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**THE GREENING OF HANOI:
TOWARDS A LIVEABLE CAPITAL CITY**

A Study of the Cultural Context of Open Space Planning

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Abstract

This study has two main objectives, namely: (1) to examine the relationship between open space and liveability; and (2) to investigate the difference between Eastern and Western views of open space planning which may lead to different liveable outcomes.

To achieve the first objective, the literature on open space, sustainability and liveability issues related to urban planning, was reviewed and assessed. A review of the literature showed that open space can perform many functions for society and provides several benefits. Quality open space is a key factor in making urban centres attractive and viable places in which to live. Open space plays an important role in improving the quality of life and the liveability of urban communities largely through the design, management and maintenance of the open space system. It was concluded that there is a close relationship between open space and liveability. The review of literature also demonstrated that liveability has now gained importance within the community and become a desired goal of contemporary urban planning. However, the term liveability is broad and often its achievement is seen as an ideal. It is not easy to measure liveability as it integrates several issues that can be considered in social, economic and environmental contexts. Indicators of liveability have been recognised as an useful technique that can help to determine this difficulty. The research also introduced a set of open space indicators which can be used as surrogate indicators to evaluate the achievement of the planning goal of liveability. Open space indicators were organised in economic, environmental and social categories which are common standards used to organise indicators of liveability. These indicators were developed and applied in the

context of a case study based on an Asian city that has been subjected to a number of distinct Eastern and Western influences during its long history of development.

To achieve the second objective, Hanoi, the capital city of Vietnam was selected as the case study. Hanoi was selected as the case study because during its long history, the city has experienced many different cultures including Chinese, French, Soviet and other contemporary influences. The review of the case study showed that the various fragmented historical and cultural periods of influence have generated different approaches to urban planning and provision of open space. These differences are still evident in present day Hanoi City. Furthermore, the study also examined how these differences have led to different liveable outcomes. To do this, an evaluation framework was developed to assess whether a planning process was utilised during each discrete planning phase which could have placed the city on a pathway towards achieving its liveability objectives. Several criteria were developed to form the basis of the evaluation framework. A set of proposed indicators relating to open space provided the framework for this evaluation. The analysis of the case study concluded that although representative plans for each historical period highly valued open space, none of these plans met all the evaluation criteria. The analysis also highlighted the limitations of each plan which needed to be considered in order to achieve effective planning.

Findings of this study will contribute to the research literature on the fields of planning for liveability and urban open space. They will also help to inform the city government, planners and communities of Hanoi City about issues related to city planning and provision of open space from the past to the present. In this manner, this study makes a contribution towards a “greener” Hanoi in a more liveable capital city. The study has

also introduced guiding principles for planners to apply in situations beyond the case study.

Statement of Originality

This work has not previously been submitted for a degree or diploma in any university. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

Lien Thi Hoang NGUYEN

December, 2008

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Chapter 1 . Introduction

1.1. Background and Significance of Research Area

According to Beauregard (1989), early planning theory dealt with the city and the built environment and concentrated on how the city should be structured. The relevant British experience was chiefly in the field of ‘town and country’ planning and the American in the field of ‘city planning’ (Glass, 1973). In the *nineteenth century*, town and city planning was mainly based on narrow objectives concerning public health, sanitation and meeting the functional requirements of industry and transport. Throughout the latter part of the nineteenth century, town and city planning dealt with not only the immediate problems of disease and overcrowding but also formulating ideas on how to restructure whole cities. During the *twentieth century*, town and city planning had relied on two different objectives: one was a concern for urban form and the search for the ideal city in architectural terms and the other was the search for the ideal community (Cherry, 1973). It was realised that planners had to join their programs of urban reconstruction with those of societal and economic reconstruction. Planners’ concerns ranged widely over architecture, urbanisation, economics and politics in order to plan for the ideal city or utopia. It was believed that reforming the physical environment could improve the total life of a society (Fishman, 1977). Good quality physical environment was seen as essential for the promotion of quality of life and as the basis for a better urban community life. The essence of urban planning was a good city or ideal city which best expressed the power and beauty of modern technology, social justice and integrated the relationship between economic, social and political forces (Fishman, 1977; Yiftachel,

1987). *Contemporary* town and city planning focuses its planning theory on public interest. Planning is seen as an active force which can direct the community on to the path of environmental sustainability, economic viability and social liveability. The concepts of sustainability and liveability have become the desired goals directing the city planning process.

An official concept of sustainable development was introduced in 1980 by the International Union for Conservation of Nature (IUCN) and the United Nations Environment Program (UNEP)'s 'World Conservation Strategy'. However, the concept of sustainability, an abbreviation for sustainable development, has deep roots in the early twentieth century along with the theory of renewable resource management (Rees, 1991). Sustainability had often been conceived in environmental terms but since the 1970s, the concept of sustainable development shifted away from a mere concern about the environment, to include concerns about economic development. At that time, the linkage between sustainability and economic development began to emerge as the central issue (Portney, 2003). At present, sustainability or sustainable development requires attention to many issues such as environmental, economic and social issues, especially principles of equity (Pearce, 1989; Jacobs, 1991; Maclaren, 1996; Kemp et al., 1997; Hamm and Muttagi, 1998; Rees and Roseland, 1998; Newman and Kenworthy, 1999; Priemus, 1999; Stimson and Simpson, 2000; Lindsey, 2003). Currently, the concept of liveability has emerged as a derivative of sustainable development and sustainability. While sustainability is concerned with environmental, economic and social issues, liveability is embedded in the human environment concerned with the people who live and work in that environment. It takes into account

the various human requirements such as health, employment, income, education, housing and leisure activities. Both sustainability and liveability concepts are based on the principles of sustainable development and the substantive differences between them are often, slight. The goals of the planning process for sustainability and liveability should be directed towards the convergence of the protection and improvement of liveability, economic development, environmental sustainability and social equity. However, the full goals of sustainability and liveability may be too idealistic and difficult to achieve. Further the actual measurement of sustainability and liveability is another difficult task.

Urban planners and researchers often recommend open space and landscape features as contributing to a high quality of life and liveability of a region. Many studies have shown that open space brings various benefits including social, economic, environmental and health values; and the quality of life of a region is influenced by the quality, the values and the functions of regional open space (Fabos and Ahern, 1996; Gordon and Grant, 1997; Rulliffson et al., 2003). The general assumption is that open space intrinsically contributes to the achievement of sustainability and liveability.

Working within urban planning processes, many researchers and many practical studies have recognised that open space is an integral part of urban planning while sustainability and liveability are the desired goals of contemporary urban planning (Gobster, 2001; Taylor and Coalter, 2001). Planning is a process to achieve high quality open space, which in turn, contributes to achieving sustainable and liveable communities.

A review of the literature shows that there are few studies on open space within the framework of planning for sustainability and liveability. Research activities relating to

'open space' tend to be fragmented and mono-disciplinary. Research on *health, well-being, psychology and open space* have been carried out by Ulrich et al. (1991), Bennet et al. (1998) and Ulrich (2002). Research on the relationship between *teenagers and open space* have been carried out by Cahill (1990), Leiberg (1995) and Greenfield et al. (2000). The issue of *ethnicity and open space* have been studied by Davis and Adomako (2000), Floyd (2001), Ling Wong (2001), Rishbeth (2001) and Breakell (2002). *Residents attitudes and perspectives of open space* have been studied by Austin (2004), Blain and Lichtkoppler (2004) and Vogt and Marans (2004). Research on *open space management and legislation* have been undertaken by Jones (2000), Bengston et al. (2004) Frenkel (2004) and Von Haaren and Reich (2004). Yet, there has been little, if any, research on the use of open space as an indicator for the ongoing contribution of open space to the sustainability and liveability of a planned urban centre. Furthermore, despite wide searches, there was no trace of a study of how the different Eastern and Western cultures have influenced open space planning. Most of the research on open space has been carried out in developed countries, such as the *United States* (Teal et al., 1998; Arendt, 2004; Ryan and Hansel Walker, 2004), *Canada* (De Sousa, 2003; Erickson, 2004; Balram and Dragicevic, 2005), *Europe* (Mertens, 1999; Jones, 2000; Schopen, 2003; Turner, 2004; Von Haaren and Reich, 2004) and *Australia* (Low Choy, 1994; Department of Tourism - Sport and Racing (Queensland), 1998; Ipswich City Council, 1998; Figgis, 1999; Low Choy and MacDonald, 2002; Freestone and Nichols, 2004); while some have been done in developing countries (Purnomohadi, 1994; Tashiro, 1994; Li, 1997; Jim and Chen, 2003). To date, very little has been written about culture and planning (Cohen, 1998). These gaps warrant study and are elaborated below.

1.2. Research Questions and Study Objectives

Because of these knowledge gaps, the following research question has emerged, namely *Can the open space landscape of an Asian city, that is the cumulative result of city planning through a number of distinct historical periods, contribute to its liveability?*

This study has two objectives. **The first objective relates to a theoretical study of the literature on open space and liveability issues of urban planning.** Information gained from that review provided a framework to evaluate the relationship between open space and liveability in the chosen case study area. **The first sub-research question to be addressed in this study, therefore, is: within the context of past and current planning, how influential have open space policies and planning proved in contributing to achieve liveable outcomes?.** To address this question, relevant literature on open space and issues of liveability were examined. However, there is a close connection between liveability and sustainability due to the concept of liveability is derived from the principles of sustainable development. Therefore, the literature on sustainability was also examined while dealing with the liveability issues.

The second objective of this study relates to the lack of comparative study of open space planning of Eastern and Western school of thoughts. Stakeholders, especially planners and decision-makers play a decisive role in a planning process. People of varying knowledge and backgrounds can behave differently towards open space planning. **The second sub-research question to be addressed in this study, therefore, is: have different Eastern and Western cultures that have dominated the development of Asian cities influenced open space planning?.** In this research, a case study approach is used to explore the research question with Hanoi City of Vietnam

chosen as the case study. Hanoi is an ancient city with thousands of years' history and influenced by various foreign cultures including Chinese, French, Soviet and contemporary Western styles. In Hanoi, both capitalist and socialist planning approaches have been applied at different periods of time. Therefore, Hanoi is an appropriate case for this study in order to deal with the question of how have different cultures influenced planning approaches to open space. Noticeably, since Hanoi is a national capital, its open space system is provided within the context of a capital city and may perform a set of functions which differ from those of a non-capital city.

1.3. Structure of the study

The remainder of the study is organised as follows. Chapter Two discusses the methods used for this research. In this research, qualitative research is chosen as the research methodology and the case study approach is used as the research strategy and method. Data was collected from various sources including semi-structured interviewing, a review of planning and related documents and field observations.

Chapter Three reviews and assesses the literature on themes relevant to the study and firstly reviews issues of sustainability and liveability. Section 3.2 proceeds through concepts, definitions and principles of sustainability and liveability to the proposed principles of sustainable and liveable communities. It is followed by a review of issues related to open space such as the concepts and definitions of open space, forms of open space, functions of open space and the values that open space provide for the community. The relationship between open space and that of liveability of communities is also discussed in this section. The last section of this chapter examines planning issues including planning for open space and planning for liveability goals.

Chapter Four develops a framework to evaluate the achieving of planning goals for sustainability and liveability. The relevant issues of sustainable development, sustainability planning and planning evaluation are discussed. This framework was developed in order to assess planning progress towards sustainability and liveability. Open space indicators are the key components used for planning evaluation within this framework.

Chapter Five introduces the case study, Hanoi City of Vietnam. The chapter reviews the history of the city as well as the general history of city planning and characteristics of open space. All these reviews are studied in chronological order from the Feudal Period (before 1873), the French Colonial Period (1873-1954), the Post Independence Period (1954-1986) to the Contemporary Period (since 1986 up to the present). These reviews contribute to the understanding of planning issues in present day Hanoi City and also give a clear view of how different cultures, Eastern and Western, socialist and capitalist, have influenced city planning.

Chapter Six applies the evaluation framework proposed in Chapter Four to evaluating the case study related to Hanoi. The results are analysed to draw conclusions about the contribution of open space in achieving sustainable and liveable Hanoi.

Chapter Seven presents a summary and discussion of the main findings and highlights the contributions of the study as a whole.

Various evaluations and conclusions relating to the study are drawn throughout the research process and these are discussed in the last chapter. Major implications for future research are also discussed in this chapter.

Chapter 2 . Methodology

2.1. Introduction

The most important of the presuppositions that determine one's research perspective is that methodological issues must always be answered within the context of a particular research setting (Van Maanen, 1983). It is not possible to say if methodologies are appropriate or inappropriate until they are applied to a specific research problem. This perspective treats methodologies as tools of inquiry and each inquiry requires appropriate tools.

The initial question of whether to use quantitative or qualitative methodology in this research is the first step in addressing the research question. The question for this research is *“Can the open space landscape of an Asian city, that is the cumulative result of city planning through a number of distinct historical periods, contribute to its liveability?”*. The research examined the issues of open space planning and management in a major metropolitan centre, a capital city, and explored how different cultures have influenced those issues. Simply, it has looked at the ‘quality’, not the ‘quantity’ of an object or a phenomenon. As indicated, the notion of quality is essential to the nature of objects or phenomena while quantity is elementally an amount of something (Dabbs, 1982). Quality refers to the what, how, when, and where of objects or phenomenon - its essence and ambience (Van Maanen, 1983). Qualitative research thus refers to the meanings, concepts, definitions, characteristics, metaphors, symbols, and descriptions of objects or phenomena. In contrast, quantitative research refers to counts and measures of

things. From this point of view, a qualitative methodology was chosen as an appropriate research methodology for this research.

2.2. Qualitative Methodology

Qualitative research has become an increasingly important mode of inquiry for the social sciences and in applied fields such as education, regional planning, nursing, social work, community development, and management (Miles and Huberman, 1994; Miller, 1999). Qualitative research is a four-phase affair and accordingly, the full qualitative effort depends upon the ordered sequence of invention, discovery, interpretation, and explanation. To elaborate on these:

1. Invention denotes a phase of preparation, or design of research; this phase produces a plan of action;
2. Discovery denotes a phase of observation and measurement, or data collection; this phase produces information;
3. Interpretation denotes a phase of evaluation, or analysis; this phase produces understanding;
4. Explanation denotes a phase of communication, or packaging; this phase produces a message (Kirk and Miller, 1986).

The strengths of qualitative studies should be demonstrated by research that is exploratory or descriptive and that stresses the importance of context, setting, and the participants' frames of reference (Marshall and Rossman, 1999). Qualitative research properly seeks answers to questions by examining various social settings and the individuals who inhabit those settings. Qualitative researchers are interested in the complexity of social interactions in daily life and the participants' attitudes toward the

meanings of those interactions. This interest takes qualitative researchers into natural settings rather than laboratories, and into using multiple methods for exploring the topic of interest. Thus, qualitative research is pragmatic, interpretive, and grounded in the lived experiences of people (Marshall and Rossman, 1999).

Marshall (1985) emphasised the strengths of qualitative methodology by elaborating the value of such studies, including research that: delves in depth into complexities and processes; was on little-known phenomena or innovative systems; sought to explore where and why, policy and local knowledge and practice are at odds; was on informal and unstructured linkages and processes in organisations; looked at real, as opposed to stated, organisational goals; cannot be done experimentally for practical or ethical reasons; and for which relevant variables have yet to be identified.

Some authors associate qualitative research with the single technique of participant observation and others extend the notion to include interviewing as well. However, popular qualitative research also includes other methods such as observation of experimental natural settings, photographic techniques (including videotaping), historical analysis (historiography), document and textual analysis, sociometry, sociodrama and similar ethno methodological experimentation, ethnographic research, and a number of unobtrusive techniques (Berg, 2007). From these all methods, data collected in qualitative research are amassed.

Qualitative data are attractive for many reasons: they are rich, holistic, real; they preserve chronological order, and suffer minimally from retrospective distortion; their validity appears reliable (Van Maanen, 1983). However, qualitative data have serious weaknesses and problems. These include:

1. Collecting and analysing the data is a highly labour-intensive operation, often generating much stress, even for top-quality research staff;
2. Qualitative data tend to overload the researcher at almost every point: the sheer range of phenomena to be observed, the volume of recorded notes, the time required for writing-up, coding, and analysis can all become overwhelming; and
3. When methods of analysis are not well formulated: this may represent the most serious and central difficulty in the use of qualitative data (Van Maanen, 1983; Berg, 2007).

Various technologies may be used by different researchers; therefore, qualitative methods should be extremely systematic and have the ability to be reproduced by subsequent researchers (Berg, 2007).

2.3. Research Strategies

The first and most important condition for differentiating the various research strategies is to identify the type of research question(s) being asked. Defining the research question(s) is (are) probably the most important step in a research study.

In general, case studies are the preferred strategy when “how” or “why” questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context (Yin, 2003). Literature shows that the case study has been a common research strategy in psychology, sociology, political science and social work (Gilgun, 1994), business (Ghauri and Gronhaug, 2002), and community planning (Yin, 2003). The advantage of the case study is that it produces context-based knowledge. Study of the case helps to close in on real-life situations and develop views of reality directly in relation to phenomena as they

unfold in practice (Flyvbjerg, 2001). Case studies may be generalised to theoretical propositions and do not represent a ‘sample’. Their aim is to expand and generalise theories (analytic generalisation) and not to enumerate frequencies (statistical generalisation). As a research strategy, the case study is used in many situations, including: policy, political science, and public administration research; community psychology and sociology; organisational and management studies; city and regional planning research, such as studies of differing plans, neighbourhoods, or public agencies; and the conduct of dissertations and theses in the social sciences. This applies in academic disciplines as well as professional fields such as business administration, management science, and social work (Yin, 2003).

The task of this research is to study whether and how different cultures have influenced the provision of open space leading to different sustainable and liveable outcomes in a capital city. Therefore the appropriate research strategy is using a case study to address this research question.

The case study is not only a data collection strategy or merely a design feature alone, but also a comprehensive research strategy. Case study includes both a single case study and multiple case studies approaches which are described below:

2.3.1. Single-case study

According to Yin (2003), a single-case study is conducted when it represents a *critical* test of existing theory; an *extreme* case or an *unique* case; a *representative* or *typical* case; a *revelatory*; or a *longitudinal* purpose (studying the same single case at two or more different points of time).

There are two types of single-case study: (a) *holistic* single-case study (single-unit of analysis); and (b) *embedded* single-case study (multiple units of analysis) (see Figure 2.1). An embedded single-case study is conducted when, within a single case, attention is also given to a sub-unit or sub-units. The sub-units can allow for more opportunities for extensive analysis and enhance the understanding of the single case.

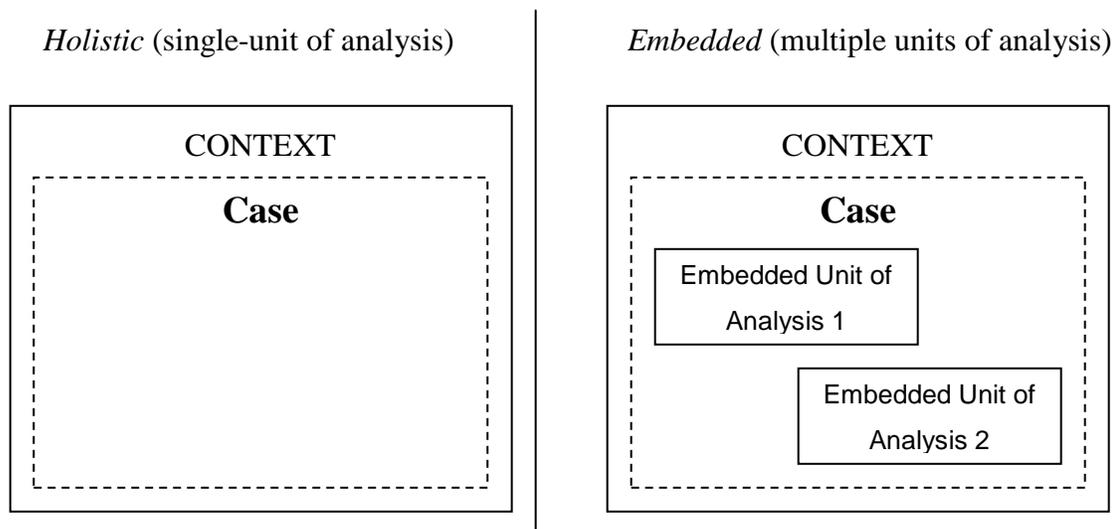


Figure 2.1. Single-case designs

Source: Yin (2003)

2.3.2. Multiple-case studies

A multiple-case study design should be used when the same study contains more than a single case, and when or where each case should serve a specific purpose within the overall scope of inquiry (Yin, 2003). Depending on the type of phenomenon or objects being studied and the research question(s), a multiple-case study may consist of multiple holistic cases or of multiple embedded cases. When a multiple embedded design is used, each individual case study may be either holistic or embedded (see Figure 2.2).

