

The Integration of the Process of Buffer Zone Delineation and the Process of Urban Land Use Planning for Historic Urban Conservation

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ABSTRACT

The conservation of the historic urban area is to prevent human damage and destruction, mitigate the natural disaster, and preserve the cultural value of this area .Beside the cultural heritage places within the historic urban area have high cultural significance, the surrounding settings around cultural heritage places have also attributes of significance. Their settings are defined as the adjacent areas which contribute to authenticity and distinctive character of these cultural heritage places. Providing adequate care and management of the setting could help to protect the significance values of cultural heritage places even the whole historic urban area. The concept of the buffer zone is a mechanism for protecting the significance value of cultural heritage places and their settings, if it has been established circumspectly. However, the buffer zone implementation should have basis in the national or local planning laws as an efficient legal mechanism to protect the significance value. The integrated approach has a tendency to focus on proactive planning process that will benefit the historic urban conservation. The objectives of this article are (1) to review the concept of the buffer zone and some case studies, (2) to review the process of urban land use planning, and (3) to integrate the process of buffer zone delineation into the process of urban land use planning to be an effective legal mechanism for urban historic conservation. The comparative analysis between the process of buffer zone delineation and the process of urban land use planning is used to find the possible way to integrate both processes. The study found that the process of buffer zone delineation is a part within the process of urban land use planning. Establishing the boundary of the buffer zone in the process of urban land use planning is to protect the cultural heritage places and their settings in the historic urban area.

Key words: buffer zone, urban land use planning, urban conservation, integrated conservation

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1. Introduction

Generally, most historic urban areas in all countries, whether they have been established intentionally or have developed gradually over time, consist of cultural heritage places, such as city walls, palaces, religious buildings, official buildings, and other historic monuments which have high cultural significance. Their significance and distinctive character express the national identity and provide inspirational sense of lived experiences definitely. However, the distinctive character of historic urban areas not only derives from the values of their cultural heritage places, but also comes from the setting which defined as the immediate and extended environment that is part of, or contributes to, its cultural significance and distinctive character (ICOMOS, 2005). There are many simple buildings, structures, and spaces connected by historic layout of roads, paths, squares, parks, and greens, which contribute to particular views and distinguish the concept of the historic town (Feilden and Jokilehto, 1998), (English Heritage, 2010). They are products of several historical periods and of specific social, cultural, anthropological, geographical, political, and economic relationships. As the result, the character of historic urban areas such as urban patterns, relationships between buildings and open spaces, the formal appearance of buildings, the relationship between the urban area and its surrounding setting, and various functions of urban area must be preserved for present and future generations (ICOMOS, 1987). Importantly, in the conservation of whole historic urban area,

its setting is listed as an attribute of authenticity and as needing protection through the establishment of buffer zone which conserves the cultural significance and distinctive character of setting (ICOMOS, 2005). The buffer zone is a spatial mechanism for protection and management of cultural heritage places and their setting. This mechanism is able to be more effective in countries that already recognize this concept in legislation (UNESCO, 2008).

Nowadays, historic conservation is an essential element of urban planning. The conservation of historic towns and other historic urban areas should be an integral part of urban and regional planning at every level (Feilden and Jokilehto, 1998). It helps to protect old features, and as a result of their age and importance, those features provide sources for research and link the present with the past (Unaegbu, 2004). Land use planning is the major part of legal urban planning practice which has a land use plan as a component of the comprehensive plan (Roberts, 1988). This is one of spatial legal instruments to protect the cultural significance and distinctive characters of cultural heritage places and their setting. Therefore, the rationale for this article is to focus on relation of the process of buffer zone delineation boundary and the process of urban land use planning. Is it possible to integrate the process of buffer zone delineation into the process of urban land use planning to be an effective legal mechanism for historic urban conservation? And how is the buffer zone delineation implemented in the land use plan?



Figure 1 The map shows the example of the buffer zone (lighter orange) around the core zone (darker orange) in George Town's Heritage Zone: Penang, Malaysia (Quah, 2009)

2. The Concept of the Buffer Zone

The basic document which defines the issues of buffer zone is "Operational Guidelines for the Implementation of the World Heritage Convention" from UNESCO World Heritage Centre which aim to facilitate the implementation of the Convention concerning the Protection of the World Cultural and Natural Heritage. The concept of the buffer zone has been inscribed in every version of this convention since the first version in 1977 until to the latest version in 2005. The definition of the buffer zone is completely reviewed in this latest version as "*A buffer zone is an area surrounding the nominated property which has complementary legal and/or customary restrictions placed on its use and development to give an the immediate setting of the nominated property, important views and other areas or attributes that are*

functionally important as a support to the property and its protection (UNESCO, 2008)."

