these two villages hold almost the same area of fallow land, but there are no provisional services that local people can perceive.

An interesting finding of the study is the differing preference values of the people of the two villages, especially those from Kerantali. In Kerantali, the forest area is ranked 1, which is very natural due to the perceived benefit, but their second most preferable area is the waterbody, which makes up approximately 6% of the total area, but is perceived very poorly. There is no agricultural field area, but they ranked it number 4. In Tulatali, the homestead garden area is the most preferable area from their perceptions, but they preferred fallow land more than forest as they thought it could be more beneficial than forest.

Our findings elucidate the distribution pattern of LCAs according to landscape character types and local people's perception and preference values for the LCAs of two villages of Teknaf. The findings could be considered as a guide for decision makers or planners, where they can get a clear idea about what the character of the land is and which character types could be converted according to local people's perceptions and preferences.

5. RECOMMENDATION

In this study, two villages were examined from among the 153 villages of Teknaf peninsula, so it is recommended to consider more villages in future studies, which could represent the whole Teknaf peninsula and which could provide in-depth recommendations and suggestions for spatial planning.

From the above discussion it can be seen that forest devastation is very high because of firewood and construction tool collection and that the area has some fallow land; this fallow land can be used for planting homestead species and local people can use their household's surrounding area for plantations.

Another noticeable point is that Kerantali people totally depend on the market for collecting crops and fruit, and their landform is mostly mountainous, therefore the local government can consider an upper mountain management policy for planting various fruit species and crop cultivation.

REFERENCES

Abkar, M., Kamal, M., Maulan, S., & Davoodi, S. R. (2011). "Determining the Visual Preference of Urban Landscapes". *Scientific Research and Essays*, *6*(9), 1991-1997.

Berkes, F. (1999). *Sacred Ecology: Traditional Ecological Knowledge and Resource Management.* Philadelphia: Taylor & Francis.

Brown, G., & Brabyn, L. (2012). "An Analysis of the Relationships between Multiple Values and Physical Landscapes at a Regional Scale Using Public Participation Gis and Landscape Character Classification". *Landscape and Urban Planning*, *107*(3), 317-331.

Campos, M., Velázquez, A., Verdinelli, G. B., Priego-Santander, Á. G., McCall, M. K., & Boada, M. (2012). "Rural People's Knowledge and Perception of Landscape: A Case Study from the Mexican Pacific Coast". *Society & Natural Resources*, *25*(8), 759-774.

Chen, Z., Xu, B., & Devereux, B. (2016). "Assessing Public Aesthetic Preferences Towards Some Urban Landscape Patterns: The Case Study of Two Different Geographic Groups". *Environmental monitoring and assessment*, *188*(1), 4.

Cheng, C.-K. (2007). "Understanding Visual Preferences for Landscapes: An Examination of the Relationship between Aesthetics and Emotional Bonding". (PhD Dissertation), Texas A & M University.

Dramstad, W. E., Tveit, M. S., Fjellstad, W., & Fry, G. L. (2006). "Relationships between Visual Landscape Preferences and Map-Based Indicators of Landscape Structure". *Landscape and Urban Planning*, *78*(4), 465-474.

Fagerholm, N., Käyhkö, N., Ndumbaro, F., & Khamis, M. (2012). "Community Stakeholders' Knowledge in Landscape Assessments–Mapping Indicators for Landscape Services". *Ecological Indicators*, *18*, 421-433.

Hein, L., Van Koppen, K., De Groot, R. S., & Van Ierland, E. C. (2006). "Spatial Scales, Stakeholders and the Valuation of Ecosystem Services". *Ecological Economics*, *57*(2), 209-228.

Heritage Council. (2006). "Landscape Character Assessment (Lca) in Ireland: Baseline Audit and Evaluation", *Final Report to the Heritage Council*, Kilkenny, Ireland: Heritage Council.

Howley, P. (2011). "Landscape Aesthetics: Assessing the General Publics' Preferences Towards Rural Landscapes". *Ecological Economics*, *72*, 161-169.

IUCN. (2005). "Rehabilitation of Critical Coastal Ecosystem: Chokoria Sundarban", *Final report*, Bangladesh, Dhaka: IUCN (International Union for Conservation of Nature).

Kramer, R. A., Healy, R. G., & Mendelsohn, R. O. (1992). "Forest Valuation". In Sharma, N. P. (Ed.), *Managing the World's Forests: Looking for Balance between Conservation and Development* (pp. 237-267). Dubuque, IA: Kendall/Hunt Publishing Co.

Martín-López, B., Iniesta-Arandia, I., García-Llorente, M., Palomo, I., Casado-Arzuaga, I., Del Amo, D. G., . . . Willaarts, B. (2012). "Uncovering Ecosystem Service Bundles through Social Preferences". *PloS one*, *7*(6), e38970. doi: https://doi.org/10.1371/journal.pone.0038970.

Miah, G., Bari, N., & Rahman, A. (2010). "Resource Degradation and Livelihood in the Coastal Region of Bangladesh". *Frontiers of Earth Science in China*, *4*(4), 427-437.

Muhamad, D., Okubo, S., Harashina, K., Gunawan, B., & Takeuchi, K. (2014). "Living Close to Forests Enhances People′ S Perception of Ecosystem Services in a Forest–Agricultural Landscape of West Java, Indonesia". *Ecosystem Services*, *8*, 197-206.

Rahman, M. A., Asahiro, K., & Tani, M. (2011). "Landuse Change in Teknaf Peninsula: Farmer's Experience". Proceedings of International Conference on Environmental Aspects of Bangladesh (ICEAB 2011), Fukuoka, Japan.

Rodríguez, J. P., Beard Jr, T. D., Bennett, E. M., Cumming, G. S., Cork, S. J., Agard, J., . . . Peterson, G. D. (2006). "Trade-Offs across Space, Time, and Ecosystem Services". *Ecology and Society*, *11*(1), 28-41.

Silvano, R. A., Udvardy, S., Ceroni, M., & Farley, J. (2005). "An Ecological Integrity Assessment of a Brazilian Atlantic Forest Watershed Based on Surveys of Stream Health and Local Farmers' Perceptions: Implications for Management". *Ecological Economics*, *53*(3), 369-385.

Sowińska-Świerkosz, B., & Chmielewski, T. J. (2014). "Comparative Assessment of Public Opinion on the Landscape Quality of Two Biosphere Reserves in Europe". *Environmental Management*, *54*(3), 531-556.

Syrbe, R.-U., Bastian, O., Röder, M., & James, P. (2007). "A Framework for Monitoring Landscape Functions: The Saxon Academy Landscape Monitoring Approach (Salma), Exemplified by Soil Investigations in the Kleine Spree Floodplain (Saxony, Germany)". *Landscape and Urban Planning*, *79*(2), 190-199.

Szell, A. B. (2012). "Attitudes and Perceptions of Local Residents and Tourists toward the Protected Area of Retezat National Park, Romania". (Master Thesis), Western Michigan University, Kalamazoo, Michigan.

Thompson, C. W., & Boyd, F. (1998). "Review of Research in Landscape and Woodland Perceptions, Aesthetics and Experience": Landscape Design and Research Unit, Edinburgh College of Art/Heriot-Watt University. Retrieved from http://www.openspace.eca.ed.ac.uk/wp-content/uploads/2015/10/Review-of-Research-in-Landscape-and-Woodland-Perceptions-Aesthetics-and-Experience-literature-reviews.pdf.

Wandén, S., & Schaber, P. (1998). "Understanding Biodiversity", *Ecosystem Research Report No.25*: European Commission.