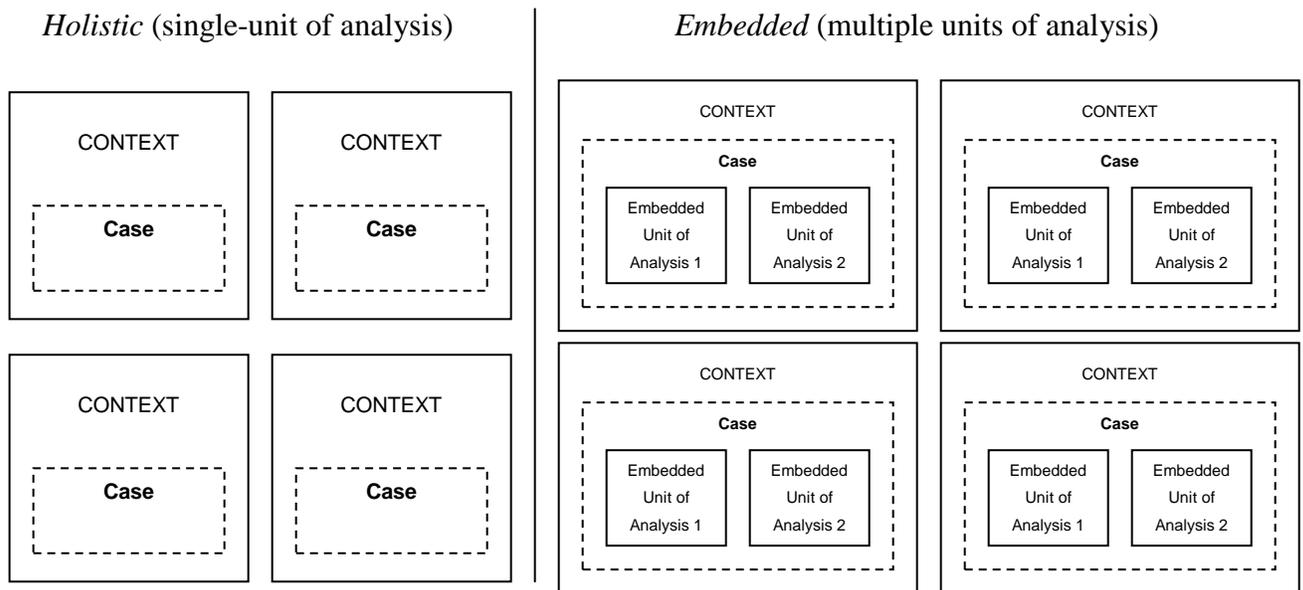


Figure 2.2. Multiple-case designs

Source: Yin (2003)

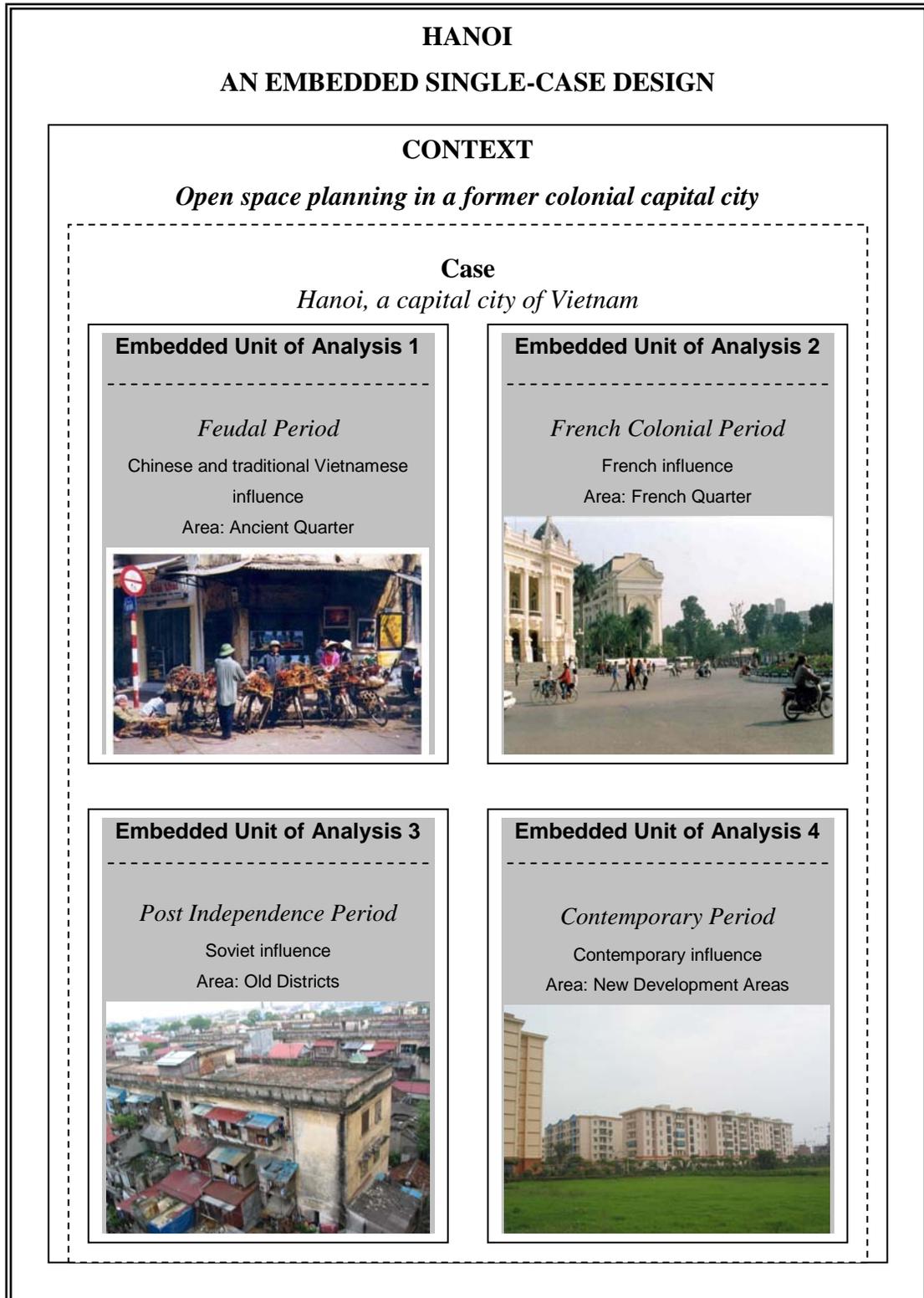
Again, a decision of whether a single case study or multiple case studies is going to be used, is made based on the research question(s). That decision should be made prior to the data collection stage of the research process.

In this research, the question is to examine how different cultures have influenced open space planning in an Asian city that has been subjected to a number of major periods of occupation and design influence. Instead of conducting multiple-case studies in various Asian cities, the researcher has decided to focus on a single case which can be representative of other Asian cities. Hanoi, the capital city of Vietnam, has been chosen to be the case study of this research. The rationale for conducting a single-case study of Hanoi is that Hanoi has a long history that has experienced the imposition of a mixture of Eastern and Western views in city planning and the provision of open space. Chronologically, Hanoi has been influenced by traditional Vietnamese, Chinese, French,

Soviet and Contemporary city planning approaches. The evidence of socialist and capitalist city planning exist together in this city. Review of the case study will be based on historical periods and will examine the dominant influence with each period. A specific planning case that is representative of the dominant influence will be used (see Chapter Five and Chapter Six). Hanoi can be divided into four areas including an Ancient Quarter (built in the Feudal Period), a French Quarter (built in the French Colonial Period), Old Districts (built in the Post Independence Period) and New Development Areas (built in the Contemporary Period). These areas reflect different Eastern and Western open space values.

It can be said that Hanoi is a city which reflects a diversity of cultural and political features in city planning. Hence a full range of examples of these different influences are present in this one former colonial capital city. Therefore, Hanoi can be seen as a typical case of Yin's third rationale for single-case study design (see section 2.3.1). This case study is an embedded single-case design - that is, within this single case the research also incorporates sub-units of analysis. The research studies the provision of open space in Hanoi through different times including Feudalism (pre-colonial), French Colonial, Post Independence (Soviet influence) and the Contemporary era each of which can be traced in the Ancient Quarter, French Quarter, Old Districts and New Development Areas. Box 2.1 illustrates the different embedded units of analysis which contribute to the understanding of the whole case study.

Box 2.1. Hanoi, an embedded single-case design



2.4. Research Process

The main stages of the research process derived for this study are highlighted in Figure 2.3 below.

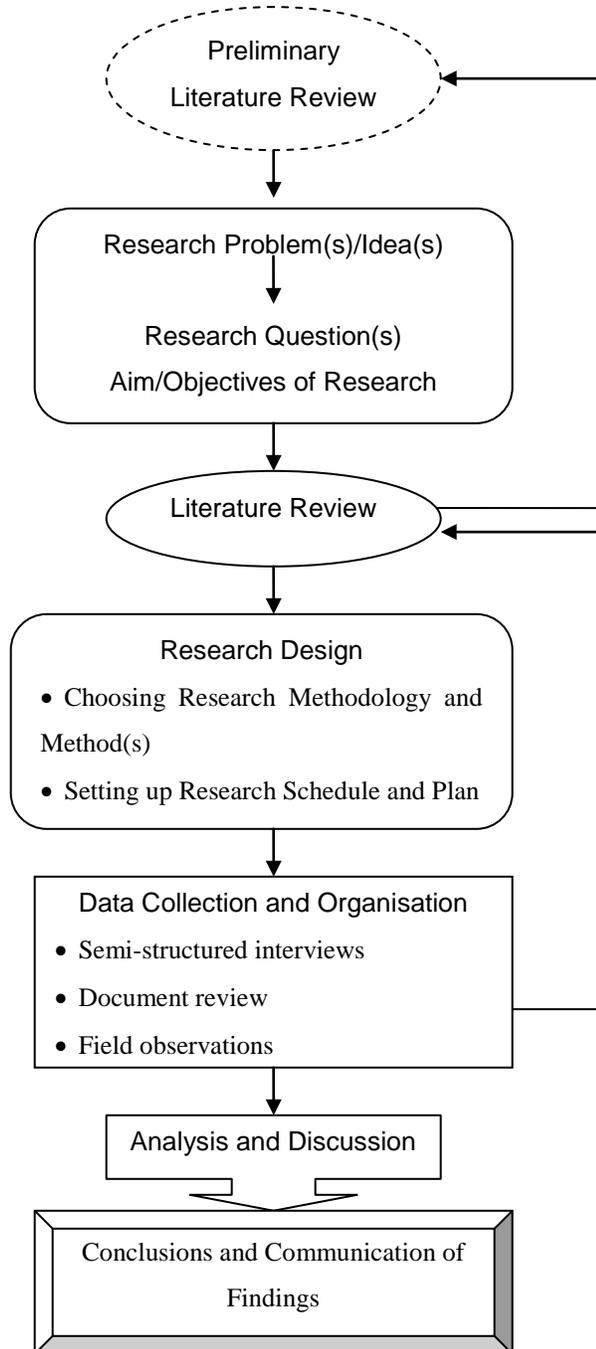


Figure 2.3. Research Process

Source: After Berg (2007)

The starting point of research is an idea or research problem(s). The idea or research problem(s) can emerge from what the researcher has read, heard and/or observed. This idea or research problem(s) is used to form the research question(s) and define the aim and objectives of the research. Once the research question(s) has been specified, it directs the researcher to work with the relevant and related literature. As the researcher begins reading literature on the topic, the researcher may find further problems or ideas which lead to adjusting or changing the research question(s) to some extent. The next step is research design, where the researcher has to decide which methodology and method(s) have to be chosen in order to address the research question. A detailed schedule and plan for doing the research has to be set up in order to ensure that the research will conform to the required time and strategy. According to the research methodology and methods which have been decided, the researcher then conducts data collection. In this research there are three sources of data that have been collected including semi-structured interviews, document review and field observations. Data analysis and discussion is the follow-up step and is the basis of findings and conclusions drawn at the end of the research study process. Qualitative data analysis is a search for general statements about relationships among categories of data and moves from a description of what is the case to an explanation of why what is the case is the case (Marshall and Rossman, 1990; Hitchcock and Hughes, 1995). In this research, several sources of data including documents, field observations and interviews will be analysed by using the evaluation framework developed from the literature. Findings from data analysis will be related back to the theory and literature. The discussion of findings will tell what the results mean or indicate. Conclusions which can often feel like a summary

of the discussion are to say whether results of the research support or contradict the theory and literature, give the significance of this for the field and briefly point toward the next step.

2.5. Methods

2.5.1. Case Study Method

A case study is not actually a data-gathering technique, but a methodological approach that incorporates a number of data-gathering measures (Hamel et al., 1983). The case study, like other research strategies, is a way of investigating an empirical topic by following a set of pre-specified procedures. The approach of case studies ranges from general field studies to the interview of a single individual or group. Case studies may focus on an individual, a group, or an entire community and may utilise a number of data technologies, such as life histories, documents, oral histories, in-depth interviews, and participant observation (Hagan, 1993; Yin, 2003). The case study as a research strategy comprises an all encompassing method – with a logical order of design incorporating specific approaches to data collection and to data analysis.

There are several appropriate designs for case studies including exploratory, explanatory and descriptive case studies:

1. *Exploratory case studies.* When conducting exploratory case studies, fieldwork and data collection may be undertaken before defining a research question. This sort of exploratory study may be useful as a pilot study.

2. *Explanatory case studies.* These are useful when conducting causal studies. Particularly in complex studies of organisation or communities, one might desire to employ multivariate cases to examine a plurality of influences.

3. *Descriptive case studies.* Descriptive case explorations require that the investigator(s) present a descriptive theory, which establishes the overall framework for the investigator to follow throughout the study. The investigator must also determine exactly what the unit of analysis in the study will be, before beginning the research (Winston, 1997; Yin, 2003; Berg, 2007).

According to the above classification, this research is a descriptive case and includes four units of analysis as discussed in Box 2.1. For each embedded unit of analysis, a combination of different data collection techniques are used including semi-structured interviews, document review and field observations (see Table 2.1).

Table 2.1. Techniques/methods used for different embedded units of analysis

Period of influence Technique	Feudal Period	French Colonial Period	Post Independence Period	Contemporary Period	Future Studies
Semi-structured interview				√	√
Document Review	√	√	√	√	√
Field observation	√	√	√	√	√

In fact, no single technique of data collection has a complete advantage over all others. The strengths and weaknesses of each source of evidence are discussed in the following table.

Table 2.2. Case-study's sources of evidence: Strengths and Weaknesses

Source of Evidence	Strengths	Weaknesses
<i>Interviews</i>	Targeted – focuses directly on the case study topic	Bias due to poorly constructed questions
	Insightful – provides perceived causal inferences	Response bias
		Inaccuracies due to poor recall
		Reflexivity – interviewee gives what interviewer wants to hear
<i>Document Review</i>	Stable – can be reviewed repeatedly	Retrievability – can be low
	Unobtrusive – not created as a result of the case study	Biased selectivity, if collection is incomplete
	Exact – contains exact names, references and details of an event	Reporting bias – reflects (unknown) bias of author
	Broad coverage – long span of time, many events and many settings	Access – may be deliberately blocked

Table 2.2. continued

Observation	Reality – covers events in real	Time-consuming
	Contextual – covers context of event	Selectivity – unless broad coverage
		Reflexivity – event may proceed differently because it is being observed
		Costs – hours needed by human observers

Source: Yin (2003)

Using all these different sources of evidence is important as they can help to corroborate and augment each other. The details of these techniques of data collection are discussed in the following sections.

2.5.2. Semi-structured Interviewing

Usually, interviewing is defined simply as a conversation with a purpose and specifically, that purpose is to gather information (Kahn and Cannell, 1957; Spradley, 1979; De Santis, 1980; Lincoln and Guba, 1985; Patton, 1987; Salkind, 1991; Leedy, 1993; Frankfort-Nachmias and Nachmias, 1996; Marshall and Rossman, 1999; Babbie, 2004). There are different types of interviews, namely formal and informal (Fitzgerald and Cox, 1987); or structured and unstructured (Leedy, 1993; Fontana and Frey, 1994). However, at least three major categories may be identified: the standardised (formal or structured) interview, the unstandardised (informal or non-directive) interview, and the

semi-standardised (guided-semi-structured or focused) interview (Gorden, 1987; Nieswiadomy, 1993; Frankfort-Nachmias and Nachmias, 1996; Babbie, 2004).

In this research, semi-structured interviews have been conducted. Semi-structured interviewing involves the application of a number of predetermined questions and/or special topics. These questions are typically asked of each interviewee in a systematic and consistent order, but the interviewers are allowed freedom to digress; that is, the interviewers are permitted (in fact expected) to probe far beyond the answers to their prepared and standardised questions (Berg, 2007). Structured questions should be formulated in words familiar to the people being interviewed (in the vocabularies of the subjects). Furthermore, the researcher can develop the interviewing through unscheduled probes that arise from the interview process itself.

(1) Selecting the interviewees

Interviewees should be chosen from different stakeholders who may benefit from and/or are related to the topic of the research to some extent. In fact, it is not easy to determine who to involve. It is often difficult to identify all the relevant stakeholders especially when there are multiple interests at stake and complex issues to address (Low Choy et al., 2001). According to Rubin and Rubin (1995), those chosen to be interviewed should be relevant to how the researcher has defined the subject of the research.

However at the early stage of the research, the researcher may not know all material information, so the researcher needs to talk to a variety of people in order to get acquainted with the field. Once interviews begin, the researcher may find that interviewees mention other people while they talk or describe events. Using the snowballing method, the researcher may find other relevant participants for the next

interviews. Even if the interviewees do not mention other people, the researcher can ask them to suggest persons with whom the researcher should talk. By interviewing people mentioned by previous interviewees, the researcher makes a start on interviewing along a social network (Rubin and Rubin, 1995). As the researcher learns more, the researcher needs to interview those who have particular knowledge or can discuss specific experiences that the researcher wants to know about.

In this research, the initial group of interviewees were selected from those responsible for the planning and/or policies (implementing, managing, assessing, monitoring) of open space in Hanoi. Since Hanoi is a capital city, the planning and management of open space in the capital is under the control of both national and city governments. The national authority charged with open space planning and management is the Ministry of Construction. At the city level, however, Hanoi has no leading authority that is responsible for open space planning. Therefore, interviewees were chosen from departments whose functions are partly related to open space planning and management including the Department of Planning and Architecture, the Department of Natural Resources, Environment and Housing and the Department of Transportation and Urban Public Works Services. The functions of those agencies are described in Appendix A6.

One of the important questions is the number of interviewees to be interviewed. In this research, the researcher applied the principle of *completeness* (Rubin and Rubin, 1995). That is, the researcher kept adding interviewees until satisfied that what had been heard provided an overall sense of the meaning of a concept, theme, or process. This is called the *saturation point* (Glaser & Strauss, 1967), when each additional interviewee, adds

little to what the researcher has already learned. Sometimes interviewing one very well informed person is all that is necessary (Rubin and Rubin, 1995).

In this research, seven interviewees from four authorities were interviewed (see Appendix A7). Interviewees are upper-middle managers and researchers from governmental authorities and research institutes. Among them three interviewees (R1, R2 and R3) are managers of national level departments; one interviewee (R5) is the manager of the city level department; one interviewee (R7) is the manager of the park company. The other two interviewees (R4 and R6) are architects who have carried out several research projects associated with public space and green space issues in Vietnam. These seven interviewees were selected as the representatives of those who are working in the field of management, planning or research on open space issues. It was judged that this number and range of interviewees would provide a sufficiently wide range of responses.

(2) Types of interviewing questions

The major aim of doing interviews is the collection of information. Furthermore, the researcher wants to understand the perceptions of participants which cannot be learnt by other methods. The researcher as an interviewer will need to consider how to create questions and an interview schedule. According to Berg (2007), there are four types or styles of questions which must be included in the interview, including:

(i) *Essential questions*: Essential questions are exclusively concerned with the central focus of the study. They may be raised together or scattered throughout the survey, but they are geared toward eliciting specific information.

(ii) *Extra questions*: Extra questions are those questions which are roughly equivalent to certain essential questions but worded slightly differently. These are included in order to check the reliability of responses or to measure the possible influence a change of wording might have.

(iii) *Throw-away questions*: Frequently, throw-away questions are used at the beginning of an interview schedule. Throw-away questions may be essential demographic questions or general questions used to develop a rapport between interviewers and interviewees. They may also be found throughout the interview to set the interviewing pace or to allow a change of focus in the interview.