From this definition, the buffer zone is an important management tool in protecting the value of cultural heritage places from the potential threats to them. However, in practice the buffer zone should not be a separator or barrier, but it should be a management tool to deal with the transition from cultural heritage places to its surrounding setting through added protection, which safeguards certain aspects of places (ICCROM, 2009; ICOMOS, 2009). Although, the original intention of the buffer zone implementation is used for protecting the outstanding universal value of the World Heritage site, but it is also necessary and applicable to conserve other cultural heritage places. A buffer zone may set criteria to protect views, settings, land use, and other aspects; on

the other hand it may also positively encourage developments that would be beneficial to cultural heritage places that can make it clear on the map and the accompanying regulations to all stakeholders (ICCROM, 2009). The presence of precise boundaries is crucial for the efficient protective functioning of the buffer zone.

However, the process of delineation of the buffer zone boundary is not provided clearly in the World Heritage Operational Guidelines. Nevertheless, there are numbers of factors in relation to wise use of the buffer zone suggested by many international conservation organizations as follows: ICOMOS (International Council on Monuments and Sites), ICCROM (International Center for the Study of the Preservation and Restoration of Cultural Property), IUCN (International Union for Conservation of Nature), and WHC (UNESCO World Heritage Center). The findings from the review indicated that there are some procedures related with the process of delineation of the buffer zone. These procedures could be possibly concluded as follows (ICCROM, 2009; ICOMOS, 2009; IUCN, 2009; WHC, 2009):

1. To collect the deep background information: All aspects of background information as historical data, cultural data, traditional data, physical data, socio-economic data, problems, and limitations should be completely collected for assessment and analysis the site.

2. To assess the cultural significance of the cultural heritage place and its setting: The places that are likely to be of significance are

those which help an understanding of the past or enrich the present, and which will be of value to future generations. Cultural Significance means (1) Aesthetic value- including aspects of sensory perception as form, scale, colour, texture, and so forth (2) Historic value- including aspects of historic figure, event, phase or activity (3) Scientific value- including aspects of rarity, quality or representativeness, and the degree of contribution to further substantial information (4) Social value- including aspects of spiritual, political, national or other cultural sentiment to a majority and minority group (The Australia ICOMOS, 1999).

3. To assess the conditions of authenticity and integrity of the cultural heritage place and its setting: The authenticity and integrity should be integrated within any effort to improve application and use of the buffer zone concept. The authenticity means a crucial aspect of a heritage resource which is materially original or genuine as it was constructed and as it has aged and weathered in time (Feilden and Jokilehto, 1998). The attributes which express the authenticity of the cultural values including: form and design, materials and substance, use and function, traditions, techniques and management systems, location and setting, language, other intangible heritage, spirit and feeling, and other internal and external factors (UNESCO *et al.*, 1994). In addition, the integrity means a measure of the wholeness and intactness of the cultural heritage and its attributes (UNESCO, 2008).

4. To assess the threats: These threats

may be very detrimental to the cultural heritage place and its setting such as demographic growth, migration of population, increasing use of private motor transport, development of high-rise buildings, and so forth. The proper delineation of the buffer zone can ensure this protection.

5. To delineate the buffer zone boundary: The buffer zone boundary should be delineated widely enough to cover the cultural heritage place and its setting.

From these procedures, the proper boundary of the buffer zone could be extensively delineated to protect the values, authenticity, and integrity of the cultural heritage place and its setting, and prevent efficiently the external and internal threats which destruct the significance of the cultural heritage place and its setting as well.

For example, two case studies in Japan and Australia will be reviewed in this article to find the implementations of the buffer zone to protect the value of cultural heritage places.

Firstly, in Kyoto, Japan, “Historic Monuments of Ancient Kyoto (Kyoto, Uji and Otsu)” were inscribed on the World Heritage List in 1994. The inscribed property is composed of seventeen historic monuments which are located in separate areas in the current administrative territories of the cities of Kyoto, Uji and Otsu. There are two levels of buffer zones to protect historic and natural features of their setting. One is a set of zones which protect the immediate vicinity of each site, and the other is a single wider zone covering all of the seventeen sites and their immediate buffer zone

in one area. In the setting around each site, buffer zones are established by the City of Kyoto in accordance with the existing measures for landscape control. Within the buffer zones, the design of buildings, including such factors as building height and site coverage area, are limited to meet the needs of each zone. The buffer zone is also effective in protecting the overall environment around the nominated properties. On the other hand, the inner city is dedicated to achieving a harmonious urban landscape, and therefore the policy is to maintain the urban setting by providing appropriate guidance together with the necessary restrictions. The main purpose of the buffer zones was to create the appropriate atmosphere to match the historic monuments rather than to concentrate on preserving the present state of the buffer zone environments (Ishikawa, 1997).