Wascher, D. M. (2005). "European Landscape Character Areas: Typologies, Cartography and Indicators for the Assessment of Sustainable Landscapes" (1566-7197), Oxford: Landscape Europe.

Wiggering, H., Dalchow, C., Glemnitz, M., Helming, K., Müller, K., Schultz, A., . . . Zander, P. (2006). "Indicators for Multifunctional Land Use - Linking Socio-Economic Requirements with Landscape Potentials". *Ecological Indicators*, *6*(1), 238-249.

International review for spatial planning and sustainable development, Vol.6 No.2 (2018), 64-81
ISSN: 2187-3666 (online)
DOI: http://dx.doi.org/10.14246/irspsd.6.2_64

Regional Heritage Dimensions vs. Management Boundaries

A comparative framework of European and Asian countries

Alba Victoria Zamarbide Urdaniz[1*]
1 Faculty of Creative Science and Engineering, School of Architecture, Department of Urban Planning, Waseda University
** Corresponding Author, Email: albazamarbide@gmail.com*

Received: March 11, 2017; Accepted: Aug 19, 2017

Key words: Heritage Concept, Heritage Boundaries, Human-Nature Connections, Regional Boundaries, Historical Region, Regional Management

Abstract: Nowadays, two main biases dominate the World Heritage Site (WHS) management debate. While new tendencies within the United Nations Educational Scientific and Cultural Organization (UNESCO) suggest a dynamic multilayer approach, it remains compulsory for registration in the World Heritage (WH) list to define the *"core"* and *"buffer"* preservation zones of a listed site and to have a Management Plan applied to them. Inherited from European planning systems, management boundaries do usually collide with heritage dimensions and eco-cosmological systems, especially in Asia. In view of the lack of effective heritage management models, international experts have blamed, among others, Eurocentric views, the imposition of universal tools and, consequently, the generalised application of *"buffer"* zones. This research analyses the roots of these three problems through a review of: 1) the dimensions of heritage in each world region (East and West) and within UNESCO, 2) the effects of physical boundaries on the perception of heritage and the related application of WH *"buffers"*, 3) the integration of 1) and 2) through legal instruments. By comparing both East and West world regions, it is possible to conclude that even though the dichotomy of East-West has been overcome at theoretical levels, there are big gaps in the application of practical management tools. The limited practical use of WHS at the regional level appears as the main management incongruence. In addition, the conflicting definitions of *"buffer zones"* given by UNESCO suggest the need to both redefine this concept as a top-down defining instrument, and allow for more flexible site definition.

1. INTRODUCTION

1.1 Research problems

The strong influence of Eastern countries in the international World Heritage Site (WHS) preservation debate has led to the inclusion of new immaterial layers (such as intangible heritage, diversity, etc.) and to a growing relativism, which has brought an acceptance of diverse approaches to heritage and put an end to rigid Eurocentric methods that have prevailed during previous decades. Accordingly, the recommendations for WH management

has changed their normative character and become more general, universal (Veldpaus, Pereira Roders, & Colenbrander, 2013), and also vague.

At the same time, these ideas have had an equal impact in Western countries, which have embraced and rediscovered, within their own territories, social and intangible dimensions that have emerged from Asian approaches (Jokilehto, 1999). Therefore, in the past few decades, the concept of heritage has come to acknowledge indivisible connections between culture and nature at the regional scale in both Eastern and Western countries (e.g. cultural landscapes, sacred mountains, etc.). However, legal boundaries and the designation of control areas, which originated in European urban planning, are still used worldwide as the main tools for the protection and management of heritage. The application of these tools to more complex and diversified heritage paradigms has made clear the inefficacy of this unitary system and has brought up a debate on the general utility of *"buffer zones"*. Thus, academics have stated the urgent need to define and adapt alternative tools to suit Asian backgrounds (Byrne, 2004) and to be rooted in local traditional knowledge and expertise.

1.2 Objectives of the research

The objective of this paper is not to make an exhaustive historical analysis of the heritage protection tools, but to debate the conceptual and practical problems of heritage zoning in European and Asian countries, with a special focus on the rupture at regional, intangible and social levels.

The heritage management debate has normally focused on some preconceived ideas, such as: 1) Eurocentrism as opposed to Asian localism, 2) the use of universal tools as opposed to local, traditional tools, and 3) the use of World Heritage (WH) *"buffers"* or a preference for other tools.

This paper aims to clarify that even if the East-West dichotomy can be disregarded at theoretical levels today, the failure of heritage management models is not just the consequence of old cultural misconstructions but a problem rooted in the definition of management tools at global and national levels. To that end, the study compares theoretical approaches (academic and UNESCO's) and seeks to understand the Eastern reaction to Western ideas. The final goal is to challenge the concept and utility of a *"buffer"* and to contribute to the debate with new comparative insights.

1.3 Research methodology

In this context, through literature review and analysis of UNESCO official documents, the research compares the following:

Firstly, the cultural limits of historical regions in Western and Eastern civilizations are reviewed and compared to the heritage ideas in the UNESCO theory.

Secondly, the analysis focuses on the idea of defining boundaries as a heritage management tool and its main deficiencies. Then, it studies how the definition of *"buffer zones"* has attempted to evolve and correct the gaps derived from simple boundary-like management.

Third, the connections of *"buffers"* with legal systems and their practical roles in WHS management are presented. Here, the study presents some representative examples, which aid the comprehension of the evolution of legal heritage management tools in both European and Asian countries and

the debate on boundary application strategies (refer to list of documents consulted in *Figure 4*).

In all, the paper makes a critical comparison of the two world regions, their mutual influence and the gaps in each model. Thus, it is possible to offer insights into the actual role of heritage zoning and the origin of the very diverse WH *"buffer"* application problems.

2. THE DIMENSIONS OF HERITAGE

2.1 Identification of heritage limits

According to Howard (2003), the idea of "heritage" is subjective and depends on the point of view and the attachment of the evaluator to certain attributes (their volition). Thus, it is not possible to put a physical or conceptual limit to the term "heritage", as it represents a compilation of physical and social aspects rather than a complete universal idea per se. Nevertheless, contemporary heritage theory has commonly focused on the ideas that started emerging from XIX. One of the most decisive cultural constructions that emerged in that time and context was the idea of "monumental heritage", which bore an iconic role strongly connected to national pride and propaganda (Harvey, 2001). Asian countries will inherit these European criteria during XIX-XX and will try to represent local heritage using similar models. However, this absolute identification of "heritage" with a material object clashes with intangible cosmological dimensions and with the subjective origin of the concept of "heritage" itself.

At the same time, "heritage" is defined as a process (Howard, 2003; Harvey, 2001; Bandarin & Van Oers, 2012) that evolves and changes in meaning and importance along with the society that identifies it. This process "moves through discovery or formation, inventory, designation, protection, renovation, commodification and, sometimes, destruction" and must be controlled by heritage managers (Howard, 2003).

The idea of "nature" is also considered in Europe to be a cultural product in contrast to the cultural grandeur of urban civilizations (Redclift, 2006). This creates a clear separation between the two terms, "nature" and "culture", that does not match the strong mutual influence visible in such widespread cultures as Western Europe and Taoist Asia (Berque, 1995).

In opposition to this cultural differentiation, connections between humans and nature are commonly embedded in the daily act of perceiving and measuring the world through the human position and proportions of the human body. Turner (2009) refers to Da Vinci's *"Uomo Vitruviano"* to depict individuals as bearers of a particular space, a "three-dimensional envelope or aura that a person carried with him". Thus, boundaries defined by people are the reflection of a subjective and self-centered idea of the human being in connection with its surroundings.