(iv) *Probing questions*: Probing questions or probes provide interviewers with a way to draw out more complete stories from interviewees. Probes frequently ask interviewees to elaborate on what they have already answered in response to a given question.

In order to acquire information while interviewing, the researcher needs to word questions so that they will provide relevant data. Thus, questions should be asked in such a manner so as to motivate interviewees to answer as completely and honestly as possible. The set of structured questions prepared for this study's interviews is contained in Appendix A5.

Generally, the length of interviews depends on the research questions, and the type of answers developing between the interviewer and the interviewee. In this case, all the interviews lasted approximately one hour. In some cases, when the conversation was flowing, the subject provided rich, detailed and lengthy answers to the question. In other

situations, the subject responded to the same question with a rather matter-of-fact, short, cryptic answer.

During this research, at all interviews notes were taken for further transcription and analysis, as all interviewees refused permission or appeared uncomfortable in the presence of a recording device. Answers of each question were categorised in order to find out the similarity and dissimilarity between responses (see Appendix A7). In general, all interviewees were very conservative and their answers were very generic. However, information gathered from interviews together with information collected from other sources provided a means for triangulation of data. It has the potential for finding out what is going on in the real world. It allowed field observation to be checked against published research and what people said in interviews.

2.5.3. The Review of Documents

The review of documents is an unobtrusive method and likely to be relevant in every case study topic (Yin, 2003). The most important use of documents is to support and supplement evidence from other sources of data collection, such as interviews and observation.

Since one task of this research is to study the context of past planning of Hanoi, a review of documents is an important method of data collection. This is a way to look back on the history of that city beyond observation of what remains today. This type of information takes many forms, such as written reports, administrative documents, strategies, planning and policies which are related to open space issues. It also includes other research reports on open space issues which have been conducted by other researchers and organisations. In addition, several maps were collected and became

important documents for analysis. More importantly, some maps are valuable data which are remaining evidences of city planning in the past. Those maps were contained in planning documents and were analysed when evaluating city planning in each historical period. Map analysis was to derive information about spatial patterns and relationships between different urban objects, especially the trend of open space arrangement in the city planning. Another important source of documents is the electronic data base. These can potentially help the researcher save time and cost in data collection.

2.5.4. Field Observations

Field observations are collected through field visits where observed evidence often provides additional information about the topic being studied. In this research, the field observations ranged from meetings, to field notes and taking photographs throughout the case study area.

During the research, the researcher went to the field focusing around major open space areas in Hanoi. The objective of field observations was to address what was happening “out there” as opposed to what was thought to be the case. The researcher also informally met and talked with the people at various locations within the open space system of the city. Findings drawn from observations and those meeting were recorded as notes for further analysis. In addition, photographs were taken in order to contribute to the value of observations and convey important case characteristics to outsiders.

More importantly, the role of the researcher in this research was not only an observer but also a city resident. This background assisted the researcher to integrate local knowledge during the research process.

2.5.5. Data Analysis

Data analysis is the process of bringing order, structure, and interpretation to the mass of collected data. It is a messy, ambiguous, time-consuming, creative, and yet fascinating process (Marshall and Rossman, 1999). It involves the following activities:

(1) Data Reduction

Typically, the collected raw data are not immediately available for analysis. In fact, the raw data require organising and processing before they can actually be analysed. Qualitative data needs to be reduced and transformed in order to make it more readily accessible, understandable, and to draw out various themes and patterns. Frequently, data reduction occurs throughout the life of the research project. For this project, field notes needed to be edited, corrected, and made more readable, before they could be organised, indexed, and collated for analysis. Interviews and some other related and relevant documents, where necessary, had to be translated from Vietnamese into English, corrected, and edited.

In this research, translation was a challenge since it is considered that poor translation can render the collected data valueless (Behling and Law, 2000). Translation had to satisfy the requirements of basic standards including validity, reliability and legality. There are three kinds of practical problems of language equivalence namely:

(i) Lack of Semantic Equivalence across languages: Semantic equivalence involves the choice of terms and sentence structures that ensure that the meaning of the source language statement is preserved in the translation;

(ii) Lack of Conceptual Equivalence across cultures: Conceptual equivalence refers to the degree to which a concept, independent of the words used to operationalise it, exists in the same form in the source and target cultures; and

(iii) Lack of Normative Equivalence across societies: Normative equivalence refers to the degree to which the researcher has dealt successfully with the problems created by difference in societal rules dealing with the openness with which particular topics are discussed; the manner in which ideas are expressed; and, the way in which strangers, particularly strangers asking questions, are treated (Behling and Law, 2000).

For example, the term ‘liveable’ has no equivalent single Vietnamese word and can be translated to groups of words such as ‘tính sống’, ‘có thể chung sống được’ or ‘đáng sống’; or the Vietnamese often use the term ‘đất cây xanh’ or being translated as ‘green tree land’ which is not formally used in Western literature.

In order to ensure standard and equivalent translation, the researcher has tried to find solutions to overcome these challenges. These include:

(i) Discussion with Vietnamese speakers (colleagues and some interviewees) and English speakers (supervisors, editors); and

(ii) Reference to other sources of information (e.g. reports, articles, electronic database) to find the similarity or equivalence.

(2) Data Triangulation

Case studies need not be limited to a single source of evidence and in fact, most of the better case studies rely on a wide variety of sources. A major strength of a case study is the opportunity to use various sources of evidence, enabling the researcher to address a broader range of issues by using multiple sources of evidence in case studies.

The most important advantage of using multiple sources of evidence is in enabling the process of triangulation. All sources of evidence will be reviewed and analysed together, so that the research findings will be based on the convergence of information from different sources. Thus, any finding or conclusion in a case study is likely to be much more convincing and accurate if it is based on several different sources of information (Yin, 2003).

According to Patton (1987), there are four types of triangulation which may be used when doing evaluations and these include:

- (i) Data triangulation of data sources;
- (ii) Investigator triangulation among different evaluators;
- (iii) Theory triangulation of perspectives on the same data set; and
- (iv) Methodological triangulation of methods.

In this research only the first of these four types is pertinent (see Figure 2.4). Thus the researcher collected information from multiple sources including documents, materials from the electronic data base, semi-structured interviews and field notes.

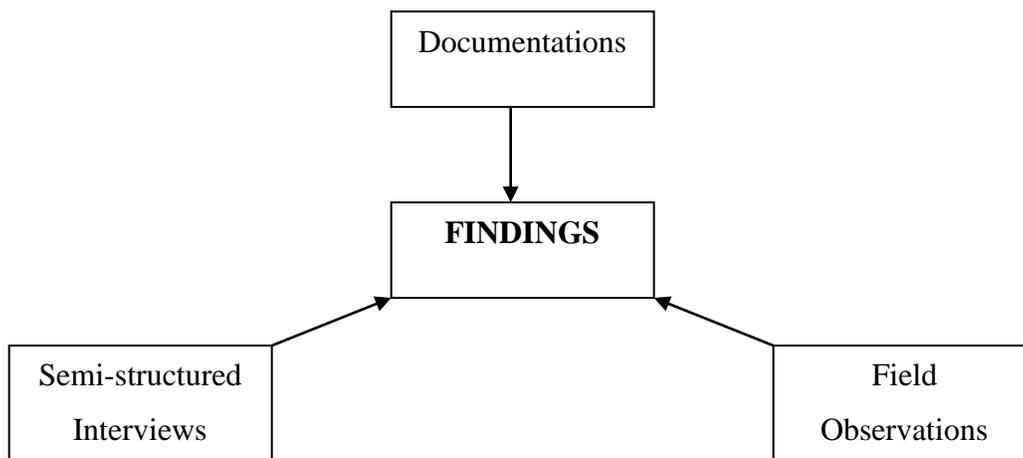


Figure 2.4. Data triangulation

This method is supported by the result of an analysis of case study methods which found that case studies using multiple sources of evidence were rated more highly, in terms of their overall quality, rather than those that relied only on single sources of information (Yin et al., 1983). Triangulated data can provide a stronger support than a single source of evidence (Sieber, 1973; Yin, 1982, 2003). Fielding and Fielding (1986) also stated that the important feature of triangulation is not the simple combination of different kinds of data but the attempt to relate them so as to counteract the threats to validity identified in each. Therefore, triangulation can help to increase the depth of understanding the research can yield.

(3) Conclusion drawing and verification

Throughout the research process the researcher made various evaluations and decisions about the study and the data. Sometimes these were made on the basis of material found in existing literature; sometimes these evaluations and decisions have arisen as a result of data as they are collected (based on observations in the field, statements made during interviews, observations of patterns in various documents).

Verification was actually a two-fold consideration. First, conclusions drawn from the patterns apparent in the data were verified as being valid. Second, verification involved ensuring that all of the procedures have been clearly articulated. In other words, the patterns apparent in the data must be confirmed to ensure that they are valid and all of the procedures used to arrive at the eventual conclusions are clearly articulated.

2.5.6. Grounded Theory Method

Grounded theory as a methodology was originally developed by two sociologists Barney Glaser and Anselm Strauss. The original 'grounded theory' tradition is that theory

emerges by a process of 'induction' (Glaser & Strauss, 1968; Strauss and Corbin, 1990; Miles and Huberman, 1994; Fielding and Lee, 1998). According to this inductivist model, the researcher collects 'all the relevant facts' and then examines them to see what theory is suggested by this particular set of 'all the relevant facts' (Wengraf, 2001). The theory thus 'emerges' from the data. It is quite different from the positivist's approach. In a positivist's approach to research, an existing academic theory guides the design for the data collection. Once the data are collected, they are used to test and perhaps modify the original theory.

Grounded theory methodology and methods (procedures) are now among the most influential and widely used modes of carrying out qualitative research, when generating theory is the researcher's principal aim (Strauss and Corbin, 1997). The grounded theory approach is a qualitative research method that uses a systematic set of procedures to develop an inductively derived grounded theory about a phenomenon. That means, it is discerned, developed, and verified through systematic data collection and analysis of data, pertaining to that phenomenon. Therefore, there is a mutual relation of data collection, analysis and theory. Qualitative researchers build theory step by step from the examples and experiences collected during the research. Throughout the research process, grounded theorists develop analytic interpretations of their data to focus further data collection, which they then use in turn to inform and refine their developing theoretical analysis (Charmaz, 2000).

Importantly, grounded theory methods specify analytic strategies, not data collection methods. The purpose of grounded theory method is to build theory that is faithful to and illuminates the area under study (Strauss and Corbin, 1990). The research findings

constitute a theoretical formulation of the reality under investigation, rather than consisting of a set of numbers, or a group of loosely related themes. Through this method, concepts and relationships are not only generated but also provisionally tested.

2.6. Summary

This chapter demonstrates that in order to address the research question, qualitative research is the appropriate research methodology and a case study is the preferred research strategy. In this research, different techniques have been used to collect related and relevant data including semi-structured interviewing, review of documents and field observations. All data needs to be triangulated, rather than separately analysed, so that the research findings will be based on a convergence of information. Throughout the research process, theory is grounded in a general and more or less comprehensive set of statements or propositions that describe different aspects of some phenomenon. This methodology and methods are essential and deciding factors for the success of research results.

Chapter 3 . Review of Literature

3.1. Introduction

The question for this research is “*Can the open space landscape of an Asian city, that is the cumulative result of city planning through a number of distinct historical periods, contribute to its liveability?*?”. This research focuses on three major themes: (a) sustainability and liveability, (b) open space; and (c) urban planning. The task of this chapter is to review relevant and related literature on these issues.

This chapter firstly reviews sustainability and liveability issues. The term ‘sustainable development’ can be traced back to the early twentieth century and becomes more popular after the late 1980s. The term ‘sustainable development’ and its derivatives such as ‘sustainability’, ‘liveability’, ‘sustainable community’, ‘liveable community’ and ‘sustainable city’ have now all gained currency. All these terms have become matters of great interest to contemporary societies and to the planning profession. Sustainability, and in some cases, liveability, have emerged as primary themes in planning (Campbell, 1996; Beatley and Manning, 1997; Berk and Conroy, 2000; Lindsey, 2003). Sustainability and liveability have been adopted as goals in comprehensive plans and other planning activities in a limited number of communities (Maclaren, 1996). However, because of the wide range of possible meanings, the terms have many different meanings for many different people. Each organisation or community develops for themselves their own definitions and principles for what they see as important. The purpose of Section 3.2 is to review the main schools of thought concerning these terms and from that review, four main principles of sustainable and liveable communities are

proposed. In this research, these principles will be linked to the evaluation of urban and open space planning for a capital city and applied in the research's case study of Hanoi. These principles can be applied in other studies of sustainability and liveability.

Secondly, the chapter reviews open space issues in Section 3.3. Different people, groups or regions may have differing views and attitudes towards open space issues. To some people, open space merely provides a recreational function; to others, open space also provides broader functions which are not always obvious. In the nineteenth century, the evolution of the planning movement was closely associated with the fight for open space against unplanned urban development and its threat to natural amenities (Cherry, 1973). However, the need for open space at that time was seen as somewhat narrow and was restricted to the provision of public walks and pleasure grounds. In the twentieth century there was a wider demand for outdoor recreation and physical fitness, and, therefore, playing grounds and camping grounds were the new needs. Nowadays, it is broadly recognised that open space is not only for recreation but also has non-recreational functions. Open space can extend to areas of conservation and preservation of natural environments and cultural or historic features. Open space plays an important role in shaping the amenity and form of the urban area as a whole. It should not be thought of in merely spatial terms, e.g. as isolated units – streets, parks or squares – but as an important part of the city and regional landscape (Hornell and Walker, 2003; Low Choy, 2004). Contemporary planning for open space has been seen as a vital component of overall community planning which seeks to improve both the satisfaction of individual needs and the quality of life of the urban community. Provision of quality open space is one of the major tasks of urban planning in order to achieve sustainable and liveable

communities (Cassidy, 1980; Beatley, 1995; Brisbane City Council (BCC), 1996; Beatley and Manning, 1998; Department for Transport - Local Government and the UK Regions, 2002; Center for Environmental Protection and Sustainable Development Planning, 2004).

Finally, in Section 3.4 the chapter reviews issues related to urban planning. The purpose of this review is to examine the concepts and theories of planning which underpin city planning, capital city planning specifically and the open space system. The review begins with an overview of planning issues, which shows that the early efforts of planning were concerned with issues in the city and how to structure the city. It is followed by a review of the major movements of city planning in the twentieth century such as Howard's 'Garden City', Le Corbusier's 'Radiant City', the systems planning and healthy urban planning. These movements have strongly influenced contemporary city planning. The review also examines the issues of planning for open space, and sustainability and liveability. Whilst open space has been seen as an integral part of city planning, sustainability and liveability have become desired goals of contemporary city planning. The last part of this section focuses generally on planning for issues of the fragmented nature of a city's landscape, capitalist and socialist systems of planning and finally planning for capital city. These issues have influenced city planning in Hanoi, the object of this research which is a capital city of a former colonial country. Culture has been viewed as a factor which really distinguishes planning in the Eastern countries whose value systems, social organisation and political culture are different from those of the West. The big difference between capitalist and socialist modes is that private ownership of means of production and urban land is common in capitalist countries,

while in socialist countries, the State keeps under control not only the sphere of distribution but also the whole production process. While in Western countries open space is defined to include public and private land, it is mainly defined as public owned land in Eastern countries.

Planning for a nation's capital city essentially follows the general theory and movements of planning and city planning. However, as the nation's capital has specific roles, it has distinct planning needs which differ from non-capital cities.

3.2. Sustainability and Liveability Issues

3.2.1. Sustainability

(1) Concepts and Definitions of Sustainability

The term 'sustainable development' was first given currency in the publication *Caring for the Earth* published by IUCN - The World Conservation Union in 1980. This concept was noted more frequently in the late 1980s when it was defined officially in *Our Common Future*, the official report of the UN's World Commission on Environment and Development (WCED, 1987). In the process, WCED, commonly known as the Brundtland Commission, put forth the very general notion that sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. This definition has been widely used to underpin planning actions and strategies pursuing sustainable and liveable goals. The term 'sustainable development' and its derivatives such as 'sustainability', 'liveability', 'sustainable community', 'liveable community' and 'sustainable city' have now all gained currency. Nowadays, sustainability or sustainable development are viewed more broadly as concerning the environment, economics, social issues and

principles of equity (Pearce, 1989; Jacobs, 1991; Maclaren, 1996; Kemp et al., 1997; Hamm and Muttagi, 1998; Rees and Roseland, 1998; Newman and Kenworthy, 1999; Priemus, 1999; Stimson and Simpson, 2000; Lindsey, 2003). These develop the point of view that there are three concepts of sustainable development: (1) the *ecological (environment)*, (2) the *economic*, and (3) the *socio-cultural* approach (Campbell, 1996; Kemp et al., 1997). Sustainable development has three goals: environmental protection, social equity and economic prosperity. The first two goals – environmental protection and social equity – are likely to enhance the prospects of the third goal – economic prosperity. Economic prosperity and increased profitability, in turn, provide the means to achieve the first two goals. These three elements of the triple bottom line are inter-related and supportive of each other (see Figure 3.1).

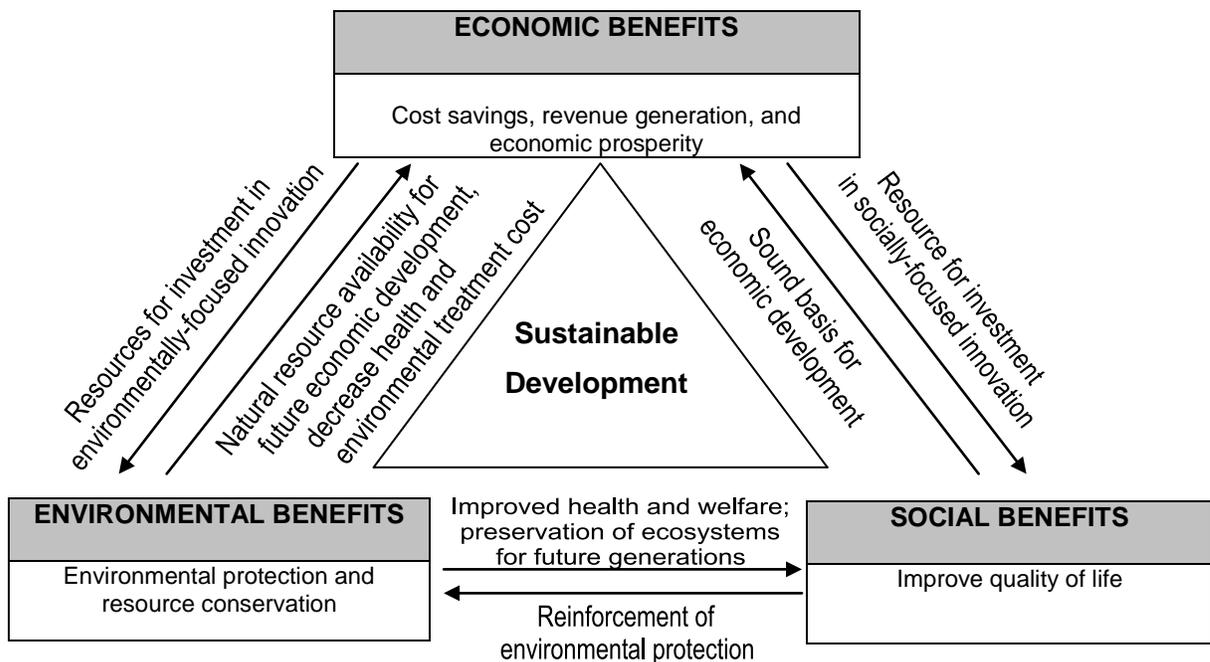


Figure 3.1. Sustainable Development: Triple Bottom Line

Source: After Placet *et al.* (2005)

In general, the various objectives of economic development, environmental protection, and societal and cultural issues must be incorporated in order to achieve sustainable development. Sustainable development should be seen as a dynamic process which responds to the changing economic, social and environmental conditions.

While sustainability is concerned with environmental, economic and social issues such as protection of the natural environment, minimal use of non-renewable resources, economic vitality, individual well-being and satisfaction of basic human needs, it is also concerned with principles of equity. Intergenerational and intragenerational equity including social equity, geographical equity and equity in governance are been highlighted in the literature and in policy documents (Haughton and Hunter, 1994; Maclaren, 1996). According to the definition of the WCED (1987), sustainable development meets the needs of the present, without compromising the ability of future generations to meet their own needs. Firstly, sustainability means balancing the social, economic and environmental implications of activities, in order to meet the needs of people today. Secondly, decisions made by the present generation should not reduce the ability of future generations to meet their needs. The present generation should give future generations the opportunity to enjoy an equal measure of environmental benefits in order to provide them with a high quality of life. People in the same generation or different generations have a right to use natural resources but they also have a responsibility to protect the environment and maintain environmental capacities over time.