Secondly, the case of the Sydney Opera House in Australia, in the event that this place is inscribed on the World Heritage List, a buffer zone will come into force by an amendment to the Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005 (Harbour REP): This plan aims to establish a balance between promoting a prosperous working harbour, maintaining a healthy and sustainable waterway environment and promoting recreational access to the foreshore and waterways. The buffer zone will be subject to additional planning rules and provisions aimed at further protecting the World Heritage values of the property. To be approved any development will need to preserve the World Heritage values

of the Sydney Opera House; to preserve views and vistas between the property and other public places within the buffer zone; and to avoid any diminution of the Sydney Opera House when viewed from other public places within the zone. The strategy common in protecting Australia's World Heritage properties is the use of planning legislation. Planning laws are very flexible and, as in the case of the Sydney Opera House, can be very useful in controlling development that might impact on a World Heritage property. The importance of the buffer zone legislation that legislation dealing with buffer zone issues in Australia is a so far successful mix of national legislation based on the model of environmental impact assessment and State legislation for national parks and land use planning (Wiffen, 2006).

From these case studies found that the process of buffer zone delineation has related with the process of spatial planning, especially the urban land use planning to protect high significant areas.

3. The Land Use Planning

Land use planning is the process of identifying and analyzing problems, exploring and assessing options open to an urban community in the pursuit of general goals and specific land development objectives (Chapin and Kaiser, 1979). It is the core of urban planning practice, and the key to guiding urban development. It identifies areas that are to be devoted to various types, densities, and intensities of use categories, such as residential,

commercial, industrial, and various public uses. It also identifies the principles and standards that should be applied in the development or conservation of these areas (Roberts, 1988). The essential justification for land use planning is the public interest. It has come to be generally accepted as the mandate for land use planning such as health and safety, convenience, efficiency, equity, and so forth. In addition, the cultural heritage conservation is also one component of public interest elements which land use planning is about using and developing land in such a way as to protect it (Leung, 1989). The process of land use planning is conceived as a series of activities purposefully organized to bring about a built environment that corresponds as closely as possible to the needs of the people (Chapin and Kaiser, 1979).

The overall image of the process of urban land use planning consists of procedures that can be concluded as follows (Roberts, 1988; Chapin and Kaiser, 1979; Leung, 1989):

1. Problem identification- problems are defined by reference to some expectation, needs, deficiencies or goals.

2. Formulating goals and objectives- goals are ends toward which the planning effort is directed, and objectives are intermediate milestones on the way toward a goal which both of them are expressed in form that is measurable and achievable.

3. Collecting information- it is important to consider both the source and the use of information. The information such as activity, economic, population, space quality, and so forth