This humanistic approach can equally be found in Asia. There, the ideal for the Indian city, as expressed in the mandala, is to embody "the complete integration of theomorphic and anthropomorphic ideas" (Turner, 2009). Similar examples can be found in feng shui-based urban design, where "cities were depicted with references to the gods, nature, the space and landmarks surrounding and defining its context" (Turner, 2009). These cosmological links were considered the true protection for cities and their inhabitants (Turner, 2009).

At the same time, in both world regions, these humanistic visions have coexisted with diverse instruments for social control and urban management based on strong physical segregation. The Greek *"temenos"* and the Asian forbidden cities were spaces isolated from daily life (Turner, 2009). In Japan as well, samurai neighbourhoods or conflictive urban areas (e.g. foreign settlements, pleasure quarters) were walled and separated from the rest of the city as a way for authorities to apply special control (Shelton, 2012). Both cultures present clear examples of distinct uses and social segregation, but, at the same time, these isolated areas are always a part of an urban whole in flux and indivisible from it (Turner, 2009).

At this point, it can be said that use and control limits coexist with essential human-nature links. However, the concept of "heritage" does not possess limits of its own, but only the ones given by the evaluator in contrasting the heritage object and the environment through the filter of their own human experience and dimensions. Thus, the diverse, intangible, and variable dimensions of heritage (human, cosmological, etc.) will not correspond with fixed boundaries, but rather with shifting permeable soft spaces.

2.2 UNESCO idea of heritage: exchanges between East-West

In the context of UNESCO, initially, theoretical frameworks were based mainly on XIX European heritage ideas (Bandarin & Van Oers, 2012; Choay, 2001). The international heritage protection movement, originating after WWII, was boosted by a generalised special interest in creating an agreement on heritage preservation. This effort led to the creation of the UNESCO "Convention Concerning the Protection of the World Cultural and Natural Heritage" in 1972.

Not surprisingly, the first official theoretical documents released afterwards were based on European expertise and focused on built-up areas. The main heritage types considered were *"monuments", "sites", "groups of buildings"*, etc. These categories are likely to always have a strong presence among WH sites and the concepts will be continuously refined, even today.
Eastern countries on the other hand, focus on the recognition of their own different heritage dimensions. Early on, by the 60s, Australia and New Zealand started defending the intangible cultural connections of aboriginal communities as a fundamental part of their own national heritage (e.g. Burra Charter). Japan also took a leading role in shaping the idea of *"Asianism"* during the 80s and 90s (Akagawa, 2014).

As a result, the introduction of intangible dimensions in the WH debate signalled a turning point in the appreciation of values that had been forgotten in Europe (Jokilehto, 1999). Thus, the idea of authenticity and the recognition of relative native values will be internationally accepted for the first time in the Nara document. With this, authenticity is "no longer merely rooted in its material context as it was before, it now also includes the social, cultural, and economic processes linked to the specific context of the heritage" (Veldpaus, Pereira Roders, & Colenbrander, 2013). Consequently, many new heritage categories related to human-nature connections may appear (e.g. Landscapes, Cultural landscapes, etc.) and terminology may gradually be adapted to become more general and inclusive (Veldpaus, et al., 2013).

Other types of heritage that followed (e.g. Folklore, Intangible Heritage) officially recognised the importance of cultural heritage for indigenous communities, lifestyles connected to heritage sites and their evolving traditions. In this way, continuity will be recognised as vital protecting the

original heritage, which will be linked to oral tradition and a "process of re-creation" (Burke & Smith, 2010).

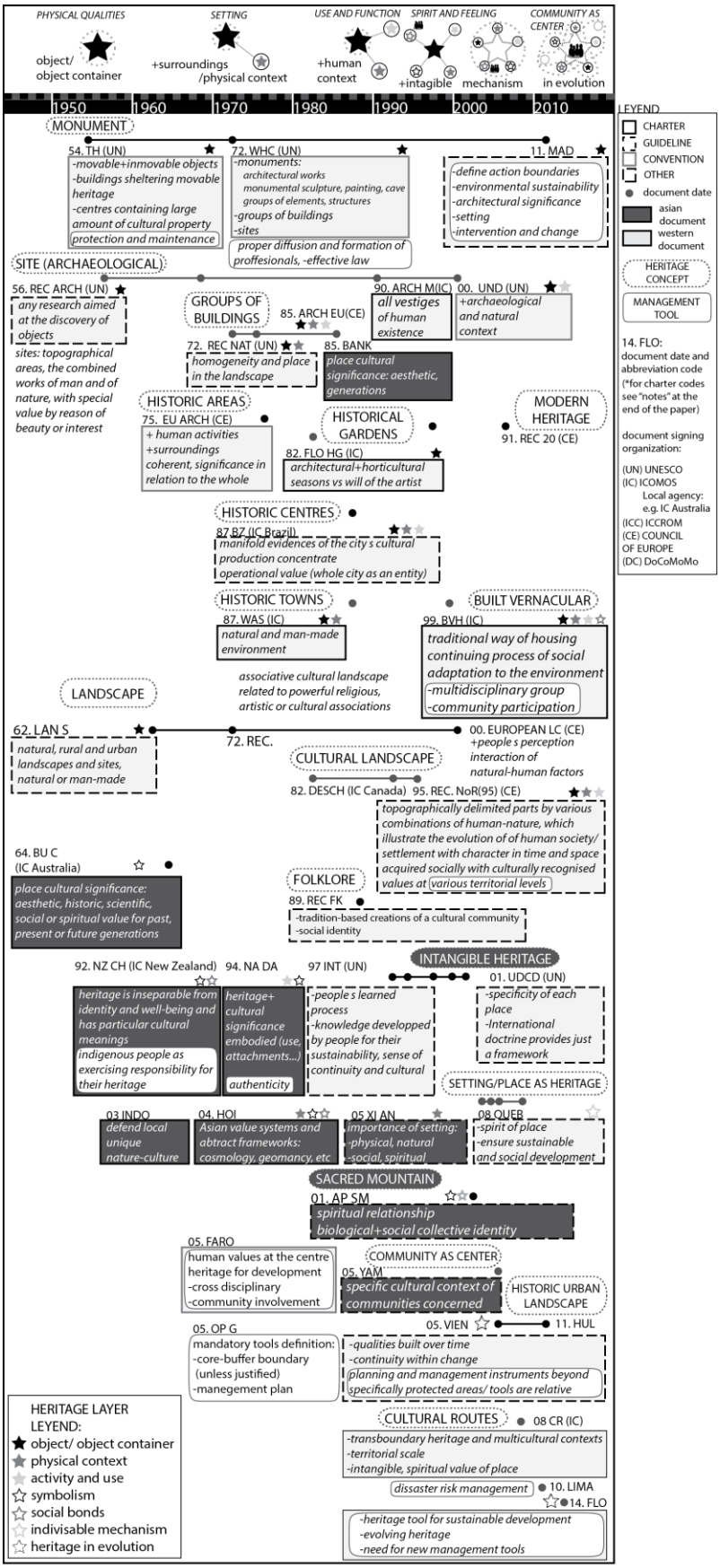


Figure 1. Evolution of the concept of *"heritage"* within UNESCO

From the year 2000, and after the international recognition of values connected to Eastern backgrounds, each Asian country, with China at the head (e.g. Chinese principles), has been attempting to redefine the adopted concepts and terms and to create their own locally rooted protection manifestos (e.g. Indonesian Charter), questioning the suitability of generalised principles.

In the following years, other types of heritage have been recognised and will continue challenging the international definition of heritage and pushing the creation of new protection models adapted to bigger scales or dimensions (e.g. sacred mountains and cultural routes).