The issues of sustainability or sustainable development are increasingly prominent in governmental policy agendas and public concern all over the world (Kemp et al., 1997;

Zetter and White, 2002; Portney, 2003). Most countries began to respond to the sustainable development issues of the Brundtland Report soon after its publication. For example, Canada was the first country to respond by the establishment of a Round Table on the Environment and the Economy. In 1990, Australia began the Ecologically Sustainable Development process involving government, industry, conservation groups, unions, social justice groups and scientists. Australia's National Strategy for Ecologically Sustainable Development 1992 (NSED) defines ecological sustainable development (ESD) as *'using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased'*. In other words, ESD is development which aims to meet the needs of today while conserving ecosystems for the benefit of future generations. In December 1997 the Queensland Government enacted the *Integrated Planning Act 1997 (IPA)*. The purpose of the IPA is to seek to achieve ecological sustainability through coordinating and integrating planning, and managing the process of development and the effects of development on the environment (IPA, section 1.2.1). The term ecological sustainability is defined in Section 1.3.3 of the IPA as *'a balance that integrates: (a) protection of ecological processes and natural systems at the local, regional, State and wider levels; (b) economic development; and (c) maintenance of the cultural, economic, physical and social wellbeing of people and communities'* (Department of Local Government and Planning, 2003). About the same time, New Zealand began the Resource Management Law Reform process to re-examine all aspects of the government's policies from an environmental perspective. In the United States, the President's Council on Sustainable Development was set up in 1996

under the Clinton Administration, the first U.S. government response to sustainability (Newman & Kenworthy, 1999).

(2) Principles of Sustainability

Sustainability is generally considered a good thing (and that being unsustainable is a bad thing) (Beatley and Manning, 1997) and has been seen as a desirable goal which a community aims to achieve. The principles of sustainability are basically rooted in Brundland's views of 'sustainable development'.

Sustainable development requires meeting the basic needs of all and extending to all the opportunity to satisfy their aspirations for a better life (World Commission on Environment and Development, 1987). Indeed, sustainable development demands a revival of growth in developing and less developed countries to help alleviate poverty and provide for basic needs, to which overriding priority should be given. Living standards that go beyond the basic minimum are sustainable only if consumption standards everywhere have regard for long-term sustainability. Crucially, these goals can only be achieved if consumption patterns in the richer countries are readjusted.

Sustainable development requires the promotion of values that encourage consumption standards that are within ecologically limits and to which all can reasonably aspire (World Commission on Environment and Development, 1987). This contains the idea of limitations imposed by the state of technology and social organisation on the environment's ability to meet present and future needs. Sustainable development requires that societies meet human needs both by increasing productive potential and by ensuring equitable opportunities for all. This is a distinguishing feature of sustainable development as it is a process of transformation which, by combining economic growth

with broader social and cultural changes, enables individuals to realise their full potential but within ecological limits.

Sustainable development requires that the rate of depletion of non-renewable resources should foreclose as few of the future options as possible (World Commission on Environment and Development, 1987). This brings the recognition that development must also adhere to the physical constraints imposed by ecosystems, so that environmental considerations have to be embedded in all sectors and policy areas. Adverse impacts on the quality of air, water and other natural elements are required to be minimised so as to sustain the ecosystem's overall integrity. Sustainable development should seek a more 'eco-friendly' type of growth that is less material and energy, intensive and more equitable in its impacts. In other words, it is necessary to avoid actions with the potential for serious future harm and applying precautionary principle is clearly essential.

In 1992, the United Nations Conference on Environment and Development, the 'Earth Summit', held in Rio de Janeiro produced Agenda 21 in which twenty seven principles of sustainable development were set out (see Appendix A1). These principles have formed the basis for more recent sustainability planning.

3.2.2. Liveability

(1) Concepts and Definitions of Liveability

The concept of liveability is based on the principles of sustainable development focusing on patterns of economic activity that produce environmental quality, economic prosperity and social equity (Fischer, 2000). Liveability and sustainability are not always the same thing, even though they are closely connected.

The concept of liveability covers most aspects of our lives. It considers not only the physical environment but also the people who live and work in that environment. It is concerned with various human requirements such as health, employment, income, education, housing, leisure activities, accessibility, urban design quality and community (Newman et al., 1996; Wheeler, 1998; Newman & Kenworthy, 1999; Partners for Livable Communities, 2000). Liveability is defined as the human requirement for social amenity, health and well-being and includes the notions of individual and community well-being in both the human and wider environment (Newman et al., 1996). 'Liveability', as considered by Brisbane City Council (1996), is really about our quality of life and refers to the attractiveness of an area as a place to live, work, visit and invest, and how it succeeds in meeting people's needs. Therefore, increasing human liveability should be a vital goal of sustainability and sustainable development. The substantive differences between the two concepts of sustainability and liveability are often slight. They both have become vital goals of contemporary urban planning (Godschalk, 2004).

(2) Principles of Liveability

Indeed, the liveability of a place or a community is more than a matter of physical design and amenities. It is also about essentials, desirability and suitability which contribute to building a sense of a place and/or a community and increase its quality of life (Regional Planning Advisory Group, 1993; Partners for Livable Communities, 2000). Liveability is not only affected by the characteristics of the built environment but also by the many other characteristics of the total physical environment (air and water quality, distribution and quality of open space, major infrastructure, etc.) and, perhaps

more importantly, by the structure and content of the cultural, social, political, economic and spiritual environments (Regional Planning Advisory Group, 1993).

Whilst liveability cannot be measured in quantitative standards such as indices or benchmarks, it is recognised as a qualitative goal of planning (Regional Planning Advisory Group, 1993; Partners for Livable Communities, 2000). Liveability has been seen as a goal or at the least, mobilising change for the good.

For example, the Clinton-Gore Administration established five goals for liveable communities (Fischer, 2000). First is to preserve green spaces that promote clean air and water; sustain wildlife; and provide people with places to walk, play and relax. To help communities reconnect with their land and water, preserve green space for future generations and provide attractive settings for economic development, the Administration was proposing a new financing tool generating \$9.5 billion in bond authority for investments by state, local and tribal governments. The President's budget proposed tax credits totalling more than \$700 million over five years -- to support Better America Bonds, which can be used to preserve green space, create or restore urban parks, protect water quality and clean up brownfields (abandoned industrial sites). The program was proposed to be coordinated through an interagency process.

Second is to ease traffic congestion by improving road planning, strengthening the existing transportation system and expanding the use of alternative transportation as appropriate for each community and its greater region. To help ease traffic congestion, the proposed Department of Transportation budget for FY 2000 included a record \$6.1 billion for public transit and \$2.2 billion -- a total 16 percent increase over FY 1999 -- to aggressively implement innovative community-based programs in the Transportation

Equity Act for the 21st Century. Such programs provided flexible support to help communities create regional transportation strategies, improve existing roads and transit, and encourage broader use of alternative transportation. This included \$1.6 billion for the Congestion Mitigation and Air Quality Improvement Program, which supports state and local projects that reduce congestion and improve air quality.

Third is to restore a sense of community by fostering citizen and private sector participation in local planning, including the placement of schools, public facilities, and transportation systems and facilities. For example, a new \$10 million grant program administered by the Department of Education to encourage school districts to involve the community in planning and designing new schools.

Fourth is to promote collaboration among neighbouring communities, cities, suburbs, or rural areas – to develop regional growth strategies and address common issues such as crime and safety as part of larger injury prevention and healthy living agenda. To promote regional "smart growth" strategies and to complement the Administration's other regional efforts, the Department of Housing and Urban Development provided \$50 million as matching funds for local partnerships to design and pursue smarter growth strategies across jurisdictional lines. Strategies include compact development incentives, (b) coordinated reinvestment in existing infrastructure, and (c) ways to manage reinforce the region's overall development strategy. \$50 million was provided to expand programs to help communities share information to improve public safety. These programs helped: (1) improve and continue to computerize national, state and local criminal history records; and (2) develop or upgrade local communications technologies and criminal

justice identification systems to help local law enforcement share information in a timely manner.

Last is to enhance economic competitiveness by nurturing a high quality of life that attracts well trained workers and cutting-edge industries.

Although The Clinton-Gore Administration initiative is costly but it provides several benefits. It helps communities across America grow in ways that ensure a better quality of life and strong, sustainable economic growth. It also encourages communities to collaborate in building liveable communities as it recognised liveability is community-specific. It also requires a reorganisation of institutional arrangement. The federal government plays a role as a partner to inform not direct community about patterns of future growth. This initiative has strengthened the federal government's role as a partner with the growing number of state and local efforts and to provide incentives for communities to work together. Most importantly, The Clinton-Gore Administration definitely sees a strong connection between green space and key aspects of liveability. Preservation of green space is the first of the five goals for liveable communities.

The liveability of a place is defined by the communities of that place because communities have a sense of what their needs are and what attributes of their place are attractive to them. In this sense, a significant feature of liveability is to build a stronger sense of community by bringing residents, governments and all relevant stakeholders together to work as partners and to solve common problems and having the community's perspectives emphasised in all decision-making processes (Fischer, 2000).

3.2.3. Sustainable and Liveable Communities

Over the last ten years, the concepts of sustainable communities, liveable communities, sustainable and liveable cities have blossomed as derivatives of the general concept of sustainability and their place in the conception of what constitutes a ‘community’ (Cassidy, 1980; Portney, 2003). The concept of community means different things to different people and can have meanings varying from neighbourhoods, professional associations and civic groups (Portney, 2003). A community can be defined by either geographic or administrative boundaries which form a neighbourhood, a town, a city, or a region. However, the key characteristic is that a community is a group of people who share a common interest.

(1) Sustainable Communities

In the context of sustainability, the concept of community is more concerned with the overall geographic area rather than the individual administrative units where the problems and issues arise (Portney, 2003). Beatley and Manning (1997) stated that a sustainable community is a place that seeks to contain the extent of the urban ‘footprint’ and strives to keep to a minimum the conversion of natural and open land to urban and developed uses. However, sustainable communities are not just about small geographical areas of related groups of people, they can be anything from a small neighbourhood, to a group of people who share some interest, to a program operated by a governmental or nongovernmental organisation, to a rather localised ecosystem, to a large multi-state region encompassing numerous ecosystems (Portney, 2003).

Planning for a sustainable community is built on the principles of sustainable development. The whole process requires integrating activities, such as minimising the

demand for energy, materials and land use; protecting green space and integrating open space planning; protecting the integrity of local ecosystems; and striving for economic development that does not negatively impact on ecosystems (Rees, 1997). These activities can help to make places more sustainable through collaborative processes (Maclaren, 1996; Innes and Booher, 1999; Miller, 1999).

Indeed, sustainable development does not lead to some ideal state but instead is a dynamic, complex process concerned with balancing the objectives of economic development, environmental protection and principles of equity, which sometimes conflict with each other (Kaiser et al., 1995; Campbell, 1996; Shepherd and Ortolano, 1996; Innes and Booher, 1999). A sustainable community aims to maintain and improve the economic, environment and social characteristics of an area in order to provide its members the opportunity of healthy, productive and enjoyable lifestyles. Sustainable communities will be clean, healthy, self-reliant in energy, food and economic security, and they will have greater accessibility and cohesion (Rees and Roseland, 1998; Stimson and Simpson, 2000).

(2) Liveable Communities

The concept of 'liveable communities' or 'liveable cities' has also gained currency (Cassidy, 1980; Schreider et al., 2001). For example, in 1999 the Clinton Administration announced its new liveable communities initiative which was very much oriented around sustainability. It was directed towards the objective of helping to empower communities to sustain prosperity and expand economic opportunity, to enhance the quality of life and to build a stronger sense of community (The Clinton Administration, 1999). These goals appear in almost all definitions of sustainable communities. Liveable communities,

as defined in *The Clinton-Gore Livability Initiative*, are places where young and old can walk, bike and play together; where historic neighbourhoods are preserved; where farms, forests and other green spaces are protected; where parents spend less time in traffic and more time with their children, spouses and neighbours; where older neighbourhoods can thrive once again. A liveable community has safe streets, good schools and public and private spaces that help foster a spirit of community (Fischer, 2000). Partners for Liveable Communities (2000), a nonprofit organisation working to improve the liveability of communities by promoting quality of life, economic development and social equity, also describe liveable communities in much the same way.

In conceptual terms, the notions of ‘sustainable community’ and ‘liveable community’ seem to mean the same thing (Portney, 2003). However, for some places because of important political and strategic reasons, the latter term may be adopted. For example, the *Official Community Plan Working Group of City of North Vancouver* views liveable communities as being: (i) attractive, accessible and pedestrian-oriented communities that support the needs of a diverse population and labour force; (ii) have quality housing, ample open space; (iii) have convenient transportation alternatives and social services; (iv) have a strong economy; (v) have a healthy environment; and (vi) have a distinct sense of identity (Schreider et al., 2001).

The *Mineta Transport Institute* recognises liveable communities as: (i) pedestrian and bicycle-friendly; (ii) providing affordable housing; (iii) providing easy mobility and multiple modes of transportation and offer access to neighbourhood facilities and services; (iv) promoting neighbourhood and community interaction through design; (v) providing many parks and open space; (vi) having fine schools and libraries; (vii) having

well-maintained streets, sidewalks, street trees and landscaping; and (viii) having lower levels of congestion, air pollution, water pollution, noise, dust, litter, graffiti, crime and related problems all of which reduce the quality of life, or liveability of an area (Schreider et al., 2001).

The South East Queensland region has been viewed as a region which has a high liveability as demonstrated in its continuing success in attracting domestic and international migration (Regional Planning Advisory Group, 1993; South East Queensland Regional Organisation of Councils (SEQROC), 2005; Queensland Government, 2009). To maintain the region's high degree of liveability, it was acknowledged that the region would improve quality housing, streets, parks, schools, welfare services, maintenance, safety and security, transport and neighbourhood services, better land use and more efficient use of resources. The region would also provide a more stable economic base and better opportunities for employment through extra and more diverse industry and services and the promotion of local employment and cottage industry. Community would also be provided with an ease of access to and wider choice of leisure and recreational facilities (including natural features and resources). Furthermore, more community involvement and user participation in the design of the built environment would be facilitated (Regional Planning Advisory Group, 1993).

Although the communities discussed above have created their own criteria for liveable communities, their views are much the same in the way they think of how a community is liveable. Their views of community liveability mainly refer to the environmental and social quality of an area as perceived by residents, employees, customers and visitors. This includes safety and health (traffic safety, personal security, public health), local

environmental conditions (cleanliness, noise, dust, air quality, water quality), the quality of social interactions (neighborliness, fairness, respect, community identity and pride), opportunities for recreation and entertainment, aesthetics and the existence of unique cultural and environmental resources (e.g., historic structures, mature trees, traditional architectural styles). In some cases such as of the City of North Vancouver or the South East Queensland region economic viability has been integrated as a vital requirement for liveable communities.

Although these above communities have different criteria for sustainable and liveable communities but may find that open space is always considered a major contributor to sustainability and more importantly to liveability and liveable communities. Open space provides several benefits such as building a stronger sense of place, aesthetic and amenity value of the place and recreational opportunities which are essential for liveable communities.

(3) Principles of Sustainable and Liveable Communities

A major contemporary challenge is how to implement the concepts of sustainable and liveable communities and how these goals may be measured. Consideration of the principles of sustainable and liveable communities can assist the progress toward this end. The major principles that underpin the notions of sustainable and liveable communities include:

(i) Meeting community needs and aspirations

It is emphasised that an important goal of sustainability and liveability is trying to satisfy the needs and aspirations of the community. Community needs are wide ranging

including housing and land use demands, energy consumption, water supply, infrastructure, employment and income, health and safety, parks and open spaces.

(ii) Enhancing the quality of life which is influenced by a combination of economic viability, environmental sustainability and social liveability.

Economic viability encompasses sustaining economic prosperity and expanding economic opportunity having regard to a diversified economic base, employment opportunities, investment and revenue base.

Environmental sustainability refers to reducing negative impacts on the environment, wise use of natural resources, natural land reservation and improving environmental quality.

Social liveability embraces issues of accessibility to services and facilities, social cohesion, community safety and public participation in decision-making.

(iii) Providing equity, including inter- and intra-generational equity

A major principle of sustainability and liveability embraces the notion of equity. Intergenerational equity means that people of the same generation have equal opportunities to access the community's natural resources, services and facilities. In addition, each community should have its own long-term strategy and planning in order to ensure that its resources will be sustained effectively and equitably (intra-generational equity).

(iv) Building a stronger sense of community

A strong sense of community is a desirable quality and is sought by planners and the community-at-large. There is also an emotional satisfaction for people living in favoured places. In general, a sense of community is concerned with several concepts including

attributes of harmony, scenic amenity, variety and order. In order to build a stronger sense of community, there is a need to consider both the places (the natural environment) and the people who live and work in those places (the human environment). The natural and human environment can never be separated from each other.

These above principles collaborate with each other in order to achieve sustainability and liveability and their relation is described in Figure 3.2. These principles direct planning process towards the achievement of the desired goals of sustainability and liveability.

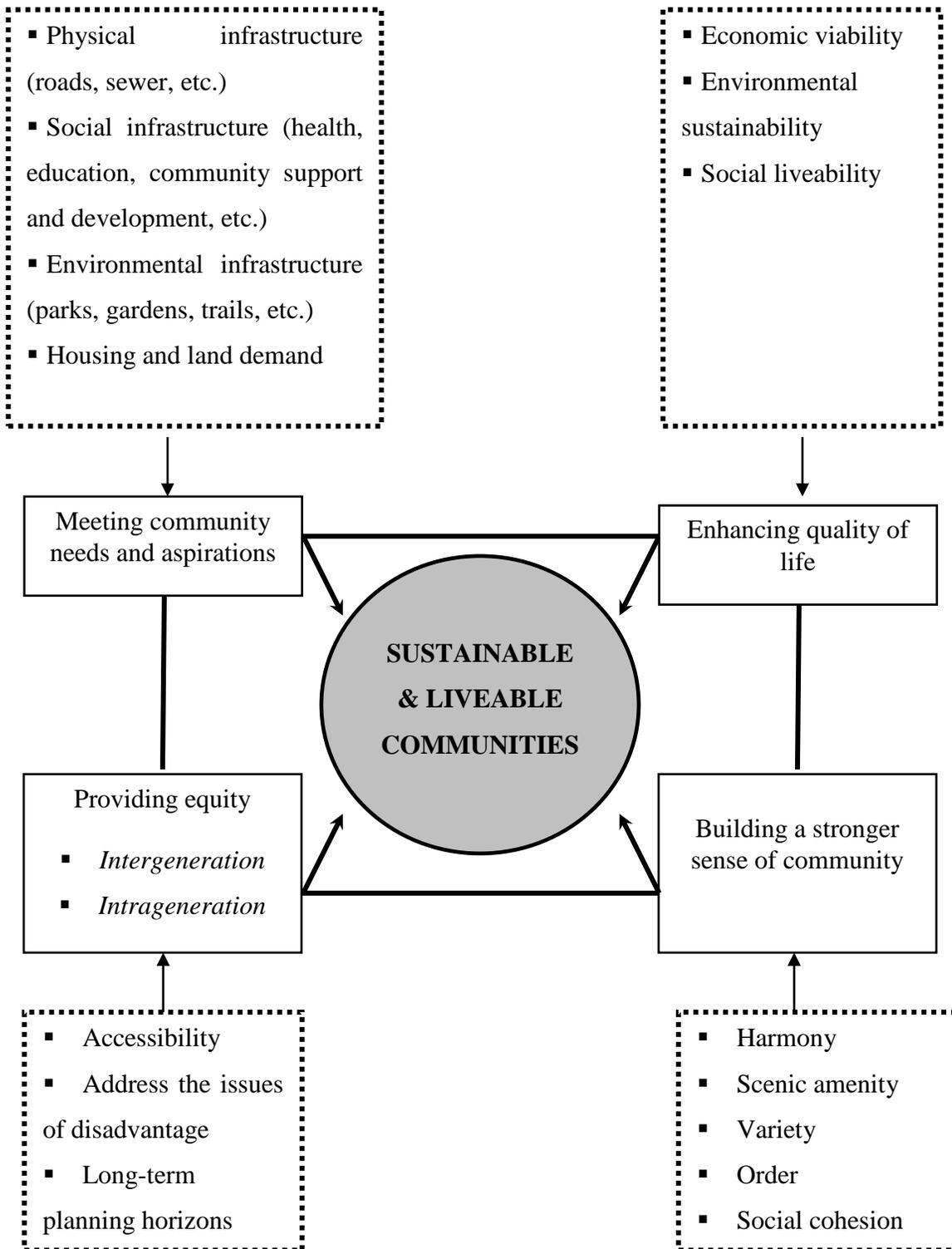


Figure 3.2. Principles of sustainable and liveable communities

Source: Nguyen and Low Choy (2007). Developed from WCED (1987), UN (1992), Houghton & Hunter (1994), Kemp et al. (1997), Stimson & Simpson (2000), Berke & Conroy (2000)

3.3. Open Space Issues

3.3.1. Open Space Concepts and Definitions

Open space is a broad and nebulous concept. The terminology and definitions used to describe open space have been long discussed and debated. Definitions of open space were developed and find their origins in the nineteenth century. Older definitions attempted to prescribe a rather narrow concept of the term, concentrating on green space such as private yards, public parks and park systems. More recent policies and reports have begun to describe open space as ‘a mixture of civic spaces and green spaces’ (Kit Campbell Associates, 2001). This school of thought acknowledges the presence of not only green open space (such as parks, playing fields and woodland) but also hard surface space (such as squares, market places and pedestrian only streets) and this realisation is now becoming far more common. In addition, open space has been seen as the counterpart of development; in other words, it is not used for buildings or built structures (Goodman and Freund, 1968; The US Department of Energy, 1985; United Kingdom Parliament, 1990; Ahern, 1991; Outdoor Council of Australia, 2002; Parks and Recreation Department (City of Corvallis - Oregon), 2002; South East Queensland (SEQ) Regional Landscape and Open Space Advisory Committee (RLOSAC), 2004; Pataki et al., 2006). As it developed, the term open space tended to incorporate ideas of the out-of-doors, public access, community involvement and the relationship between nature and the community (Girling and Helphand, 1952; Arendt, 1999). Open space is defined to encompass all aspects of the public and private landscape, including yards, streets, sidewalks, greenways, as well as vacant and natural land (Girling and Helphand, 1952; Goodman and Freund, 1968). Open space itself has ‘open’ characteristic features

including shared open space, greater access to nature, social interaction and an alternative to conventional residential development. Whyte (1968) proposed: 'Open space has to have a positive function... It will not remain open if it does not... People must be able to do things on it or with it – at the very least, to be able to look at it'.