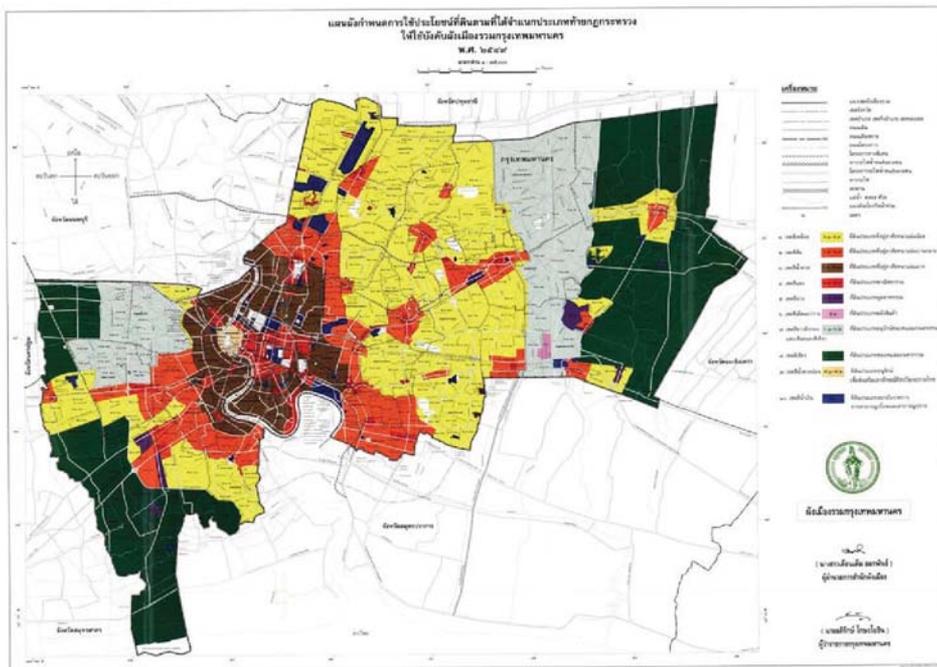


Figure 2 The map shows the example of the land use plan of Bangkok, Thailand (Department of City Planning, Bangkok Metropolitan Administrator, 2006)

are needed to analyze and make a planning decision.

4. Information analysis- it examines the match between users needs and land supply. The match can work in both directions: finding appropriate land for use, or finding appropriate use for a piece of land.

5. Information synthesis- it is about matching user needs and land supply within the frame work of the public interest.

6. Alternative plan development- it is about developing the various land use plans which match user needs, problems solving, and goal of land use planning for decision-making with communities' participation.

7. Plan Selection- it is finding the strengths and weaknesses of each alternative

plan to develop the proper land use plan.

8. Implementation- the land use plan is a legal tool to control undesired development and stimulate the desired development in urban areas.

9. Monitoring and assessment- normally, the land use plan has the length of enforcement which may have a 5-year planning period. The implementation of the current land use plan must be followed up to find strengths and weaknesses for assessment when this plan becomes nearly invalid to be the data for improving the new plan.

These 9 steps are the cycle of typical land use planning process. When the land use plan enforcement is expired, the information from implementation assessment will be identified in step 1 again to begin the process of a new land use plan.

4. The Integration of Processes

The comparative analysis is used to analyze the process of buffer zone delineation and the process of urban land use planning to find the relation of these processes which could be integrated in practice. According to the review, the process of buffer zone delineation can be summarized as follows:

1. Collecting information- to collect deep background information
2. Information analysis- to assess the cultural significance, authenticity, integrity, and threats
3. Delineation of the buffer zone boundary- to delineate the proper buffer zone boundary

On the other hand, the overall image of the process of land use planning can be summarized as follows:

1. Problem identification
2. Formulating goals and objectives
3. Collecting information
4. Information analysis
5. Information synthesis
6. Alternative plan development
7. Plan Selection
8. Implementation
9. Monitoring and assessment

As stated above, both of these processes are similar. The steps of buffer zone delineation as collecting information, information analysis, and delineation of the buffer zone boundary can compare with the similar steps of the process of urban land use planning as collecting information, information analysis, information synthesis, alternative plan development, and plan

selection. Therefore, if both these processes have the same goals and objectives to protect the significance of the cultural heritage place and its setting, the process of buffer zone delineation can be possibly integrated with the process of urban land use planning, because these processes have the same methodology. Generally, if an area is historic urban area, the process of collecting information in urban land use planning needs to collect all aspects of information in the planning area. The information relate with aesthetic, historic, scientific, social, authenticity, integrity, and threats which are important information for assessment of delineation of the buffer zone boundary as well. This similarity can conclude that the process of buffer zone delineation is a part within the process of urban land use planning as shown in Figure 3

Importantly, the implementation of the buffer zone into the land use plan should be considered 3 issues as follows:

1. Type of the land use plan: In Thailand, according to The Town and Country Planning Act 1975, there are 2 types of plan that used to enforce, the first is the Comprehensive Plan defined as the guidance for urban development in various elements forth to achieve the town and country planning objectives. The second plan is the specific plan defined as detailed plan and projects for development and conservation of specific area to benefit the town and country planning. However, in Thailand the specific plan has never used to enforce before, because there is difficult in the process of planning. As a result,