By the end of XXth, the growing extension of the heritage setting, the focus on community and functional-living values, and the consequent loss of physical definition of heritage, will become an intrinsic part of all the different heritage types defined within the WH context. Accordingly, traditionally physical typologies (e.g. monuments) that have dominated the European charters will be updated and connected to their regional and social contexts.

One of the most important changes in the 2010s was the recognition of heritage as a social process in evolution. Since then, WH documents have promoted holistic development connected to sustainability (Veldpaus, Pereira Roders, & Colenbrander, 2013). Thus, recently launched programs like the *Living Heritage* and the *Historical Urban Landscape* programs consider every heritage site as a part of the whole territory, which is seen as an evolving palimpsest of social relations and interactions with the physical space. Consequently, the latest UNESCO recommendations discard the old concept of heritage preservation and focus instead on protection by development.

In all, WH theory has gradually assimilated the relativism of heritage values and the difficulties in imposing dedicated management and limits to it.

However, even if the recognition of local values and relative authenticity puts an end to the divided Western-Eastern approaches, the UNESCO brand on its own is still a method of globalisation that attempts to unify the evaluation criteria (Choay, 2001). In addition, the growing number of WH sites "shows the inclination of nations to pursue western ideals of relating heritage to temporality and constructed identity" (Choay, 2001).

3. BOUNDARIES VS HERITAGE

3.1 Effects of physical boundaries on regional heritage

Even though the concept of "heritage" has come to define multiple intangible culture-nature connections, it can always be considered a spatial phenomenon connected to the place where these connections are developed (Graham, Ashworth, & Tunbridge, 2016). Norberg-Schulz defines "place" as a compound of sociocultural connections linked to the physical environment, however, traditionally, heritage management relies on the classic idea of place as a physically delimited area (Harvey, 2001).

Even so, the main requirements for top-down WH protection are: a *"core zone*" (elements that bear the heritage value), a *"buffer zone"* (generally a surrounding protection area), and a complementary Management Plan.

As detailed in Section 2.1, the designation of heritage and the definition of its boundaries is the product of an a priori judgement (Howard, 2003) in a particular moment (Harvey, 2001), and depends on the evaluator and the intentions of the classification. Thus, the action of drawing a boundary can emphasize this biased judgement and create several conflicts, producing a

separation of what is considered a bearer of certain important properties and what is not.

This separation is especially detrimental to culture-nature connections. Redclift (2006) criticises the negative impact of imposed political and administrative borders on sustainable human-nature relationships. Here, the replacement of traditional socially organised groups with alien zones that aim at regulating local activity results contradictorily in problems for area management (Redclift, 2006).

Despite the fact that these culture-nature relations are considered essential to the maintenance of heritage, in the latest UNESCO theoretical documents traditional zoning tools still represent the main definition of heritage and are its main protective method. These tools create a priori negative impacts on the sociocultural layers of the heritage region and damage traditional forms of control over nature and symbiosis with the environment. For that reason, Byrne (2004) has defended the use of local specific tools for heritage management in Asia. However, in Europe too, the use of closed boundaries to define complex cultural links is weak and likely ineffective.

3.2 UNESCO recommended zoning system

The problems related to zoning are not new within UNESCO. At this point, the research analyses the evolution of the concept of *"core"* and *"buffer"* in the successive Operational Guidelines (OG) from 1977 onwards (UNESCO, 1977) (1978) (1980) (1988) (2005) (2012) (2015) (2016) (see Figure. *2*). In addition, other regional charters and official documents have been studied and opposed to the OG in order to identify conflictive definitions and adapted regional tools.

In the first versions of the OG, the *"core"* was intended as the sole definition and preservation of all of the heritage characteristics, while the *"buffers"* were only considered an optional protection tool ("only when appropriate"), located in the surroundings and the area of physical influence of the heritage site. Originally, the role of *"buffers*" was not clearly defined, being simply an adequate or necessary protection.

Considering the physical definition of the WH areas, by the beginning of the 2000s, *"buffers"* were supposed to include immediate setting, views, and functionally important elements (World Heritage Centre, 2009). However, these categories represent very different scales that cannot be defined by the same type of zoning. At the same time, the OG at that time remarked that *"buffers"* were "not normally" part of the Outstanding Universal Value (OUV) of a site. This left the implicit distinction between the two zones confusing to the point that, depending on the heritage site, some of the described elements could be found in both, or either, the *"core"* and/or in the *"buffer"*.

Around 1990 their restrictive character was defined and *"buffer zones"* came to represent an area where legal or customary restrictions on use and development could be applied (World Heritage Centre, 2009).

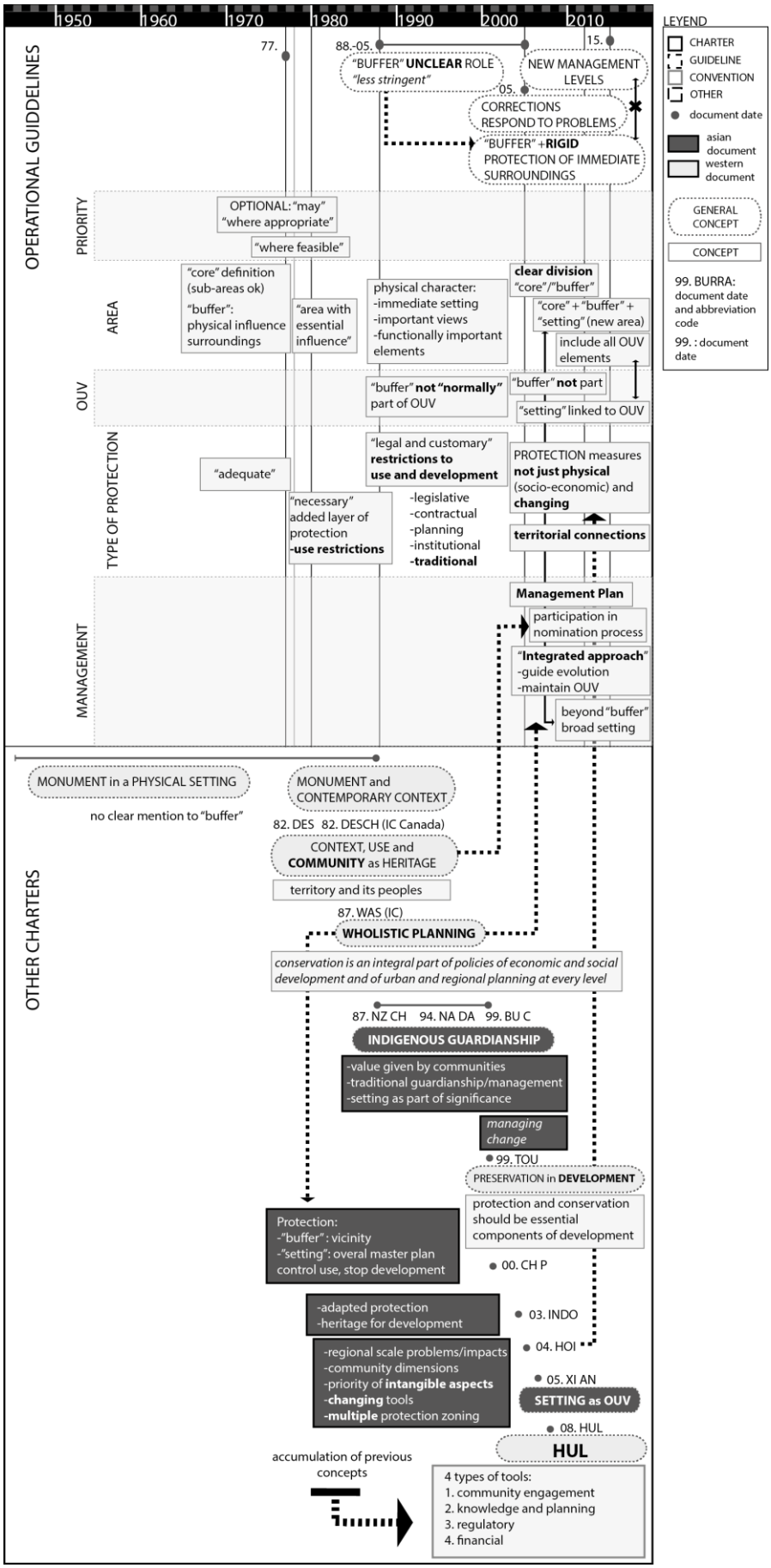


Figure 2. Evolution of the definition of *"buffer"* in UNESCO documents

By 2005, in an attempt to resolve the ambiguity, the definition became more rigid and the two terms were clearly divided. Thus, *"core"* came to bear the heritage attributes while *"buffer"* came to purely mean a protection zone.