Definitions of the open space concept vary substantially and can often be in contention. To illustrate this point, a selection of varying definitions of open space are presented in Appendix A2. They reflect how the term open space has been defined in most developed countries such as United Kingdom, United States and Australia, and also in *Vietnam*, the case study of this research, and a developing country. The majority of definitions define the type of open space as both land and water (The US Department of Energy, 1985; Moran, 2001; Gray and Associates, 2002; Outdoor Council of Australia, 2002; Parks and Recreation Department (City of Corvallis - Oregon), 2002; Nguyen and Phan, 2004; South East Queensland (SEQ) Landscape and Open Space Advisory Committee (RLOSAC), 2004; Le, 2005; Vietnam National Institute for Urban and Rural Planning, 2005; Pataki et al., 2006). A minority of these definitions define the type of open space as land (United Kingdom Parliament, 1990; Ahern, 1991).

Analysis of these definitions shows that common forms of open space ranked in descending order of frequency are as follows: (i) parks and gardens; (ii) wetland and waterways; (iii) agricultural lands; (iv) forest and bushland; (v) scenic areas; and (vi) the less common types including sport grounds, preservation areas, buffer areas and green corridors. In Vietnamese definitions, streets and squares are defined whilst agricultural and forest land are ignored as types of open space.

Notably, these definitions have not highlighted the functions of open space. However, it is recognised that the most significant function of open space is recreation followed by scenic, relaxation, conservation, social and cultural functions. Only the definition of South East Queensland (SEQ) Regional Landscape and Open Space Advisory Committee (2004) has considered the various functions of open space ranging from recreation, sport, conservation, scenic, health, economic, environmental, social, scientific, cultural and spiritual functions;

Open space has been defined as including both publicly and privately owned open space in Western countries whilst in Vietnam, where all land is owned by the state, they have been defined as only publicly own spaces. It is an evidence of the difference between capitalist and socialist modes of land ownership.

3.3.2. Forms of Open Space

A classification system for open space has long been sought so as to offer consistent meaning and clarity. Since the 1970's there has been an evolution in the terms used to classify open space. The traditional and most commonly used classifications had distinguished passive from active open space, e.g. sporting fields as active and everything else as passive. It is suggested that this classification is inaccurate and misleading. According to this classification, jogging or cycling on parkland can hardly be considered passive activities. Conversely, a crowd watching a soccer match is undertaking more of a passive than an active role. Eventually the use of the active and passive classification was no longer supported (Manidis Roberts Consultants, 1992).

Since the 1980's, there has been a shift to a more complex system of open space classification based on experiences users gain from a visit, rather than on what facilities

are present. Experienced based classifications have a major advantage in that they enable a correlation with the result of the analysis of demands. This method makes the link between supply and demand clearer when preparing an open space plan. The term, setting classification, is derived from work completed in the early 1980's by the US Forest Service. Examples of setting classification are: indoor facilities (only where these are situated in open space), civic space/malls, formal gardens, small parks/playgrounds, outdoor sports facilities, parkland, beaches/foreshores/rivers, bush land, ancillary (adjacent to road corridors) and undeveloped (no present use). The 1984 edition of *Guidelines for Preparing an Open Space Plan* (NSW Department of Environment and Planning) proposed a functional classification of open space into natural areas, water areas, parklands, sports fields, small playgrounds and formal gardens. More recent efforts, have concentrated on the character, qualities and uses, to create typologies of open space (Department for Transport - Local Government and the UK Regions, 2002; Office of the Deputy Prime Minister (UK), 2002).

Examples of several of open space classification systems are presented in Appendix A3.

In general, the major types of urban open space are as follows:

1. Urban parks and sport fields including:

- (i) Neighbourhood parks: The neighbourhood park remains the basic unit of the park system and serves as the recreational and social focus of the neighbourhood. The focus is on informal active and passive recreation (Mertes and Hall, 1995);

- (ii) Community parks: Serve broader purposes than neighbourhood parks. The focus is on meeting community-based recreation needs, as well as preserving unique landscapes and open spaces (Mertes and Hall, 1995);

(iii) District parks: District parks are extensive informal parks providing diverse recreational opportunities for picnicking, barbecues, playgrounds and activities such as skateboarding (Town of Cornelius Parks and Recreation Department, 2005) – they exist at the district level as opposed to the smaller neighbourhood level;

(iv) Metropolitan parks are large urban parks which play a critical role in maintaining the liveability of major cities and their immediate suburbs (Harnik, 2003);

(v) School parks: Depending on circumstances, combining parks with school sites fulfil the space requirements for other classes of parks, such as neighbourhood, community, sport complex and special use (Mertes and Hall, 1995);

(vi) Sport fields: Consolidation of heavily programmed athletic fields and associated facilities to larger and fewer sites strategically located throughout the community such as pitch sports, water sports and tennis courts (Kit Campbell Associates, 2001; Office of the Deputy Prime Minister (UK), 2002).

2. Civic urban open space

Civic or grey space, i.e. civic squares, market places, pedestrian streets, promenades and sea fronts. These spaces provide a setting for civic buildings, public demonstrations and community events (Kit Campbell Associates, 2001; Office of the Deputy Prime Minister (UK), 2002).

3. Reservation areas

Lands set aside for preservation and conservation of significant natural resources, remnant natural landscapes and areas for visual aesthetics and buffering. The purposes of these areas are for wildlife conservation, biodiversity and environmental education

and awareness (Mertes and Hall, 1995; Office of the Deputy Prime Minister (UK), 2002). These may also include protection of sites of cultural heritage.

4. Private open space

Parks and recreation facilities that are privately owned yet contribute to the public park and recreation system (Mertes and Hall, 1995; Kit Campbell Associates, 2001).

5. Urban agricultural land

This offers opportunities for the urban population to grow their own produce as part of the long term promotion of sustainability, health and social inclusion within an urban area (Kit Campbell Associates, 2001; Office of the Deputy Prime Minister (UK), 2002).

6. Corridors

They effectively link the individual park system components together to form a continuous park network. They are multipurpose and can also be used for walking, cycling or horse riding, for leisure or travel purposes (Kit Campbell Associates, 2001; Office of the Deputy Prime Minister (UK), 2002).

Briefly, the forms of open space can be classified by two modes:

1. By its material, including green open space and grey or civic open space; and
2. By its functions, including (a) productive open space (i.e. agricultural land and farms); (b) protective open space (i.e. preservation areas and cultural heritage); (c) leisure open space (i.e. sport complex and outdoor recreational facility); and (d) linkage open space (i.e. parks and park system and greenways or green corridors).

3.3.3. Functions of Open Space

Open space within a city can exist to sever a number of functions. In general, the different functions of open space that can be encapsulated in the concept include:

1. *Productive*: e.g. good quality agricultural land. Productive open space provides land for urban agriculture within or on the fringe of cities. Urban agriculture can provide several economic, social and environmental benefits such as contribution to urban food security, local economic development, nutrition improvement, poverty alleviation and reabsorbtion of urban waste (eg., urban carbon dioxide output).

2. *Protective*: e.g. cultural heritage, high biodiversity reserves. These open spaces are primarily dedicated to the protection of rare, threatened or significant species and their habitat. They can also contribute to the conservation of significant physical and ecological communities and regional ecosystem types. As a secondary function, they may also provide for nature based outdoor recreational opportunities.

3. *Leisure*: e.g. play grounds and recreation centres. Leisure and recreation are important components of civilised life and have valuable social, economic and educational roles. For example, recreational facilities make an important contribution to improving the quality of life of a community whilst acting to as an important attraction for tourists. In addition, people pursuing outdoor activities can be attracted by the quality and range of leisure opportunities provided by the natural environment.

Open space may perform different functions in different geographic areas due to its availability, distribution and relative importance in those areas. Different communities have defined the term open space differently. An applied example of how open space has been characterised and its various functions defined for urban and regional planning purposes comes from the *South East Queensland 2021 – A sustainable future*. Its categories of open space functions include:

1. Individual functions: providing recreation, self-discovery and spirituality, scenic amenity, environmental appreciation;
2. Community function: providing life-based ethos, social bonding, reduced behavioural problems, community and cultural identity, communal responsibility for landscape outcomes;
3. Production function: providing opportunities for agriculture, livestock, quarry materials, eco-tourism;
4. Ecosystem Services: providing clean water, air and soil and pollination, flood mitigation;
5. Scenic Amenity: supporting human and other communities;
6. Planning system function: including its use to separate urban areas, resources for future opportunities, reducing developmental impact and settling community boundaries (Department of Local Government and Planning, 2003).

3.3.4. The Values of Open Space

In accordance with the functions that open space performs in urban centres, the values that open space provides vary from provision for recreational activities, improving social cohesion, promoting public health and well being, protecting natural resources and biodiversity, improving environmental quality, providing opportunity for education, supporting economic development, to enhancing the city's appearance (Freeman, 1984; Burns, 1998; Lundberg, 1998; Rogers, 1999).

Culture influences the community view of the term open space and plays a role in changing the human use of open space. Different communities may have different views

regarding the benefits that open space provides for them. In general, the review of literature describes the values of open space in the following seven groups:

(1) Recreational value

It is broadly recognised in the literature that open space performs a leisure function (Knapp and Charles, 1979; Australian Capital Territory (ACT) Government, 1999; Vietnam National Institute for Urban and Rural Planning, 2005). It also provides opportunities for a wide range of formal and informal, passive and active recreational activities. They include recreation structures (community recreational centres, sports arenas), open space for active recreation (ball fields, playing courts, picnic areas), open space for formal but passive recreation (traditional formal parks) and open space for informal or natural active recreation areas (primarily hiking and biking trails in greenways). The provision of recreation and open space has always been an important focus of urban and regional planning (Gruber, 1986; Calfas and Taylor, 1994; Steptoe and Butler, 1996). By providing recreation opportunities, open space also helps to promote social interaction and community activities and has a particularly positive influence on health and wellbeing

(2) Promotion of social cohesion

Open spaces are places for members of the community to meet, regardless of age, gender, social status and ethnicity; places of freedom and of a non-threatening nature (Greenhaigh and Worpole, 1995; Niven, 2003; Pham, 2005). They can also provide a sense of continuity and local identity and assist the promotion of social harmony (Banerjee, 2001; Taylor and Coalter, 2001).

(3) Environmental benefits

Open green space provides many aesthetic and environmental benefits to urban areas, such as improving environmental quality (e.g. air, water, soil, microclimate), preserving natural habitats and enhancing recreational opportunities and urban appearance (Bergstrom et al., 1985; Hough, 1994; Kline and Wichelns, 1996; Nilsson, 2002). Urban open space contributes to a wide range of environmental benefits by the filtering of air pollution (including soot, dust and chemical pollutants), the stabilisation of ground surfaces, the interception of rainfall run-off which helps to reduce flooding; the provision of temporary cover for derelict sites and the conservation of indigenous flora and fauna as well as maintenance of the ecological balance within the city. These environmental benefits have a positive and direct implication for public health and wellbeing.

In addition, open space areas that are free from housing or commercial development provide habitat for a variety of wildlife (Jim and Chen, 2003; Rodewald, 2004). Often, large urban open spaces which rely on a natural local ecosystem experience greater success in terms of maintaining a balanced biodiversity, so long as the areas are established and managed primarily to benefit natural wildlife populations. The greenways serve as wildlife corridors linking isolated habitats as well as linking the urban fabric with the surrounding countryside (Jim and Chen, 2003).

(4) Benefits of public health and well being

Open space is now widely recognised as a major contributor both to the quality of the environment and to human health and wellbeing (Ulrich, 1984; Kaplan and Kaplan, 1989). Open space can make an effective and positive contribution towards a healthier society by: (i) providing new opportunities for health-enhancing physical activity, (ii)

creating green and open space to enjoy, share with friends or relax, (iii) growing trees, which in turn filter and refresh the air people breathe (perhaps most important in view of the health concern); and (iv) providing a space for physical activity (Central Scotland Countryside Trust, 2001). Benefits which are provided by open space such as environmental improvement and the creation of quality and aesthetically pleasing places for a community, are key ways to improve human health.

Furthermore, open space can improve social wellbeing by enhancing business and reducing stress (Fried, 1982; Kaplan, 1993; Kuo et al., 1998; American Institute of Architects, 1999; Cackowski, 1999; Shafer et al., 2000; Kaplan, 2001). Psychological and spiritual wellbeing do not necessarily have to be derived from physical activity. The aesthetics of natural and green landscapes can have an important impact upon mental health. Open space provides important natural elements for human wellbeing, including natural views and opportunities to access nature (Kelly, 1993; Austin, 2004). The benefits of viewing green space or other aspects of nature go beyond aesthetic enjoyment to include enhanced emotional wellbeing and, in certain situations, improved health (Moore, 1981; Verderber, 1986; Heerwage, 1990; Parsons, 1991; Ulrich et al., 1991; Ulrich, 1992).

(5) Opportunities for education

Open space offers opportunities for the education of people of all ages in both formal and informal settings. Parks and open space can be used as an educational resource for a wide range of subjects from natural history, environmental studies to areas of historical significance such as memorials and heritage areas. Open space can be used as an outdoor classroom for education and activity programs as well as an outdoor laboratory (Taylor

and Coalter, 2001; Office of the Deputy Prime Minister (UK), 2002). It is also important to educate visitors about nature in order to minimise the visitors' impact and induce a positive attitude to maintaining open space as a sustainable resource. This will increase the understanding of the biophysical systems, including its open space system, that are crucial to the proper functioning of the city.

(6) Support for economic development opportunities

Open space not only creates more amenable and pleasant living spaces but also creates economic benefits. There are many economic benefits of open space including monetary and non-monetary benefits (Urban Redevelopment Authority of Singapore, 1991; Office of the Deputy Prime Minister (UK), 2002; South East Queensland (SEQ) Landscape and Open Space Advisory Committee (RLOSAC), 2004).

(i) Monetary benefits of open space

Open space, where it is agricultural land, can help to provide income for the producers and products for the consumers. Places with integrated open space (beaches, waterways, parks, bushland or farmland) attract tourists to nature-based tourism. For example, in South East Queensland, there is about two billion Australian dollars annually gained from accessing the region's relatively natural open space (Department of Local Government and Planning, 2003). Agricultural production and development of tourism can help to create more job opportunities and increase income for local communities.

In addition, open space can help to increase property values and has been seen as a marketable commodity by developers and real estate agents. Many studies have shown that preferences for natural and 'openness' features are important factors in people's housing choice decisions which in turn leads to an increase in housing and land prices.

(Bold, 1918; Varady, 1990; Nelson, 1992; Crump, 2003; Austin, 2004; Kaplan and Austin, 2004; Vogt and Marans, 2004)

(ii) Non-monetary benefits of open space

Open space can help to make working environments more attractive to employers who, in turn, increase investment and create new employment opportunities. The presence of open space in and around working areas also has a significant impact on worker satisfaction, which in turn affects productivity (Parker, 1992; Randall et al., 1992).

In addition, the opportunities for open-air recreation and exercise afforded by open space are important to promote the development of local economies in terms of the provision of necessary recreational services, travel and accommodation. Outdoor recreation also helps to decrease medical costs from treating conditions such as depression, hypertension and diabetes (More et al., 1982; Lerner and Poole, 1999; Tyrvaïnen, 2001). Furthermore, various environmental benefits provided by open space such as ground water recharge, climate moderation, flood mitigation, abatement of air and water pollution, reduced silting of waterways and water table control (including salinity) can help to improve environmental quality and thus reduce the costs of environmental degradation and pollution treatment (Department of Local Government and Planning, 2003). Farmland and reservation areas with integrated open space can help to reduce urban sprawl (More et al., 1982; Lerner and Poole, 1999; Tyrvaïnen, 1999, 2001; Department of Local Government and Planning, 2003).

(7) Contributing to a sense of a place

The provision and effective planning and maintenance of an open space system can help to enhance the city's appearance, highlight its distinguishing features and provide it with

a distinctive legibility. Parks and open space are key factors in shaping the built form and character of a community. They provide a contrast to a densely populated community by a blending of natural elements with the built form of the city (Ahern, 1991; Urban Redevelopment Authority of Singapore, 1991; Outdoor Council of Australia, 2002; American Planning Association, 2006; Pataki et al., 2006). They are horizontal landmarks which combine with the vertical high buildings to form the city profile. They also provide linkages between separate parts of the community and serve the entire community (Urban Redevelopment Authority of Singapore, 1991; Mertes and Hall, 1995; Moran, 2001; Office of the Deputy Prime Minister (UK), 2002; South East Queensland (SEQ) Landscape and Open Space Advisory Committee (RLOSAC), 2004). Some types of open space such as parks, water bodies, squares and monuments which are well-designed and preserved can contribute to make a place more liveable and distinctive.

In summary, open space can be defined to include public and private owned land and water areas. The literature shows that open space can perform many functions such as productive, protective and leisure functions. Open space provides several benefits to the community which can be grouped into economic, environmental and social values. Open space can be seen as an important contributor to sustainability and liveability. Thus, planning for sustainability and liveability should take into account open space issues. The next section will reviews issues related to urban planning with emphasis on planning for sustainability and urban open space planning.

3.4. Planning for Liveable City and Open Space Issues

3.4.1. Concepts and Definitions of Planning

In the past, planning was primarily described as a technical activity involving data collection, analysis and synthesis of physical plans and supporting policies. Since the early twentieth century, planning has gradually been seen as a much broader set of human activities, encompassing the physical world and also the realm of public and social services (Hendler, 1995). Planning has being recognised as a higher profession, rather than a technical one such as surveying and engineering. Minett (1972) is reported as stating ‘planning has not to do with analysis but with synthesis, that planning is concerned with manipulating things, not only with understanding them’ (Faludi, 1973).

There are a large number of concepts and definitions of planning. However, most of these would accept that planning is concerned with taking an objective and rational view of future conditions, assessing what society desires its destiny to be, forecasting the amount of change, estimating the degree of control required and formulating a policy to take account of this destiny, change and control (Ratcliffe, 1974). Various definitions of the term ‘planning’ are provided in Appendix A4. According to these definitions, it is clear that: (a) planning is concerned with decisions for future action (Gulick, 1937; Newman, 1958); (b) a key feature of planning is that it relates to rationality and the utilisation of knowledge (National Resources Planning Board, 1934; Merriam, 1941; Dahl, 1959; Touretzki, 1959; Koontz and O'Donnel, 1964); (c) planning progress is directed to the “social good” (Waldo, 1948; Friedman, 1964); and (d) planning is complicated and composed of various elements (Simon et al., 1950; Redford, 1952; Pfiffner and Presthus, 1953; Hall, 2002).