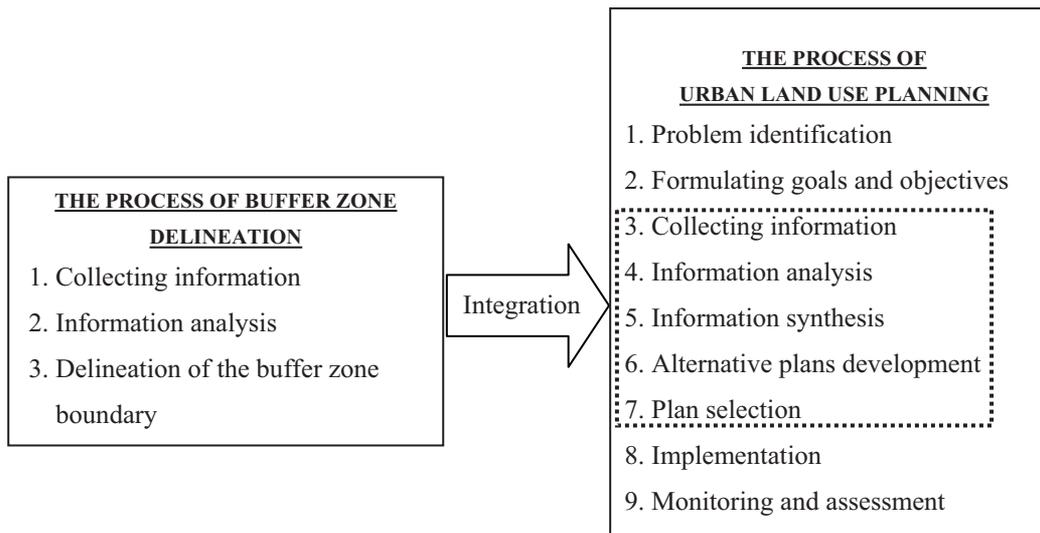


Figure 3 The relation of the process of buffer zone delineation and the process of urban land use planning

at present, there is no case study of the specific plan in Thailand. Normally, both the comprehensive plan and the specific plan consist of maps and texts to control the area that is planned. Land use map is one of components in these plans. According to limitation of the specific plan stated above, initially, the delineation of the buffer zone should be integrated with land use plan of the comprehensive plan as a framework of historic urban conservation.

2. The enforcement levels of the buffer zone: The level enforcement of the buffer zone may not be only one level to protect the significance of the cultural heritage place. Since, in fact, there are a lot of physical, social, cultural, and economic diversities in the historic urban area. Two enforcement levels of the buffer zone are suggested here like the buffer zone used in Japan.

3. The new represented colour: Practically, in the land use plan many colours are represented to various land uses, but the colour for the buffer zone has never been established before. The buffer zone should be also represented clearly with a new colour. The new colour in land use plan can be established for more controlling, if the objectives and reasons of the new colour defined clearly.

Furthermore, in the land use planning process, the opinions of local communities are important information for planning. Generally, the public hearing is a required legal step in the process of urban land use planning. Therefore, the process of buffer zone delineation in the land use plan must be considered together with local communities in the steps of alternative plans development and plan selection.

5. Conclusion and Further Studies

The review of critical concept recognized that the effective buffer zone should be a legal measure. If there is no a legal measure of the buffer zone to protect the significance of the cultural heritage place directly, it is possible to apply this concept with other spatial laws. As the result, the spatial law that should be applied to enforce extensively is urban land use planning. For this reason, this article aims to find the relation of the process of buffer zone delineation in the historic urban area and the process of urban land use planning which useful for historic urban conservation. The result from the study can be concluded that the concept of buffer zone can be implemented by integration with the process of urban land use planning. The assessment of cultural significance, authenticity, integrity, and threats, and delineation of the buffer zone boundary can be cooperated with the steps of information analysis, information synthesis, alternative plans development, and plan selection in the process of urban land use planning. This measure is the legal integration process which increases efficiency of the land use planning law to conserve the historic urban area without enacting the new law. However, this is the preliminary study to find the possibility to apply the concept of the buffer zone into the land use plan as an effective legal measure for historic urban conservation. There are more implementation details which should be

studied. As further studies, these issues might usefully be concentrated. How can the boundary of the buffer zone be stipulated in the land use plan that is one of component of comprehensive plan? Is the enforcement level of the buffer zone a necessary issue for protecting different cultural environments? The enforcement level may not be only one level to protect the significant of cultural heritage place. Because there are a lot of physical, social, cultural, and economic diversities in the historic urban area, the level of protection of the buffer zone should be divided into various levels. It is not necessary to use the one standard to protect whole area. Finally, how to create the new colour for representing the area of the buffer zone? In addition, the effectiveness of the buffer zone is not only related to proper delineation of boundary of the buffer zone but also management within such buffer zone. The line on the map and the accompanying regulations can make it very clear to all stakeholders. Finding the proper management guidelines within the buffer zone should be a legal instrument as well. Furthermore, the concept of the buffer zone may use to prevent pollution from the industrial areas to communities around them. In this case the process of buffer zone delineation may be different from the historic urban conservation process. Because of factors or issues that might be used to assess and delineate the boundary of the buffer zone are different.

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