In 2008 a decisive general meeting entitled *"World Heritage and Buffer Zones"* was held in Davos, Switzerland (World Heritage Centre, 2009) with the purpose of clarifying the meaning and position of *"buffer zones"* inside a broader integrated context. At that time the concept of heritage had already evolved and theories gave special attention to regional system management. Thus, heritage connections at the regional scale drew special attention and connected them, and the addition of broader management areas was proposed. At the same time, *"buffers"* conserved their protective character, but were to remain responsive to external and internal changes. Thus, their previous categorical character was brought under consideration.

In the same year, as a consequence of the Davos meeting, corrections were made to the OG. A new influence area, the *"setting",* was presented. It was meant to represent essential connections of heritage on a broad scale. However, again, this definition created a conflict for the priority and value of these areas, as it was not clear if they were a part of the heritage itself.
Finally, the *"setting"* was not officially adopted as a third WH area, but the concept persisted and, recently, the legal character of *"buffers"* has been extended to include not only physical protection inside the zone but also territorial connections and socioeconomic sustainable growth. The latest versions of the OG also focus on Management ideals, and state that *"buffers"* must be considered one part of a complete integrated plan. Nevertheless, these ideas are not yet developed in detail, and the precise use of *"buffers"* inside the territorial model remains unclear.

3.3 Parallel ideas in the UNESCO national documents

In opposition to the general guidelines, the correct definition and use of *"buffer zones"* is of special concern to Eastern countries as it sometimes collides with traditional management models (Figure 2).

One of the main ideas about heritage management brought forth by Eastern documents was that of "indigenous guardianship". This concept is strongly defended by New Zealand and Australian policies, which defend the value of heritage as defined by what it represents for the local community. Traditional guardianship and management is preferred to other tools as it encompasses changes in heritage and community needs. Additionally, the *"setting"* is considered important because it is integrated in local life.

Between 2000-2005, Asian national charters rapidly adapted ideas of holistic management that had been circulating in the West to their particular contexts (heritage for development, community dimensions, priority of intangible layers, changing tools, multiple zoning, etc.).
The main disruption to global charters is possibly the Xi An Charter (China), which states that the *"setting"* constitutes an essential part of heritage and must be designed together with the *"core"* and *"buffer"* areas.

In order to face these differences and functional problems, the Historical Urban Landscape program (HUL) was launched internationally in 2008. It proposes a new multidimensional model encompassing both of the diverse Western and Eastern approaches, and is composed of four types of adaptive tools: community engagement, knowledge and planning, regulatory, and financial measures (Bandarin & Van Oers, 2012). However, the role of the *"core-buffer zones"* is not specifically linked with the new model and some

new documents (e.g. Madrid Charter) still cite the definition of boundaries as an essential requisite for heritage protection.

3.4 Regional problems in "buffer" application

The main method that UNESCO uses to globally monitor conflicts in the application of *"buffer zones"* is Periodical Reporting, where each WHS evaluates the performance of its management systems.
Through an analysis of the compilation of reporting documents for both the Europe and North America and Asia-Pacific WH zones, this chapter presents the main concerns and problems of both areas (Figure 3).

In Europe, during the first report period (2005) many sites without *"buffer"* zones were identified and evaluated as inadequate within general parameters.

In Asia, the main concern after the first reporting period (2003) was the inability of *"buffers"* to withstand high development pressures.
Conversely, state parties evaluated WH zoning as sufficient. During these years, problems related to *"buffer zones"* drew a lot of attention from the World Heritage management. One of the main concerns of the Davos expert meeting was that threats originating outside the defined WH areas might still adversely impact upon the essential character of heritage; therefore they encouraged the application of complementary measures (legal tools or management plans) at a larger scale (see Section 3.2).

After the important emphasis was put on WH zoning, by the second reporting period the lack of *"buffer zones"* in Europe had been quickly fixed and *"buffers"* were described as adequate (2012-15), with still some room for improvement. In general, there were available legal instruments connected to the zoning and heritage protection was considered positive by the countries involved.

In Asia (2012), however, many issues were raised. In a high number of cases the WH perimeters were perceived as requiring improvement. At the same time the regional symbiotic character of some Asian heritage suggested the possibility for renomination of some sites, which would require the identification of other scales and regional dimensions, and new boundaries.
In general, the role and legal use of *"buffers"* is not clear and generates widespread confusion at both administrative and community levels.
Thus, even if European countries were more positive, the most common features of the discussion in all cases would be the lack of community awareness, complex meaning, and the unclear role in management of the WH areas (Figure 3).

3.5 Chapter conclusions

1. According to the theoretical discussion, heritage boundaries can bring preservation and control, but also rupture human-nature connections, social relations, economic interests, and property rights. Thus, boundary-like management or control zones are insufficient to protect holistic historical systems that involve multiple social, spiritual and functional layers.