Major features of general planning include a sequence of actions which are designed to solve problems in the future (Newman, 1958; Dror, 1973; Glasson, 1974; Yiftachel, 1987). Generally, planning can be defined as a process which sets out to modify and control the environment in pursuit of multiple and diverse goals. In this process goals, objectives, data collection and analysis, and actions are linked in 'a dynamic evolutionary and adaptive fashion' (Burton et al., 1977). The planning process consists of various activities such as the formulation of goals, the collection of information and the provision of space. It can be summed up in Friedman's words: planning is primarily a way of thinking about social and economic problems, planning is oriented predominantly toward the future, is deeply concerned with the relation of goals to collective decisions and strives for comprehensiveness in policy and program. Wherever these modes of thought are applied, there is a presumption that planning is being done (Friedman, 1964).

Looking at the range of definitions of planning, it may be summed up that planning is a *process concerning decisions for the future in order to achieve goals*. Dror's short definition would embrace the broad view of the term: planning is the process of preparing a set of decisions for action in the future, directed at achieving goals by preferable means (Dror, 1973).

The crucial notion is that planning is a process, not an activity. We could not solve urban problems only by producing 'the plan' but by an endless process of policy-making, control and implementation, which is planning.

3.4.2. City Planning Movements of the Twentieth Century

This section focuses on reviewing movements of city planning in the twentieth century which have strongly influenced modern urban and city planning processes and bear a strong relationship to the forthcoming historical review of planning in the case study.

The evolution of planning theory can be divided into three stages. The first stage, from the late nineteenth century to the mid-1960s, may be classified as the blueprint or master planning era, the second, beginning from about 1960, as the systems planning era, the third, from the late 1960s and the 1970s, as the healthy urban planning era (Hall, 2002). In each stage, city planning developed from several separate movements.

(1) The Master Planning Era

In this era, early efforts of town and city planning were proposed to correct the ills of the industrial city. The goals and objectives of city planning were founded upon the overall desires of the community. In this era, city planning had developed from the technical professions of architecture, surveying and engineering. City planning was concerned to set out in detail the desired end for future land-use patterns on the ground. Consequently, its outputs and instruments were mainly physical in character, such as land-use maps, zoning, density controls, building regulations and planning standards (Ratcliffe, 1974; Hall, 2002). The two best known examples of movements of city planning in this era were Howard's Garden City and Le Corbusier's Radiant City.

(i) Howard's Garden City

Ebenezer Howard (1850-1928) believed that although the industrial revolution had caused several problems such as overcrowding, bad housing and environmental problems, it had brought many benefits (Greed, 1996). Therefore Howard thought that

we have to seek a way to combine the best features of the modern town and the new industrial society with the best features of the countryside and the traditional way of rural village life. He wanted to build wholly new cities in the midst of the unspoiled countryside, which would be self-reliant in terms of employment and possessing their own industry, commerce, shops and agricultural production (Ratcliffe, 1974). This was the root for his Garden City Plan which was first published in his book 'A Peaceful Path to Social Reform' in 1898.

Howard started with discussions of the optimum size for towns proposing a central city of 58,000 people surrounded by smaller garden cities of 30,000 people each. Green space or greenbelt and agricultural land were the major component in his Garden City. Green space would separate the city and towns and serve as a horizontal buffer of farmland. The requirement of the greenbelt or agricultural land for the Garden City in Howard's view was 5,000 acres of the total city area of 6,000 acres. There would be six boulevards each 120 feet wide extending radially from the centre and these would assist in forming six wards which would provide the basis of local government and community services (Ratcliffe, 1974). It was a big change of style from the high-density developments of the early nineteenth century.

Howard's contribution was not just the Garden City Plan but also many innovative ideas on zoning the different land uses and activities which were later followed in post-war town and city planning. For example, he put all industry on the outer ring, on the periphery of the city. He also placed emphasis on open space such as public parks, private gardens around each house with plenty of trees and a Green Belt around the city.

By doing so, he wanted to create what would nowadays be called a complete lifestyle package (Greed, 1996).

Obviously, Howard was not just interested in physical town planning but in every aspect of the social and economic characteristics of the community. His ideas ranged widely from the city-wide level, down through local neighbourhoods to the family level. He had comprehensive ideas about how people should live and how land and property should be owned. His efforts were not only about creating a city's beauty but also dealing with other purposes such as reducing disease, encouraging people to grow vegetables in their private gardens and creating a general sense of well-being, harmony and community spirit (Greed, 1996).

Various aspects of Howard's work continues to influence modern town and city planning, such as neighbourhoods, Green Belts and land use zoning. Howard's ideas influenced many contemporary urbanists and planners including Ernest Hébrard and Louis-Georges Pineau, the two French planners who strongly impressed their influence on planning for Hanoi City (refer to Chapter Five).

(ii) Le Corbusier's Radiant City

In the period from 1920 to 1940, emphasis was given to the modern movements in architecture and other social, economic, political and technological changes which helped shape the built environment. The Frenchman, Le Corbusier (1877-1965), is probably the best known architect of the modern movement from that era. In 1933, Le Corbusier illustrated his plan for 'The Radiant City' with the proposal for the cities 'La Ville Radieuse' and the 'City of Tomorrow', designed on a linear system. He wanted to use modern technology to develop his cities vertically by buildings skyscrapers which

would help to ease congestion (Vittorio, 1965). He designed the City of Tomorrow for three million people and the Ville Radieuse for one and a half million people. In these high density cities, he proposed subways for services, a coordinated transport system, a high-rise centre for business and entertainment activities surrounded by five to seven storey residential blocks and then separated dormitory garden city suburbs (Ratcliffe, 1974).

Whilst Howard's Garden City movement seemed like going back to the past (reclaiming traditional values, re-creating harmony with nature and the countryside), Le Corbusier considered the ideas of the past as outdated. He sought to apply modern science and technology to create a new age of progress in shaping the built environment (Greed, 1996). Le Corbusier accepted the Garden City's concept in principle and worked to make it practical for high density cities. He also gave emphasis to open space but provided this communally (as public parks) and not in the form of individual gardens of the Garden City's approach. According to his ideas, whilst housing and other land uses were based on high-rise blocks, the space at ground level would be free for public expanses of grass and trees. Indeed, Le Corbusier even suggested that ninety percent of the ground could be left free by concentrating people in such blocks (Le Corbusier, 1929).

Le Corbusier was at his most influential in the sphere of urban planning and his theories were adopted by the builders of public housing in Western Europe and the United States. Le Corbusier also produced the final Plan for Chandigarh in India. The city of Chandigarh, a symbol of modern India in the Punjab, was Le Corbusier's greatest achievement in architecture and planning. Relying more on his doctrine of architecture

and urbanism than local cultural conditions, Le Corbusier transformed Chandigarh into a timeless, pan-cultural statement of the power of architects. Furthermore, Le Corbusier's thinking also had profound effects on the philosophy of city planning and architecture in the Soviet Union, particularly in the Constructivist era. His ideas of the needs of a mass society drew much attention in the Soviet Union.

(2) The Systems Planning Era

This era lasted for a few years from 1960 to the late of 1960s or early 1970s. The concept of systems planning derived from cybernetics science. According to cybernetics theory, various social, economic, biological or physical phenomena can be viewed as complex interacting systems. Understanding the operation of the system as a whole has been seen as the best way to control it effectively. During this era, there was a notion that all sorts of planning constitute a particular type of human activity concerning controlling distinct systems (Hall, 2002). Thus, city planning is concerned with managing and controlling a particular system, the urban system. It was different from the previous view of planning which was concerned with the production of plans showing details of some desired future end.

The idea of systems planning or cybernetics-based planning is the interaction between two parallel systems: the planning or controlling system itself and the system (or systems) which it seeks to control (Hall, 2002). Thus all planning is a continuous process which started by identifying planning's goals, objectives and targets, followed by seeking appropriate ways to control the system concerned and monitoring the effects. This process will be continually repeated as the monitoring process operates in order to see the effectiveness of such control or whether subsequent modification is needed.

In this era, Brian McLoughlin, George Chadwick and Alan Wilson were three leading British exponents of the systematic planning approach. There are several difficulties or even impossibilities in the application of this theory, namely: (a) identifying who should take the lead in the planning process, either politicians, professional planners or other public individuals and/or groups; (b) the interaction of decisions made in different policy spheres; (c) conflicts of values which cannot be fully resolved by rational decision or by calculation; and (d) the inevitable confusion that arises from the complex interrelationships between decisions at different levels and at different scales, at different points in time (Hall, 2002). Therefore, the idea of systems planning or cybernetics-based planning remained only an aim of planners and has never become a complete reality.

(3) The Healthy Urban Planning Era

This era began in the late 1960s and 1970s. In this era, planning thought was more heterogeneous and more dispersed than in previous eras. Many aspects of urban life were investigated, new problems identified and new prescriptions for good cities formulated (Yiftachel, 1987). The main idea is that the city should be planned to achieve not only good spatial form but also to have a good combined effect for the city and the society which occupies it. Healthy urban planning became the most enlightened movement of contemporary city planning.

The idea that health and urban planning are linked is not new. Indeed, since the early twentieth century, town and city planning in many European countries emerged as a result of concerns about the health and housing of citizens. Urban planning can either promote or damage health and wellbeing. Healthy urban planning has much in common

with the principles of sustainable development. Healthy urban planning focuses on humans and how they use their environment, rather than a mere focus on buildings and economics (Barton and Tsourou, 2000). Under the movement for healthy urban planning, major values such as equity, sustainability and collaboration have emerged and been placed at the centre of the decision-making process.

The central aim of healthy urban planning is to achieve fairness within the city. A healthy planned city is structured on fairness to all city users regardless of age, gender, physical ability, ethnic origin and economic circumstances (Barton and Tsourou, 2000). A healthy planned city is also concerned with improving the living standards of disadvantaged and vulnerable populations. Healthy urban planning must deal with several problems associated with access to transport, increased quality of public spaces, social cohesion, healthy lifestyles and employment opportunities. Putting the principle of equity at the heart of urban planning practices reduces both the imbalance in the urban fabric and social segregation (Yiftachel, 1987; Barton and Tsourou, 2000).

Healthy urban planning implies a need to value collaboration, cooperation and community participation in planning. In most cases, not only urban planning agencies but also other social, economic and environmental organisations, are involved in the planning process (see Figure 3.3). Therefore collaboration of these different sectors is essential for healthy urban planning.

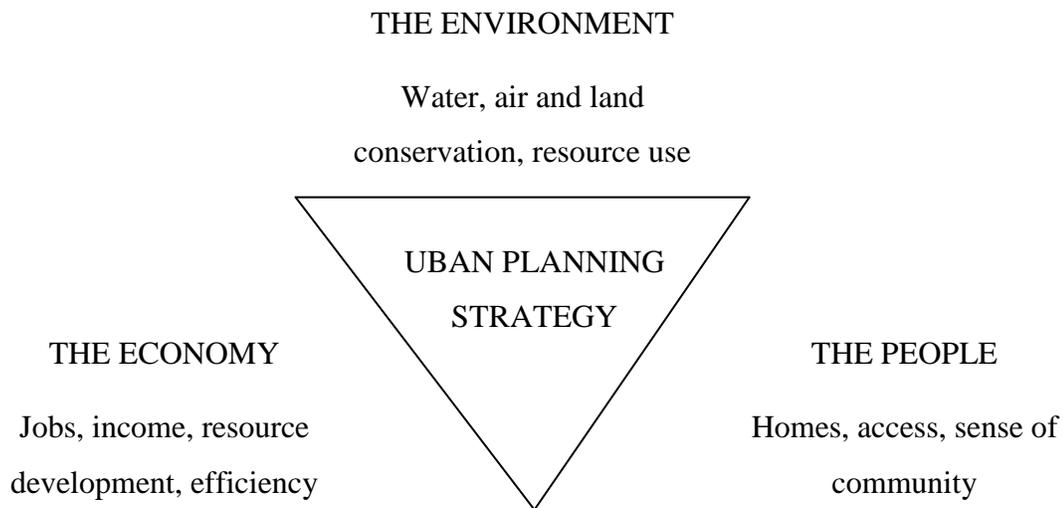


Figure 3.3. Integrated decision-making

Source: After Western Australian Planning Commission (1996)

Collaboration in urban planning also involves attempts to engage the community. The idea of community action in planning started in the United States and spread rapidly to Britain in the late 1960s. Public participation is now seen as one of the most important parts of the entire planning process (American Society of Civil Engineers, 1986; Hall, 2002). In this view, the need is the actual and real involvement of all citizens in the planning process, rather than a mere consultation with the public. Public involvement is the way to help planners to be fully aware of all issues and ensure that any planning effort is capable of implementation.

More recently, the relevance of sustainability to the urban sector in relation to city planning, city building, urban policy and urban governance, has gained currency (Zetter and White, 2002). During the 1950s and 1960s, urbanisation and industrialisation brought about high levels of environmental pollution. Following the energy crisis of the 1970s, there was an additional concern with the rate of energy consumption in Western cities. Since that time, urban sustainability has been seen as an attempt to create a

balance between the energy, economic, ecological and human factors of a city, in order to secure its long term survival. The need for a more effective use of resources, the problems of urban sprawl and consideration of equity principles, coupled with sustainability questions have come to take their place at the centre of contemporary city planning.

In summary, since the early twentieth century some aspects of sustainability and liveability were integrated in different city planning movements in order to achieve a better future for the city. City planning in the Master Planning Era was to create a self-reliant city and a complete lifestyle package. City planning in the Systems Planning Era concerned with the best way to manage and control the urban system which composes various interacting social, economic, biological and physical phenomena. The Healthy Urban Planning was to achieve the good spatial form of the city, fairness within the city and improving the living standard. More importantly, open space issues were also addressed in these different city planning movements. In the Master Planning Era, green belt and green space (eg. agricultural land, public parks) was planned for improving the city's beauty as well as creating human well-being and the harmony with nature. In the Systems Planning Era, planning for open space was not mentioned specifically but as an important component of the urban system, open space was needed to be well managed and controlled in order to achieve effective operation of the urban system. Notably, the Healthy Urban Planning movement indicated that increasing of the quality of public spaces (including public open spaces) is the one of the most important aims to achieve a Healthy City which reflects some aspects of a Sustainable and Liveable City.

Therefore, it can be said that liveability and open space issues have been addressed in the city planning movements in the twentieth century. While liveability is a desired goal of city planning, achieving high quality open space is an important requirement to achieve this goal. This movement imposes an influence on the contemporary city planning for liveability. This will be discussed in the following sections.

3.4.3. Liveability – The Desired Goal of Contemporary City Planning

Since town and city planning has emerged, its central function has been to provide a good or better physical environment. Good quality physical environments were seen as essential for the promotion of the quality of life and as the basis for better urban community life. A good city or ideal city which best expresses the power and beauty of modern technology, social justice and integrates the relationship between the economic, social and political forces, is the essence of urban planning (Fishman, 1977; Yiftachel, 1987). Keven Lynch (1984) views a good city form as vital (safe and consonant); sensible (identifiable, structured, congruent, transparent, legible, unfolding and significant); well fitted (a close match of form and behaviour which is stable, manipulable and resilient); accessible (diverse, equitable and locally manageable); well controlled (congruent, certain, responsible and intermittently loose); and all of these are to be achieved with justice and internal efficiency. These criteria should be incorporated in all projects in the city planning field.

The literature demonstrated that since the beginning of the twentieth century, modern city planning has emerged with a concern for creating sustainable and liveable cities. Creating a more sustainable and liveable city of the twenty-first century has become a vital task of city planning all over the world. Girardet (2004) states that there will be no

sustainable world without sustainable cities and sustainable development must be sustainable urban development in a world of cities.

The relevance of sustainability in overcoming the problems arising from urbanisation has placed the focus on urban studies (Yanarella and Levine, 1992; Girardet, 1999; Zetter and White, 2002). The concept of a sustainable city is derived from concern for sustainability issues within the context of the city. A sustainable city is defined as enabling all its citizens to meet their own needs and to enhance their well-being, without degrading the natural world or the lives of other people, now or in the future (Girardet, 2004).

Rogers (1998) pointed out that a sustainable city should be a *just city* in term of fair distribution of justice, food and shelter, education, health and hope. In addition, a sustainable city should be a *beautiful city*, where art, architecture and landscape spark the imagination and move the spirit. A sustainable city ought to be a *creative city* which promotes open-mindedness and experimentation to mobilise the full potential of its human resources and allows fast response to change. More importantly, a sustainable city has to be an *ecological city*, which minimises its ecological impact, where landscape and built form are balanced and where buildings and infrastructure are safe and resource efficient. A sustainable city should provide *easy contact and mobility*, where information is exchanged both face-to-face and electronically. In addition, a sustainable city needs to be planned as a *compact and polycentric city*, which protects the countryside, focuses and integrates communities within neighbourhoods and maximises proximity. Furthermore, a sustainable city has to promote *diversity*, where a broad range of overlapping activities creates animation, inspiration and fosters a vital public life.

Recently, liveability, in addition to sustainability, has become as important for both developed and developing countries. Creating a more liveable city which helps to increase people's sense of well being, has become a common goal of city planning. According to Girardet (2004) a 'liveable city' agenda is to make places of beauty, diversity and easy contact. A liveable city should develop vibrant local communities with diverse living choices and also integrate a diverse range of economic activities. A liveable city must wisely use of land and revitalise underutilised land for community benefit. In addition, a liveable city has to protect and enhance natural environments and biodiversity, and also enhance the benefits of climate, natural setting and architecture. A liveable city ought to facilitate cycling, pedestrianisation and public transport and assure efficiency of traffic flows and minimise traffic impacts. Significantly, a liveable city should be community-specific as to enhance public participation in decision making.

Although provision of open space is not mentioned directly in these criteria for a sustainable and liveable city, it obviously contributes to each criterion. For example, providing high quality open spaces and protecting existing open space system are essential for achieving *beautiful* and *ecological city* which are important categories of Rogers' sustainable city. Achieving high quality and accessible open space system is important to satisfy Girardet's requirements for liveable city by making *places of beauty* and *easy contact* and *enhancing the natural environment*. Therefore, it cannot be said that a city is sustainable and liveable if it has a poor open space system. Planning for high quality open space elaborates sustainability and liveability of urban communities. Again, planning is a process that seeks to achieve these tasks. Open space is an important part of city planning and planning for high quality open space is essential for

achieving a more sustainable and liveable future. This will be discussed in the following section.

3.4.4. Open Space – An Integral Part of City Planning

City planning involves issues such as land use, economic, social and transportation considerations. As a component of the city, urban open space must be seen and treated as an integral part of the planning process for cities.

The literature showed that the history of city and town planning in its full sense, can be traced back many centuries. The first true planned cities were the Greek Polis, which emerged between 1500-1100 B.C, and then the Roman cities, incorporating a thousand years of Greek experience (Hugo-Brunt, 1972). However, since the focus is on the integration of open space within cities, this section concerns the history of city planning since that integration emerged. Open space became an important element in urban development at the end of the nineteenth century.

In the nineteenth century, open space did not perform various forms and functions as shown in the literature. Open space only provided recreational opportunities for the community. In this period, the rise of the middle class and the general increase in the standard of living in capitalist countries such as America and several European countries, led to increased demand for higher-quality space in dwellings and increased private space in the form of private gardens (Howard, 1902). It was also accompanied by an increased demand for public recreation space in the form of parks, gardens and playing fields (Freestone, 1987). The creation of Central Park in New York City in 1850 was one of the most significant events that established the validity of maintaining urban parks and open space in the United States. In European cities during the nineteenth

century there was a new dimension of opening royal gardens to the public. This was a decisive forward movement in the creation of public parks. Beside parks designed for the public, wealthy citizens created parks and similar spaces for themselves. There was the idea that those who pay for the provision of such parks are basically their owners. In other words, the more one paid, directly or indirectly, for the creation of green space and for the maintenance of such provisions, the more one owned it (Van Rooijen, 2000). This idea influenced the creation of green open space in European cities during most of the nineteenth century. In Eastern countries, cities with walls, towers and moats were typical. City planning in many Eastern countries was influenced by Chinese *feng-shui* where various forms of open space such as lakes, rivers, landscapes parks or pleasure gardens and other features of cities were constructed according to ‘fixed principles...to seek harmony with the universe and obey the laws of space and direction’ (Hugo-Brunt, 1972).

The planning of green open space in twentieth century cities was part of a belief in a better society. The provision of green open space only became an obvious integral part of town planning – at least in the industrialised world - during the second half of the twentieth century (Van Rooijen, 2000). This era acknowledged the contribution of two outstanding utopian modernists: Howard and Le Corbusier. The centre of Howard’s Garden City was to be a central park containing important public buildings and surrounded by a ‘Crystal Palace’ ring of retail stores. Major open space elements such as public parks, private gardens and green belt were essential features of the Garden City layout. Shortly after Howard’s approach, Le Corbusier accepted the Garden City’s concept in principle and also gave emphasis to open space. He was concerned that cities

could only increase in density at the expense of the open space areas which are the lungs of cities. Cities must increase the open space and diminish the distances to be covered. Therefore, the centre of the city must be constructed vertically. Le Corbusier divided the city into three sectors: (a) the sky-scraper area having a population density of 1,200 inhabitants to the acre and 95 percent of the ground open (squares, theatres); (b) residential blocks with a population density of 120 habitants to the acre and 85 percent of the ground open (gardens, sports grounds); and (c) residential blocks erected on the “cellular” system having a similar number of inhabitants per area (b) and 48 percent of the ground open (gardens, sports grounds) (Le Corbusier, 1929). Various aspects of these utopian modernists work continued to influence modern town and city planning, leading to neighbourhoods’ settlements, Green Belts and land use zoning. In this period, open space performed various functions and existed in a number of forms from public parks that essentially provided recreational opportunities, to private gardens that included a productive function. Remarkably, Green Belt emerged as a new type of open space during this period and performed functions of natural preservation and connecting landscape elements.

Contemporary town and city planning since the late 1960s and 1970s made efforts to focus planning on the public interest. Sustainability and liveability have emerged as desired goals that direct the process of contemporary city planning. Planning for sustainability and liveability requires interdisciplinary approaches and the integration of various elements of city planning, e.g. land use, transportation, housing, community development, economic development and environmental planning. Urban open space has been provided and planned in various forms in order to serve various demands of

urban communities. Beside the recreational function, urban open space in this period played an important role in improving the quality of life and the liveability of an urban area. At the present, access to ‘nature’ has become a much sought after community need. Price and Stoneham (2001) note that there is a basic right for all people to have meaningful opportunities to enjoy, learn from and participate in the natural world. According to research on mobility and housing, important factors such as natural environment, spacious settings and open space play an important role in decisions to move and relocate (Varady, 1990; Nelson, 1992; Sullivan, 1994; Crump, 2003; Austin, 2004; Kaplan and Austin, 2004). Urban open space and landscape attributes contribute to the high quality of life and liveability of a region and act as “pull” migration factors (Low Choy, 2004). As evidence, Nilsson’s research (2002) shows that in Europe, where more than two thirds of the population live in urban areas, the quality of the urban environment, including green areas, is increasingly recognised as a key to the ecological, economic and social reconstruction and development of European cities. Planning for open space has consistently been seen as a vital component of overall community planning which seeks to improve both the satisfaction of individual needs and the quality of life in the urban community.

It is obvious that different communities may have different views of open space and open space planning. For example, different open space requires different landscape features depending on the use intended, for example: open space (for picnics), woody scrubland (for adventure playgrounds or mountain biking) or more mature woodland (for walks or nature study) (Thompson, 2002). Different types of open space contain their own opportunities and restrictions due to the location, design, development and

management, which are usually related to varying fashions, and cultural and social attitudes (Freestone and Nichols, 2004). Therefore city planning in general and planning for urban open space should address cultural issues in that planning. This will be discussed in more detail in the following section.

3.4.5. The Cultural Context for Planning

It is now widely recognised in the literature that planning is an interactive process which is undertaken in a social context, rather than a merely technical process of design, analysis and management (Cockburn, 1977; Ambrose, 1986; Healey, 1988; Brindley et al., 1989; Healey, 2006). Planning is a process through which communities are able to determine and find ways to address their needs and aspirations. Since different communities often have different needs and seek different goals, effective planning would result in a plurality of plans in order to meet the needs of the diverse public.

There are several reasons why culture is an important matter in planning. It is broadly argued in the literature that what may be of most value to a community or group may be something that cannot be proven such as culture, traditions, myths and customs (Nietzsche, 1967; Habermas, 1981; Foucault, 1986; Lyotard, 1992). In addition, multiculturalism has become a practical necessity. People from different social and cultural backgrounds have different needs and are exposed to different experiences, and different groups insist on being treated differently (Burayidi, 2000). According to Burayidi (2000), cultural differences between planners and communities on the one hand and different community groups on the other. This relates to communication style as cultural differences affect the outcomes of the transactive and social learning process in planning. Cultural differences influence the types of information people are willing to

share with planners and this has implications for the role that the planner plays as mediator in community conflicts. This may affect the way in which planners and other professionals undertake teamwork in planning projects. Furthermore, different cultural groups have different decision-making procedures and this affects the procedural approach to planning.

In order to ensure better planning, planners need to understand how different backgrounds and experiences shape a community's view and they should attempt to recognise and respect cultural differences. The next section will review issues of capitalist and socialist planning which differ from each other in terms of their political cultures.

3.4.6. Capitalist and Socialist Planning

Planning is mainly concerned with land and property and the allocation of scarce resources. Whilst land is treated as a commodity and is privately owned in almost all capitalist countries, it is under centralised control in socialist countries. This leads to a difference between capitalist and socialist planning approaches which is examined below.

(1) Capitalist Planning

In capitalist societies, property is generally held privately. Private ownership of land and capital is the cornerstone of capitalist commodity production and exchange. Capitalist society is organised around general social relations based on commodity production and exchange which take place on land. Within this system, there are three principal kinds of urban land uses, namely: (i) land used for commodity production and exchange (production space, e.g. agricultural land); (ii) land used for residential activity

(reproduction space, e.g. neighbourhood park or playgrounds); and (iii) land used for transport (circulation space, e.g. trails) (Roweis and Scott, 1981). The first two kinds of uses generally occur on privately owned land while the last generally occurs on publicly owned land.

In a capitalist society, land is treated as a commodity to be bought and sold, subdivided and assembled, developed and redeveloped in pursuit of private economic gain. Urban planning takes the form of efforts to impose non-market controls on urban development (Foglesong, 1986). Urban planning – that is, Government intervention in the ordering of the urban built environment – can be seen as a response to the social character of land, to the fact that land is not only a commodity but also a collective good, a social resource as well as a private right (Foglesong, 1986). Urban planning finds itself in the centre of the emerging mode of struggle for a better society.

(2) Socialist Planning

The command planning or central planning approach originated in the former USSR and became a model for other socialist societies after 1945. In broad, this model presupposes concentration of power and resources in the State's hands (Le and Dutt, 2003). The key features of this planning model are: (i) management of the economy based on a comprehensive national plan and sectoral plans using material balance techniques; (ii) enterprises run by either state – through central ministries or local governments; (iii) agriculture collectivized; (iv) production was considered a political task rather than a profit-making activity; (v) any losses could be covered; (vi) there should be no bankruptcy; (vii) all key prices (of all factor inputs as well as wholesale and retail price)

and wages in state-owned enterprises set centrally and administratively; and (viii) the state holds monopoly on foreign trade (Ljunggren, 1993, p.58).

In most socialist countries, as in the former USSR, the emphasis was upon industrialisation and the size of city was determined by controlling the numbers of industrial workers. The economic and urban planning machinery was centralised and dictatorial, and land and costs centrally controlled. Urban planning requirements were normally determined within the framework of an overall national plan usually phased on five-year programmes.

Most cities were designed twenty to thirty years in advance; with definite street plans; land zoned for public, commercial, industrial, residential and recreational uses; a suggested transport map and a transport mix; proposed engineering solutions to any special problems of sanitation, water supply, fire, or floods; and specified location of major parks and gardens and recreational facilities (Hugo-Brunt, 1972). Russian towns were often characterised by an axial plan, monumental administrative and cultural buildings, formal parks, wide streets and blocks of apartments and dormitories with service, cultural, educational and recreational elements. The city centre emphasised its political, cultural and administrative function and always emphasised public buildings and monuments. Both planning and architecture were used to express national authority, and consequently, an obvious monumentary element was evident.

According to Hugo-Brunt (1972), in socialist planning, there has been a concentration upon quantity rather than quality. All countries have used extensive standardisation and prefabrication and these result in a monotonous and repetitive landscape. Furthermore, as all cities in the communist sphere originally included upper, middle and lower class

residential areas, they have attempted to create new ‘socialist’ or ‘classless’ cities. However, this led to urban uniformity and reflected monotony and poor aesthetics.

Hanoi is the city which has been influenced by both capitalist and socialist planning approaches. This will be discussed in more detail in Chapter Five.

3.4.7. Capital City – A Special City

It is recognised that by the year 2000 there were more than two hundreds capital cities world wide (Gordon, 2006). However, not all capital cities are the same and according to Hall (2006), there are seven types of capital cities, namely:

1. Multi-Function Capitals: combining all or most of the highest national-level functions (London, Paris, Madrid, Stockholm, Moscow, Tokyo);
2. Global Capitals: a special case of (1), representing cities that also perform super-national roles in politics, commercial life or both (London, Tokyo);
3. Political Capitals: created as seats of government and often lacking other functions which remain in older-established commercial cities (The Hague, Bonn, Washington, Ottawa, Canberra, Brasília);
4. Former Capitals: Often the converse of (2); cities that have lost their role as a seat of government but that retain other historic functions (Berlin from 1945 to 1994; St Petersburg, Philadelphia, Rio de Janeiro);
5. -Ex-Imperial Capitals: A special case of (3), representing former imperial cities which have lost their empires though they may function as national capitals and may also perform important commercial and cultural roles for the former imperial territories (London, Madrid, Lisbon, Vienna);

6. Provincial Capitals: A special case in federal nations, overlapping with (3); cities which once functioned as de facto capitals, sometimes on a shared basis but have now lost that role, retaining however functions for their surrounding territories. (Milan, Turin, Stuttgart, Munich, Montréal, Toronto, Sydney, Melbourne). New York is a very special case here, almost *suigeneris*, of a global provincial capital; and

7. Super Capitals functioning as centres for international organisations; these may or may not be national capitals (Brussels, Strasbourg, Geneva, Rome, New York).

Hanoi, the case study of this research, is the capital city of Vietnam, and according to Hall's categories, which performs multi-functions as a former colonial capital, the political, economic, cultural and social centre. Hanoi was the capital of Vietnam during the French Colonial Period. Nowadays, Hanoi is the capital of Vietnam which performs the functions of a political, economic, cultural and social centre of the country.

A capital city has a set of functions which differ from those of a non-capital city. According to Gottmann (1990), a capital city is the seat of central governments of a separate political unit and differs from other cities in this regard. The capital's function secures strong and lasting centrality. It provides a special hosting environment for the safe and efficient performance of the functions of government and decision-making characteristic of the place. In addition to being a large urban area it must also perform as the capital city for a nation state. It is in the interests of government to attract more national functions to the capital city as described below.

(1) A Capital City is a Political Centre

Capital cities are planned for the special purpose of being the seat of the central government. The development of the capital city is strongly affected by political cycles

(Overall, 1995). In many countries, at the early stage of site selection, political reasons are one of the key factors which orientate the city's development. For example, the choice of site can be the result of a compromise in the case of many capital cities such as Washington D.C, Ottawa and Canberra. Washington D.C. was selected as the capital of United States in 1791. It was chosen in order to ensure the support of all the states and had to be located well away from the already established big cities of the north and on what is effectively the border between the northern and southern states (Overall, 1995). In 1857, Ottawa was chosen to become the capital of Canada. It was designed to prevent the nation's division after the several decades of attempting to decide whether to move the capital from the French speaking to the English speaking parts. Ottawa was sited midway between the two main population centres, Toronto (English speaking city) and Quebec (French speaking city). This situation was similar to the case of Canberra. Canberra was chosen to be the capital of Australia in order to solve the Sydney versus Melbourne conflict.

In addition, in order to promote the efficient conduct of government, offices and accompanying facilities have been built in the capital city as it developed (National Association to Restore Pride in America's Capital, 2004). Especially, Houses of Parliament and other national buildings are incorporated into the capital city's development. These buildings are seen as reflecting national pride and manifesting the dignity, vigour and stability of the governmental system. The capital city is the key location which has always been seen as a centre of political power (Aranda, 2003).

Furthermore, the capital city shares a position as an important representation of its country in the international context. It is where various significant activities of

international stature take place and is the home of foreign embassies, and the residence of the representatives of foreign countries. It can be the host place of international conferences or meetings on global issues. Therefore, the capital city plays an important role in maintaining a diplomatic and political relationship between the country and other countries in the world.

(2) A Capital City is an Economic Centre

In general, capital cities develop their primacy from a combination of historical development, the centralisation of power and their role as economic centres (Aranda, 2003). Many capital cities play an important role in the national economy and further strengthen the interrelationship between the nation and global markets. In the international context, the capital city functions as the global nexus for capital, information and decision-making. It represents the point of convergence of the international connection and the national economy.

Several capital cities become thriving economic centres due to the benefits gained from the concentration of power and wealth in their location. In addition, capital cities are relatively high salary areas due to the concentration of professional and the public service. In fact the basic 'industry' of capital cities is the central-office function of the government, exporting its services to the rest of the country. In some capital cities, services such as higher education, banking, research and tourism may offer an important addition.

(3) A Capital City is The Nation's Symbol

While the capital cities share many characteristics of other major cities, by advantage of their national constituency they have unique qualities and requirements that must be

accounted for in their planning. Planning for a capital city should follow the theory and principles of city planning in general but also take into account its symbolic character and special functions.

National capital cities have distinct planning and development needs that distinguish them from other cities. It is the symbolic heart of the nation and represents national power and promotes the country's shared history and traditions (Stokes, 1993). It is in the interests of both the central and local government to attract more national functions to the capital, together with events associated with the nation.

The planning and design of national capitals is inseparable from the political, economic and social forces that sited them and moulded their development (Vale, 1992). The appearance and quality of life of the capital city has always been at the centre of city planning. It is through architecture and physical design, that it symbolises national ideals and values. Up to the present day the designers of new capitals are still preoccupied with the monumental aspects of the town structure and the geometric relation of the street pattern to public buildings (Galantay, 1975). The development of representative buildings and national symbols (e.g., war memorials, museums and galleries), and an open space system, has made the capital city an attractive place for all residents as well as national and international tourists. Boulevards, parks and monumental buildings seem perfectly suited to convey the grandeur and centrality of national capitals – those in positions of power (Vale, 1992). For example, open space system helps to make Paris a more enjoyable and liveable city. Open space areas in Paris include parks, boulevards, plazas and courtyards. Every public building has some type of open space in front of it creating meeting places and space for people to reside, as well as space for events such

as concerts or markets. In Canberra, the civic grandeur of a national capital derives from the city's landscape, especially its luminous Lake Burley Griffin centrepiece (Vernon, 2005). Indeed, the capital's density owes more to vegetal architecture than to its built counterparts. To date, Canberra has been promoted to tourists and the city's residents as the 'natural capital' or 'bush capital'.

In general, States and cities' governments often give special attention to planning for the capital cities as these are the representative symbols of the countries. Open spaces play important role in enhancing the appearance and attractiveness of capital cities as well as increasing the quality of life of local communities. All of these features help to improve the liveability of capital cities.

3.5. Summary

The review of literature demonstrates that sustainability and liveability have become desired goals of modern urban planning. Generally speaking, sustainable and liveable communities make more efficient and wise use of their land. Efficient land-use decisions tend to emphasise open space planning by promoting greenways, parks and landscaping. It is broadly recognised that open space plays an important role in making places "greener", healthier and more sustainable and liveable. Provision of high quality open space through sustainability planning and management can provide significant values for urban communities.

The review also shows that urban open space can perform many functions and provide several benefits for society that can be considered in social, economic and environmental contexts. These may include a wide range of functions such as places for recreation; neighbourhood gathering places facilitating the development of social cohesion,

promotion of public health and well being; areas for the protection of natural resources and biodiversity, and for improving environmental quality; providing opportunity for education; support for economic development and enhancing the city's appearance. These benefits of urban open space satisfy the major principles of sustainability and liveability.

Planning is a process that seeks to achieve high quality open space which, in turn, contributes to achieving sustainable and liveable communities. Open space must be seen as an essential part of the planning process for urban development whilst sustainability and liveability are desired goals of that urban planning. Open space plays an important role in increasing the attractiveness and appearance of the cities and can also contribute to achieve a more liveable future. Community culture is recognised as an important feature which can influence procedural planning.

The next chapter will develop an evaluation framework based on the knowledge learnt from the literature review. This framework will be used as a methodological tool to evaluate whether different urban plans throughout the history of Hanoi City addressed open space issues in order to achieve a more liveable future.

Chapter 4 . A Framework to Evaluate the Achievement of the Planning Goal of Liveability

4.1. Introduction

The review of literature demonstrated that there is a link between planning for liveability and open space planning. Hence, it can be argued that an examination of the role of open space in the city can be used to evaluate whether city planning has made a contribution towards the achievement of its goal of liveability through the provision of open space. That said, it also needs to be acknowledged that existing open space may or may not be the result of deliberate planning actions.

This chapter introduces an evaluation framework which can be used to assess the role of planning in the achievement of liveability outcomes at the city scale. This evaluation framework has been developed to examine two lines of inquiry. Firstly, it examines if there has been a conscious or deliberate attempt to plan for open space provision in the city. Secondly, it examines if the city's open space planning, which may or may not be associated with deliberate planning activity, has led towards liveability outcomes. In this framework, evaluation criteria are developed along this two-fold approach. They include various 'planning' and 'open space' related criteria.

Indeed, it is a challenge to determine whether or not planning actions have lead to more liveable outcomes. In order to assess that question, developing specific indicators of liveability, drawn from the literature, can help to evaluate whether planning has and is contributing to the achievement of this aim. The criteria for selection of indicators included the content of the indicator, its availability and whether it was duplicated or

over-represented. Whilst liveability is related to various economic, environmental and societal issues, developing a set of indicators for a liveable community requires integrating many different issues and the resulting list of indicators may be quite extensive. The review of the literature in Chapter Three demonstrated that open space performs various functions and provides various values which contribute to the sustainability and liveability of urban communities. This raises the question as to whether open space is a suitable surrogate indicator of liveability. This chapter addresses that question and also proposes a set of open space indicators which can be used for monitoring the ongoing contribution of open space to achieving liveable urban communities (refer to Section 4.3).

The developed evaluation criteria and open space indicators form the basis of the evaluation framework to assess whether planning for Hanoi City has acknowledged the importance of open space and whether the provision of open space through these plans has contributed to the achievement of the plan's liveability goal.

4.2. A Framework for Planning Evaluation

In this section, an evaluation framework is developed to assess whether city planning activity, especially for city open space, has made a contribution towards liveability. This comprises three steps of evaluation: (i) *evaluation of planning process* which is to examine whether a planning process has followed a cyclic planning process incorporating an adaptive management framework; (ii) *evaluation of planning content* which is to examine whether city planning, especially for city open space, has addressed the issues of liveability; and (iii) *evaluation of the functionality of the open space system*

which is to examine how has city planning incorporated provision and/or planning for open space and has it made a contribution to the achievement of a liveable city.

To assist in this assessment, specific evaluation criteria and indicators were developed to address the key components of the planning process. These criteria and indicators of the evaluation framework were developed using the guidelines of the Bellagio Principles for Planning Assessment (see Appendix 11). The Bellagio Principles were developed by an international group of researchers from five continents at the Rockefeller Foundation's Study and Conference Center in Bellagio in November 1996. This initiative was in response to the World Commission on Environment and Development call for the development of new ways to measure and assess progress toward sustainable development.

The following section will discuss different components of the evaluation framework in detail.

4.2.1. Cyclic Planning Process Incorporating an Adaptive Management Framework

This section introduces an enhanced planning approach which involves a cyclic process that incorporates an adaptive management framework (hereafter referred to as *the enhanced planning approach*). It discusses why planning for liveability should adopt this approach. The literature showed that sustainability and liveability are dynamic concepts rather than static states. Therefore, planning for sustainability and liveability is required to be amenable to modification according to changes in the environment, changing human needs and desires, or technological advances. Hence planning in this mode needs a continuous or cyclic process to accommodate these requirements.

A cyclic planning process comprises a plan making phase and an implementation phase. It involves the preparation of a set of actions, in which: (i) information is collected and analysed; (ii) alternative courses of action are developed, consistent with the chosen goals; and (iii) a course of action is recommended (Dror, 1963; American Society of Civil Engineers, 1986; Hall, 2002).