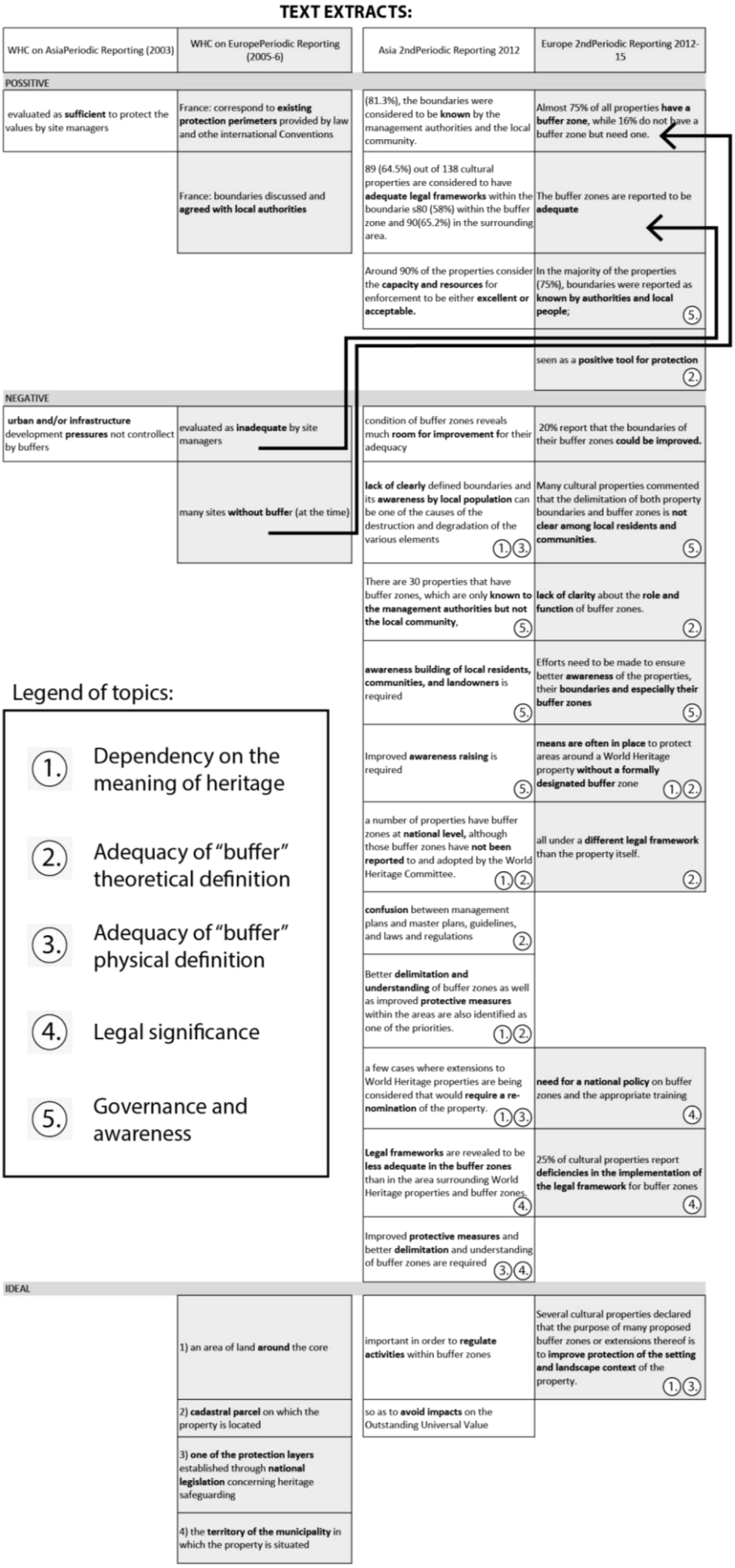


Figure 3. Problems identified through Periodic Reporting

2. The prevailing idea of WH *"buffer"* zones is linked to a punctual problem that can affect the value of the registered heritage. In practice it is a static control area, even if some trends have attempted to redefine it as a dynamically changing tool.
At this point, it is difficult to understand not only which of the different heritage dimensions could be represented by this parameter, but also the role and importance of the area inside a holistic management model.

3. Even though *"buffers"* drew great attention in 2005, application gaps and the defence of two differentiated poles, European and Asian, derived in academic silence, are giving way to an obsolete definition of WH zones and related management problems.

4. THE MANAGEMENT OF WH "BUFFERS"

As we have seen in the previous chapter, the mutual influences of Western and Eastern countries were reflected in the international definitions of heritage and the standards applied to World Heritage Sites, however, these concepts are not always equally reflected in national legal systems. At the same time, WH *"buffers*", due to their protective character, are directly connected to planning tools and are inevitably affected by these legal gaps.

4.1 Heritage dimensions in legal systems

During the end of XVIII-XIX, when the first contemporary cultural heritage history concepts emerged, rooted in European developments (Jokilehto, 2014), countries also started defining legal frameworks and bureaucracies for protecting their national heritage . At that time, the value of heritage was that of "record as a monument", and thus, it was approached as an absolute object connected to "changelessness and timelessness" (Burke & Smith, 2010). Heritage is therefore connected to the idea of designation and the need to apply labels that classify objects as absolutely and permanently valuable. This classification is generally used as a way to enable legislation and management (Howard, 2003). It was therefore logical that a control-colonization society, such as those in the West (Redclift, 2006) with an absolute idea of heritage, tended to traditionally integrate heritage protection as a series of control areas within planning tools (Choay, 2001).

Eastern countries on the other hand, inherit the European legal and planning models. However, conflicts appear early when trying to insert their own cultural visions of heritage as defended in the legislation of local UNESCO charters.

In the case of Australia, aboriginal communities' cultural attachments to nature have been defended from early on in the context of in WH sites (e.g. Burra Charter). However, in national legislation there is a clear division between historic buildings, connected to the colonial idea of cultural heritage, and natural parks, related to aboriginal heritage but recognized for its antiquity rather than its cultural value in the eyes of European settlers (Burke & Smith, 2010).

Similarly, modern Japanese legal systems emerged from westernised models imposed after WWII. The first *bunkazai* (heritage property) concept referred to artefacts, monuments, historical places and natural heritage (Akagawa, 2014). These ideas evolved rapidly and, by 1975, the law had assimilated intangible, traditional and folk heritage concepts (even before UNESCO). A few years later, massive development and demolition propelled

the consolidation of all categories under the same law (1980). In contrast, cultural landscapes were not integrated into Japanese laws until 2004 in response to UNESCO theory (Akagawa, 2014).

In 2008, the *Historic Town Development Act* prepared maintenance and improvement plans for historical environments, defending the preservation of buildings rooted in their context, but left landscape management and protection to local design guidelines of lesser authority (Akagawa, 2014). In this manner, Japanese law established special categories for intangible heritage and craft techniques, but did not give the same status to protection of landscape and social atmosphere.

These intangible dimensions are compensated by two methods of "government funding for revitalization programs related to heritage conservation" (Akagawa, 2014)). The practice of *machizukuri* (community participatory urbanism) started in the 70s and has been linked with physical revitalization in ordinances and utilization of space since. Besides this, the *furusato* movement, at its peak between the 60s to the 90s, was based on the use of effective bottom up strategies inside an overall strategy for territorial branding. However, despite the apparent revitalization of rural tradition, projects involved different recreational activities (e.g. community festivals) that were exploited for tourism and disconnected from local lifestyles (Akagawa, 2014)

Finally, China began taking an active role in WH preservation, for example through registration of unprecedented mega sites, new sites, updated reporting, etc. (Zheng, 2014), after the destruction of heritage properties in the early 2000s brought on by a period of massive development (Shen & Chen, 2010). These efforts culminated in the 2005 Xi An ICOMOS scientific session, which produced a more complete concept of the *"WH setting"*, adapted to Chinese tradition, and which was already present in national laws (Zheng, 2014). Nevertheless, heritage protection in China was characterized by strong top-down control at the national level, giving priority to the idea of nation-owned heritage (Shen & Chen, 2010) and heritage as inheritance of local inhabitants and users.

4.2 Legal significance and emerging *"buffer"* roles

Even when WH boundaries seem to include all of the physical regional attributes, due to legal gaps and the lack of specific tools, the practical use of these zones is weak and very diverse from site to site.

Taking Italy as a European example, the concept of "territory as a museum" has had a strong influence on the definition of the WH sites, but it is yet to be formalised in heritage legislation. Thus, it is possible to spot diverse types of WH *"buffer"* use at a regional scale.

First, the "umbrella Eco-museum" model integrates the different regional stakeholders and managers inside a common management area under the idea of local slow development (Magliacani, 2015). In these cases, outer management boundaries correspond to big scale unitary WH zones (e.g. Val d Orcia cultural landscape).

Second, in many cases *"buffers"* do not correspond with any management areas. This is the case in the city of Ferrara and its Po delta where the very detailed WH boundaries do not match management boundaries. In this case, the city area acts as an independent pole, and regional bottom-up projects are carried out with the help of NPO, social enterprise, etc. (Zamarbide Urdaniz, Alba Victoria, 2014).

Third, in the case of the Rhaetian Railway, many different sets of near and far views are an essential part of heritage and, accordingly, different levels of protection with their corresponding areas are defined instead of the one *"core"* and one *"buffer"* standard model (in registration reports).

On the other hand, Asian *"buffers"* are still lagging behind in the physical definition of WH at the territorial scale and represent old heritage protection models to a large extent (Zamarbide Urdaniz, Alba Victoria & Satoh, 2017). According to Jigyasu (2014), one of the main generalised threats in Asia is urbanization. Consequently, these classic control *"buffers"* were to work to some extent as a first protection measure, but not even this fundamental requirement is met.

In the case of Japan, the concept of *"buffer zones"* is not elaborated legally and they do not have a direct connection with legal protection (e.g. Law for the Protection of Cultural Property). Instead, various laws regulating areas for purposes other than the conservation of their cultural value are used (Kono, 2006).

In contrast, Vietnam has strict, top-down control over heritage for national monuments that match WH boundaries. In the WH site of "Hue Monuments" this system protects the architecture of the Royal Tombs; however, the imposed boundaries, and related use restrictions, affect the traditional *feng shui* of tomb water systems and traditional community water management. These cosmological links could be identified as a regional cultural landscape, and yet actual heritage control puts regional heritage at high risk from development (Zamarbide Urdaniz, Alba Victoria, 2014).

4.3 Chapter conclusion

In summary, the majority of legal instruments, even related to natural protection, have their roots in European models and monumental ideas of heritage. Each country has attempted to develop more independent heritage definitions, but at the same time neither culture-nature links nor social dimensions, defended in local WH charters, are present in legal models.

Concerning practical applications, *"buffer zones"* should at the very least be a reflection of top-down protection laws, even if limited. However, in many cases they have no connection with legal tools, leaving real management to unrelated local planning tools.

Finally, WH holistic management concepts (like HUL) have not been included in these tools, and the holistic preservation of development "requires a change of policy mostly at the local level" (Velpaus et al., 2013).

5. CONCLUSIONS

This paper presented a comparative critique of the actual heritage dimensions and protection models in both Western and Eastern countries. As a result, the the main conflicting ideas were confuted with respect to the following arguments:

1. Euro-centrism vs localism

The influence of Eastern approaches led to a revalorisation of the regional dimensions of heritage in European countries. Currently, the opposing positions are coming closer at theoretical levels, however, even though Europe has used Eastern ideals to expand its understanding of heritage, it remains focused on its own methods and cultural roots. Simultaneously, Western ideals

have already been assimilated in Eastern contexts, but have been adapted and complemented by local values (e.g. local charters).

2. Universal tools vs local tools

Administrative systems, inherited from XIX models and are based on urban zoning, prevail in heritage protection systems worldwide. Thus, zoning and boundaries are still valuable tools for top-down physical control.

On the other hand, even though national WH charters have been adapted to local approaches in both Eastern and Western countries, social heritage layers, landscape protection, and so on, do not normally have legal equivalents. Other complementary tools (e.g. regional management areas, bottom-up community reactivation strategies, agricultural enhancement projects, etc.) do not benefit from the same priorities as national heritage preservation laws (e.g. national monuments) and require the support of other independent groups (e.g. NPO, social enterprise, etc.). Moreover, the local capacity to transform ideals into new creative tools is still limited.

3. WH buffers vs no buffers

Contrary to the evolution of the concept of heritage, the idea of the *"buffer"* has not been elaborated at the national level, remaining general. In addition, the definition of *"buffer"* itself presents several contradictions and unclear points:

- Taken as a simple protection tool, *"buffer"* zones are not working, as in many cases they are not connected to legal restrictions.
- Multiple dimensions cannot fit in the one *"core zone"*, one *"buffer- zone"* system. Regional planning tools, for example, make use of multiple zoning areas instead, which can be dedicated to purposes other than heritage protection.
- The basic protection role of *"buffers"* constrains holistic nature-culture visions and puts creative actions on a secondary level.

At this point, the *"buffer"* is used to allow for a universal reference tool, but in its application falls back into undetermined local planning tools.

In summary, it can be discerned that heritage management problems do not especially lie in the collision between European and Asian ideas, but in the definition of tools, assimilation of heritage dimensions in legal systems, and the misuse or lack of other creative tools in both world regions.

6. RECOMMENDATIONS

There are two main poles in heritage preservation. Described by Lowenthal (1979), they are the inclination to preserve and the recognition of change, and both are reflected in both the UNESCO theory and in heritage practice. However, *"buffer zones"* have maintained a simplistic barrier-like character.

At the same time, there is more technology and a greater capacity to identify and manage heritage than ever before (Harvey, 2001; Veldpaus, Pereira Roders, & Colenbrander, 2013).

In the past few decades, Europe has been exporting heritage protection notions, models, and techniques to the world. Nowadays, the old institutionalised methodologies have proven themselves obsolete and must be reviewed (Mithal, 2012). Even if previous practices constitute a valuable reference for the physical protection of heritage, and can help to promote awareness, heritage protection must now look for complementary tools that can guarantee the survival of complex cosmologies. It is thus an opportunity for Asian countries to focus on modern technology and develop unique methodologies adapted to their particular sociocultural backgrounds.

This suggests the need to define different meanings and practical roles for the concept of *"buffers"*, both normative - those connected to physical boundaries - and creative buffers related to changing human needs and cultural attachments. These multiple *"buffers"* could serve as more practical and adaptable reference tools, and could put an end to the generalised confusion in WH preservation worldwide.

ACKNOWLEDGEMENTS

This research has been conducted with the support of the CWAJ (College Women Association of Japan).

REFERENCE

Akagawa, N. (2014). *Heritage Conservation and Japan's Cultural Diplomacy: Heritage, National Identity and National Interest.* London: Routledge.

Bandarin, F., & Van Oers, R. (2012). *The Historic Urban Landscape: Managing Heritage in an Urban Century.* Chichester: Wiley-Blackwell.

Berque, A. (1995). *Les Raisons Du Paysage: De La Chine Antique Aux Environnements De Synthèse.* Paris: Fernand Hazan.

Burke, H., & Smith, C. (2010). "Vestiges of Colonialism: Manifestations of the Culture/Nature Divide in Australian Heritage Management". In Messenger, P. & Smith, G. (Eds.), *Cultural Heritage Management: A Global Perspective* (pp. 21-37). Gainsville, FL: University Press of Florida.

Byrne, D. (2004). "Chartering Heritage in Asia's Postmodern World". *Conservation: The Getty Conservation Institute Newsletter*, *19*(2), 16-19.

Choay, F. (2001). "Historic Heritage and the Contemporary Culture Industry". In Choay, F. (Ed.), *The Invention of the Historic Monument* (pp. 138-163). Cambridge: Cambridge University Press.

Graham, B., Ashworth, G., & Tunbridge, J. (2016). *A Geography of Heritage: Power, Culture and Economy.* New York: Routledge.

Harvey, D. C. (2001). "Heritage Pasts and Heritage Presents: Temporality, Meaning and the Scope of Heritage Studies". *International Journal of Heritage Studies*, *7*(4), 319-338.

Howard, P. (2003). *Heritage: Management, Interpretation, Identity.* New York: Continuum.

Jigyasu, R. (2014). "Recognition of Intangible Values in Existing Urban Management Systems". In Bandarin, F. & Van Oers, R. (Eds.), *Reconnecting the City: The Historic Urban Landscape Approach and the Future of Urban Heritage* (pp. 129-144). Chichester: Wiley-Blackwell.

Jokilehto, J. (1999). "A Century of Heritage Conservation". *Journal of Architectural Conservation*, *5*(3), 14-33. doi: 10.1080/13556207.1999.10785249. Retrieved from https://doi.org/10.1080/13556207.1999.10785249.

Jokilehto, J. (2014). "Evolution of the Normative Framework". In Bandarin, F. & Van Oers, R. (Eds.), *Reconnecting the City: The Historic Urban Landscape Approach and the Future of Urban Heritage* (pp. 205-216). Oxford: Wiley-Blackwell.

Kono, T. (2006, November 28-29). "Welcome Speech: The World Heritage Convention and the Buffer Zone". Proceedings of ICOMOS symposium, Hiroshima, Japan. Retrieved from http://www.law.kyushu-u.ac.jp/programsinenglish/hiroshima/index.htm.

Lowenthal, D. (1979). "Age and Artifact: Dilemmas of Appreciation". In Meinig, D. W. (Ed.), *The Interpretation of Ordinary Landscapes*. New York: Oxford University Press.

Magliacani, M. (2015). *Managing Cultural Heritage: Ecomuseums, Community Governance, Social Accountability.* New York: Palgrave Macmillan.

Mithal, S. (2012). "Inclusivity, Interconnections and Overlapping Stakes: Challenge to a Static Evaluation Criteria". In Zancheti, S. M. & Similä, K. (Eds.), *Measuring Heritage Conservation Performance* (pp. 203-211). Rome: ICCROM.

Redclift, M. R. (2006). *Frontiers: Histories of Civil Society and Nature.* Cambridge, MA: MIT Press.

Shelton, B. (2012). *Learning from the Japanese City: Looking East in Urban Design* (2nd ed.). Abingdon: Routledge.

Shen, C., & Chen, H. (2010). "Cultural Heritage Management in China: Current Practices and Problems". In Messenger, P. M. & Smith, G. S. (Eds.), *Cultural Heritage Management: A Global Perspective* (pp. 70-81). Gainsville: University Press of Florida.

Turner, M. (2009). "Introduction". *World Heritage and Buffer Zones, World Heritage Papers Series No 25*. Paris: UNESCO WHC.

UNESCO. (1977) (1978) (1980) (1988) (2005) (2012) (2015) (2016). "Operational Guidelines for the Implementation of the World Heritage Convention". WHC.

Veldpaus, L., Pereira Roders, A. R., & Colenbrander, B. J. (2013). "Urban Heritage: Putting the Past into the Future". *The Historic Environment: Policy & Practice*, *4*(1), 3-18.

World Heritage Centre. (2009). "World Heritage and Buffer Zones". *World Heritage Papers Series* (Vol. 25): UNESCO.

Zamarbide Urdaniz, A. V. (2014, November, 6-8). "Two Historical Eco-Cosmologies - a Study on Protection Tools for World Heritage Cultural Sites with Strong Ecological". Proceedings of International Symposium on City Planning 2014, Hanoi, Vietnam.

Zamarbide Urdaniz, A. V., & Satoh, S. (2017). "A Comparative Analysis of the Morphology of 'Cultural World Heritage' Zoning". *Transactions of the Architectural Institute of Japan*, *82*(733), 667-676.

Zheng, J. (2014, May 5-6). "Comparison of Heritage Conservation Philosophies in China and Other Countries". Proceedings of International Principles and Local Practices of Cultural Heritage Conservation, Beijing.

APPENDIX

REFERENCE CODES TO UNESCO CHARTERS
In this paper:

54. TH:	The Hague Convention (1954)
56. REC ARCH	Recommendation on International Principles Applicable to Archaeological Excavations (1956)
62. LAN S	Recommendation Concerning the Safeguarding of the Beauty and Character of Landscapes and Sites (1962)
64. BU C	Burra Charter (1964)/ 99. BU C: Burra Charter (1999 version)
72. WHC	World Heritage Convention (1972)
72. REC NAT	Recommendation Concerning the Protection at National Level of the Cultural and Natural Heritage (1972)
75. EU ARCH	European Charter of the Architectural Heritage (1975)
75. AMST	Amsterdam Declaration (1975)
82. FLO HG	Florence Charter on Historic Gardens (1982)
82. DESCH	Charter for the Preservation of Quebec s Heritage (1982) (Deschambault Declaration)
85. ARCH EU	Convention for the Protection of the Architectural Heritage of Europe (1985)
87. BZ	First Brazilian Seminar about the Preservation and Revitalization of Historic Centres (1987)
87. WAS	Charter for the Conservation of Historic Towns and Urban Areas (1987) (Washington Charter)
87. NZ CH	Charter for the Conservation of Places of Cultural Heritage Value NZ (1987,update 1992) (New Zealand Charter)
89. REC FK	Recommendation on the Safeguarding of Traditional Culture and Folklore (1989)
90. ARCH M	International Charter for Archaeological Heritage Management (1991)
91. REC 20	Recommendation on the protection of the 20th-century Architectural Heritage (1991)
94. NA DA	Nara Document on Authenticity (1994)
95. REC NoR	Recommendation No.R (95)9 of the Committee of Ministers to Memeber States on the integrated Conservation of Cultual Landscape Areas as part of Landscape Policies (1995)
97. INT	Proclamation of Masterpieces of the Oral and Intangible Heritage (1997)
99. BVH	Charter on the Built Vernacular Heritage (1999)
99. TOU	International Cultural Tourism Charter: Managing Tourism at Places of Heritage Significance (1999)
00. UND	Convention on the Protection of the Underwater Cultural Heritage (2000)
00. EU LC	European Convention on Landscape (2000)
00. CH P	China Principles (2000)
01. AP SM	Thematic Expert Meeting on Asia- Pacific Sacred Mountains (2001)
01. UDCD	Universal Declaration on Cultural Diversity (2001)
03. INDO	Indonesian Charter (2003)
04. HOI	Hoi An protocols (2004)
05. FARO	Framework Convention on the Value of Cultural Heritahe for Society (2005) (Faro Convention)
05. VIEN	Vienna Memorandum (2005)
05. XI AN	Xi An Declaration on the Conservation of the Setting of Heritage Structures, Sites and Areas (2005)
05. OP G	Operational Guidelines (update) (2005)
05. YAM	Yamato Declaration on Integrated Approaches for Safeguarding Tangible and Intangible Cultural Heritage (2005)
08. QUEB	Quebec Declaration on the Preservation of the Spirit of Place (2008)
08. CR	ICOMOS Charter on Cultural Routes (2008)
10. LIMA	Lima Declaration for Disaster Risk Management of Cultural Heritage (2010)
11. MAD	Approaches for the Conservation of 20th Century Architectural Heritage (2011)
11. HUL	(Madrid document)
14. FLO	UNESCO Recommendation on the Historic Urban Landscape (2011)

Other UNESCO related sources:
Davos meeting on buffer zones: http://whc.unesco.org/en/events/473/
Hiroshima meeting on buffer zones: http://www.law.kyushu-u.ac.jp/programsinenglish/hiroshima/papers.htm

Figure 4. List of abbreviations used in Figures 1 and 2

IRSPSD International

ISSN 2187-3666 (Online)

For investigation regarding the impact of planning policy on spatial planning implementation, International Community of Spatial Planning and Sustainable Development (SPSD) seeks to learn from researchers in an integrated multidisciplinary platform that reflects a variety of perspectives—such as economic development, social equality, and ecological protection—with a view to achieving a sustainable urban form.

This international journal attempts to provide insights into the achievement of a sustainable urban form, through spatial planning and implementation; here, we focus on planning experiences at the levels of local cities and some metropolitan areas in the wolrd, particularly in Asian countries. Submission are expected from multidisciplinary viewpoints encompassing land-use patterns, housing development, transportation, green design, and agricultural and ecological systems.

International Review for Spatial Planning and Sustainable Development
https://www.jstage.jst.go.jp/browse/irspsd
http://spsdpress.jimdo.com/volumes
http://dspace.lib.kanazaa-u.ac.jp/dspace/bulletin/irspsd