In addition, urban planning must plan with uncertainty and this requires a flexible approach. Such an approach is provided through 'adaptive management' which can involve a continuous process of adaptive learning from plan making through to plan implementation (Holling, 1978; Walters, 1986; Briassoulis, 1989; Gunderson et al., 1995; Lessard, 1998; Johnson et al., 1999; Brunckhorst, 2000; Low Choy, 2002). According to Walter (1986), an adaptive management approach is a systematic process for continually improving management policies and practices by learning from the outcomes of operational programs. It involves a continuous process of action-based planning, monitoring, researching and adjusting with the aim of improving implementation in order to achieve the objectives. It begins with the central tenet that management involves a continuing learning process and probable never converges to a state of blissful equilibrium involving full knowledge and optimum productivity (Walters, 1986). Using an 'adaptive management' approach can help to improve implementation in order to achieve the goals and objectives of planning.

Figure 4.1 illustrates the adaptive management framework and its relationship with the cyclic planning process. According to Low Choy (2002), a cyclic planning approach that incorporates an adaptive management framework requires a commitment to implementation; a transparent and independent monitoring, evaluation and reporting

process; and the putting in place of a formal ‘learning’ process to inform the planning process.

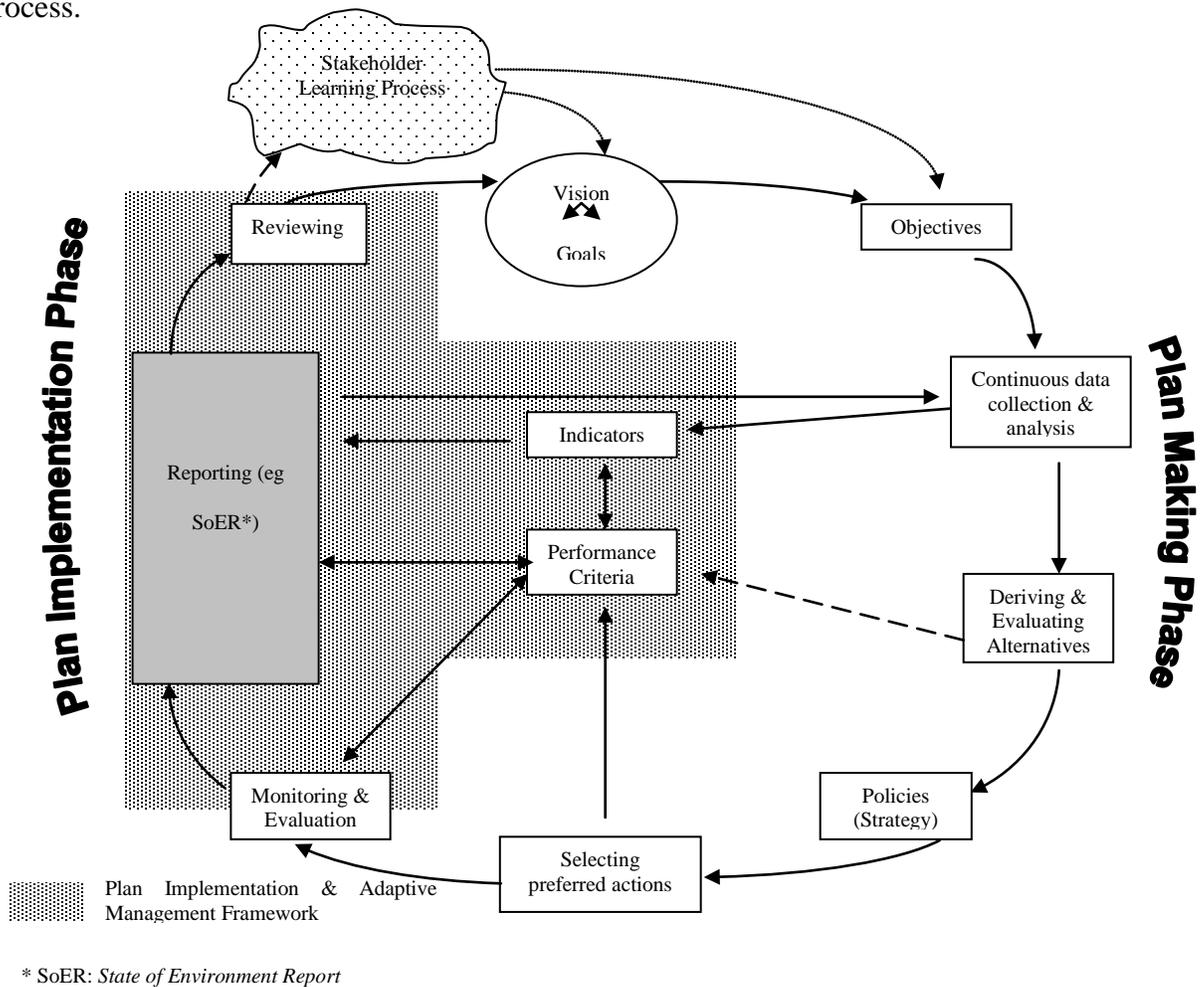


Figure 4.1. Cyclic Planning Process Incorporating an Adaptive Management Framework

Source: After Low Choy (2002)

As shown in Figure 4.1, the *enhanced planning approach* fully incorporates an implementation phase. This plan implementation phase involves the vital steps of monitoring, evaluating, reporting and reviewing. In turn, these steps will help to inform the plan making process. In the plan implementation phase, reports such as State of Environment Report (SoER) play an important role in informing how well the plan

implementation is actually achieving the original intended goals and objectives (Low Choy, 2006).

Indicators and performance criteria play a key part in the cyclic planning process. An indicator is a measurable variable or characteristic that can be used to determine the degree of adherence to a standard or the level of quality achieved. Indicators provide evidence that a certain condition exists or certain results have or have not been achieved. Indicators enable decision-makers to assess progress towards the achievement of intended output, outcomes, goals and objectives. Performance criteria are a description of the quality requirements of the result. They specify what has been done and its quality. The key component of the adaptive management framework is the stakeholder learning process. Stakeholders are essential participants of the planning process. The interaction between and among stakeholders results in the continual review and modification of the planning process and its content to better accord with the original vision, goals and objectives. For these reasons, it is essential to identify and understand the stakeholders and their respective roles in the planning process.

A cyclic planning process can provide a means to achieve sustainability and liveability outcomes through planning. The adaptive management framework can provide the basis upon which these outcomes can be measured and promoted. In addition, it can promote broader community engagement in the planning process. According to Low Choy (2002), this *enhanced planning approach* helps to encourage the consideration of the implications and potential impacts during the plan making phase. It provides a mechanism for the process to be continually informed by additional information and understanding. In addition, it provides maximum opportunities for public involvement

especially in the implementation phase. Furthermore, it can provide opportunities for future flexible adjustments to be accommodated as a result of lessons learnt and improved understanding from the in-built monitoring, evaluation and feedback during implementation that in turn facilitates adaptation to change over time.

The key components and requirements of this *enhanced planning approach* will be taken into account in assessing whether the different planning phases for Hanoi have followed a planning process. Evaluation of planning process is one of three important steps in planning evaluation.

4.2.2. Criteria for Planning Content Evaluation

The second component of the evaluation within the context of this research is to evaluate whether city planning, especially for city's open space, addresses the issues of liveability. In the first instance, the overall evaluation will address whether there is evidence of the application of a (formal) planning approach to achieve specific ends such as an open space system across the case study area and whether there were links with intentions to achieve liveable outcomes for the city and its residents. A second overarching component to the evaluation will seek to identify any formal or informal linkages between open space and liveability goals and objectives, particularly through the Plan's policies and strategies.

Developing specific evaluation criteria is helpful to deal with this task. A set of evaluation criteria is set out in the Box 4.1 below. These criteria are related to major themes of evaluation which are city planning, open space and liveability. As guided by the Bellagio Principles (refer to Appendix 11), these criteria should have a *practical focus*, eg. based on '*a limited number of key issues for analysis*' (Principle 5) and

effective communication (Principle 7). Furthermore, these criteria should incorporate the principles of sustainable and liveable communities (as described in Figure 3.2). These criteria form the basis of the evaluation framework to assess the planning process and will be applied to the Hanoi case study.

Box 4.1. Criteria for Evaluating Urban Open Space Planning towards Liveable Communities

Meeting community needs and aspirations
1. Has provision of city's open space met community needs and aspirations?
Enhancing quality of life
1. Has provided open space supported economic development for the community?
2. Has provided open space produced environmental benefits for the community?
3. Has provided open space produced social benefits for the community?
Providing equity
1. Have open space areas been accessible to the public?
2. Has open space planning and design accommodated the disadvantaged?
3. Has the city's open space system been planned for long-term (intergenerational)?
Building a stronger sense of community
1. Has provided open space contributed in enhancing the city's appearance?
2. Has provided open space contributed in promoting social cohesion?
3. Has city planning obtained broad community participation?
4. Has city planning been opened and accessible to the public?
5. Has city planning incorporated local knowledge?

The development and use of indicators is one of the major initiatives aimed at providing information about progress toward social goals such as sustainable development (Hammond et al., 1995). The literature shows that provision of quality open space is one of the major tasks of urban planning in order to achieve sustainable and liveable communities. This raises the question as to whether urban open space can be used as an indicator for measuring the progress of city planning towards liveability goals. This will be discussed in the following section.

4.2.3. Open Space Indicators of Liveability

This section discusses why open space can be used as a surrogate indicator of the liveability achievements. A set of open space indicators is developed and introduced at the end of the section. These indicators will be applied for case study analysis in Chapter Six.

The review in Chapter Three showed that contemporary planning for open space has been seen as a vital component of overall community planning which seeks to improve both the satisfaction of community needs and the quality of life in the urban community. Open space is an essential outcome of the urban planning process whilst liveability is a desired goal of that urban or city planning (refer to Section 3.4). Therefore, evaluating open space planning is an integral component of evaluating urban planning overall.

The literature also demonstrated that there is a close relationship between open space and the liveability of communities. Open space performs several functions and provides several values for communities that can be considered in economic, environmental and social contexts. Open space serves to meet positive human needs – both physically and psychologically (e.g. in recreation amenities). It can enhance and protect the resource

base (the air, water, soil, plants) and in turn, native fauna. It can also affect economic development decisions like tourism, development patterns, employment and real estate values.

Since the mid-fifties, open space along with recreation, conservation, beautification and pollution abatement have gained currency as ways to improve the 'quality of the environment' (Goodman and Freund, 1968). Provision of open space is an integral part of modern city planning in company with all other land uses, economic, social and transportation considerations. The effective use of open space can improve environmental quality and quality of life and then also contribute to economic development. The quality of open space can influence the sustainable development of a community which is created by the integration of economic viability, environmental sustainability and social liveability (see Figure 4.2 below).

Figure 4.2 shows that sustainability and liveability of urban communities are influenced by the quality of open space and vice versa. The inference is that open space essentially contributes to liveability of communities. Open space, as a component of an urban community, should be of high quality and accessible to the public in order to contribute to achieving a liveable community. High quality and accessible open space can help to meet community needs and aspirations such as recreation, outdoor activities, relaxation and a better living environment. It also helps to enhance quality of life by improving environmental quality, supporting economic development and promoting social cohesion. In addition, it helps to build a stronger sense of community by providing high scenic amenity, offering diversified activities for communities and enhancing the city's appearance. Furthermore, equity requirements, including inter- and intra-generational

equity, can be achieved by developing publicly accessible and long-term planning of open space.

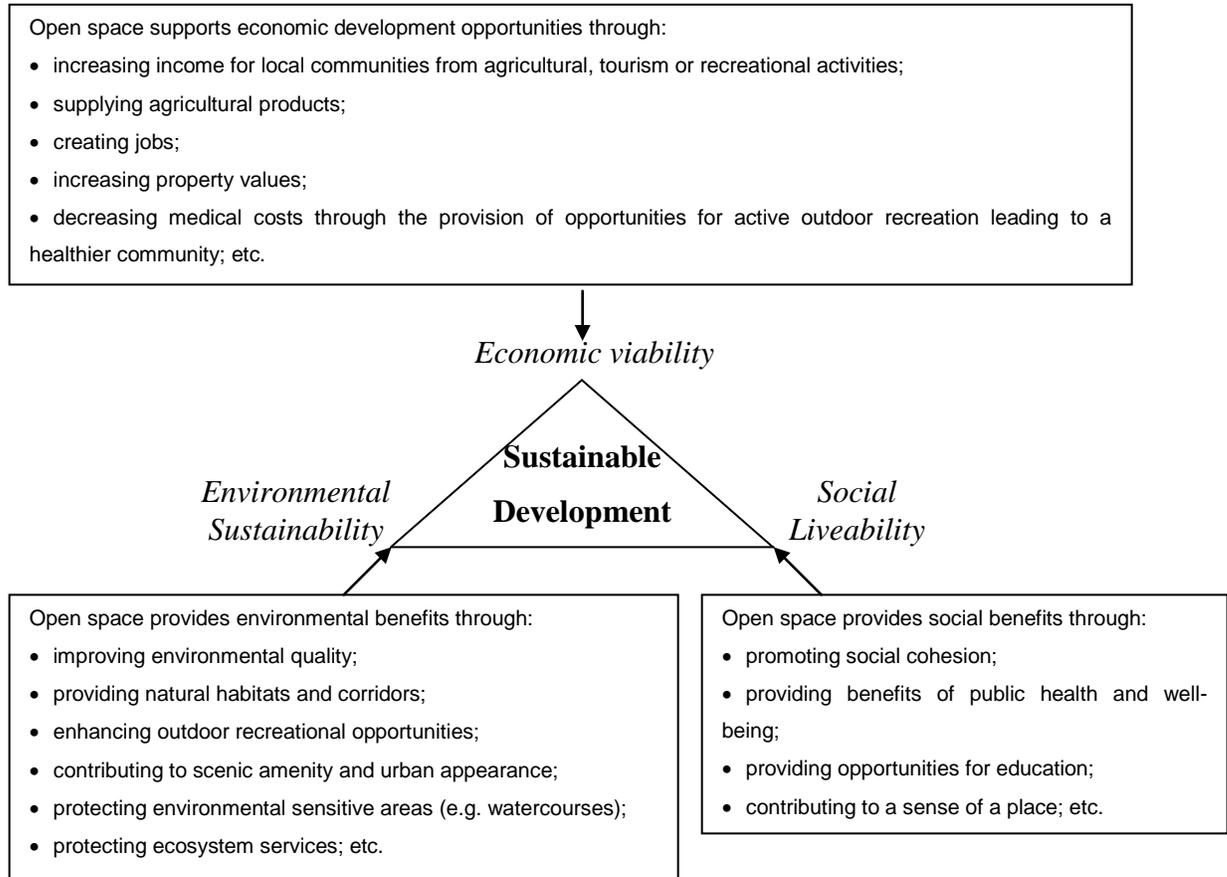


Figure 4.2. The Contribution of Open Space in Achieving Sustainable Development

Source: After Nguyen and Low Choy (2007)

The above discussion shows that there is a close connection between open space and the liveability of communities. A major contemporary challenge confronting many communities is how to implement the concepts of sustainability and liveability and how these goals may be measured. The development of indicators of sustainable development is one of the major initiatives aimed at providing information on sustainable development (Devuyst et al., 2001). However, sustainable development as well as

liveability relate to various economic, environmental and social issues. Thus this and previous evidence strongly suggest that open space can be used as a surrogate indicator of liveability especially due the important role it plays in influencing economic, environmental and social aspects of communities which in turn, are the key components of liveability.

A set of open space indicators is proposed to evaluate how open space provision have been incorporated in city planning and how they may have made a contribution towards a liveable city. Sustainability indicators, as stated by Braat (1991), are indicators which provide information, directly or indirectly, about the future sustainability of specified levels of social objectives such as material welfare, environmental quality and natural systems amenity. One definition of sustainability indicators is that they are bellwether tests of sustainability and reflect something basic and fundamental of the long term economic, social or environmental health of a community over generations (Sustainable Seattle, 1993). Indeed, indicators of sustainable development were officially introduced in Chapter 40 of Agenda 21, an important publication of the 1992 Rio Earth Summit. According to that document, ‘indicators of sustainable development need to be developed to provide solid bases for decision making at all levels and to contribute to self-regulating sustainability of integrated environment and development systems’ (Knight, 2001, p.18).

Sustainability and liveability indicators provide relevant information and are guideposts that inform government and communities about the current status in regard to sustainability and liveability goals. Those indicators need to reflect the interconnections between changes in the economy, the environment and social structure of communities.

Indicators can be created based on knowing where the community wants to go and how they want to get there.

In addition, indicators should be practically focussed and acknowledge effective communication as guided by Bellagio Principle 5 and 7 (refer to Appendix 11). A limited number of indicators have been selected which are relevant to the case study and which can be supported by available data.

A set of open space indicators is proposed in the context of Hanoi City (see Table 4.1) and will be applied in the analysis of the case study. These indicators are organised in economic, environmental and social categories which are often used to organise sustainability and liveability indicators. These categories are based on the description of Figure 4.2 about the contribution of open space in achieving sustainable development. Open space indicators provide clear signals of measuring open space contribution to liveable communities. Whilst Table 4.1 articulates a desirable and theoretical set of open space indicators, some unfortunately have not been operationalised in this study due to the unavailability of supporting data (note those marked with asterisk).

The *Economic Viability* category includes indicators which would be used to measure how open space has contributed to the local economy. As highlighted in Figure 4.2, open space can support economic development by providing several opportunities. There are two types of open space which provide economic benefits for Hanoi including agricultural land and public parks. Agricultural land performs a productive function and public parks provides recreational and leisure opportunities for communities. These can be measured by the first four indicators in Table 4.1. The contribution of agricultural production to the local economic development can be measured by data dealing with

agricultural employment and average household income from agricultural production. The economic benefits of public parks can be measured by the numbers of park visitors and park expenditure per capita due to park visitors having to purchase entrance tickets and pay for other services in the park.

The *Environmental Sustainable* category includes indicators which would report on the environmental benefits of open space. As shown in Figure 4.2, open space provides several environmental benefits which could be measured by the environmental criteria listed in Table 4.1. These indicators would also inform how well open space has been provided and protected in Hanoi which in turn can influence the liveability of this city.

The *Social Liveability* category includes indicators which would measure several social benefits of open space as demonstrated in Figure 4.2. This category comprises the last six indicators in Table 4.1. These indicators focus on the issues of public accessibility to the open space, community's satisfaction with provided open space and personal safety in the public open space. They also help to determine how intensely urban open space areas have been used.

Table 4.1. Open Space Indicators of Liveable Communities

Categories		Open Space Indicators
Measurement		
<i>Economic Viability</i>	Economic benefits of agricultural land	1. Agricultural employment as percent of total population
		2. Average household income from agricultural production
	Economic benefits of public parks	3. Numbers of park visitors per day
		4. City parks expenditure per capita *
<i>Environmental Sustainability</i>	Scenic amenity and urban appearance	5. Open space as percent of urban area
	Outdoor recreational opportunities	
	Environmental quality	6. Water quality of rivers and lakes
	Environmental protection	7. Area of open space that has been converted to developed land
		8. Area of conservation open space
		9. Rare and endangered species protected *
Corridors and connectivity	10. Connectivity between major open space components	

Table 4.1. continued

Categories		Open Space Indicators
Measurement		
Social Liveability	Accessibility	11. Average distance travelled by private and public transport to open space sites
		12. Accessibility of open space sites to the public (including disabled people)
	Meet a range of community needs and aspirations	13. Use of open space for promoting improvements in public health and well-being
		14. Use of open space by different groups (eg by age and gender) *
		15. Police reports on crime in public open space *
		16. Citizen satisfaction with provisioned open space system

The above set of open space indicators can help to provide relevant information about the current status of the city's open space system. These indicators can also be applied in order to evaluate the degree to which city planning has met the criterion of 'meeting liveability objectives'.

4.3. Summary

Liveability has been adopted as desired goal in comprehensive plans and other contemporary planning activities relevant to the case study. However, as previously discussed, there are limitations and challenges in recognising and measuring progress towards liveability. The use of indicators has emerged as one of the central tools for evaluating a planning process moving a community towards this goal.

The previous discussion shows that open space performs several functions and provides several benefits which contribute to the liveability of communities. Therefore, open space has been employed in this study as a surrogate indicator of liveability.

In this chapter, a set of open space indicators has been proposed. Those indicators are applied in a framework used to evaluate both how city planning has addressed the issues of open space and how it has influenced the achievement of liveability planning goals.

This evaluation framework has been used to analyse and evaluate various city planning proposals and strategies, including their planning processes which may or may not have sought to achieve liveable outcomes for the city. Within the context of this research, this evaluation framework has been applied to the Hanoi case study which will be discussed in the next two chapters.

Chapter 5 . Case Study: Hanoi City, Vietnam

5.1. Introduction

As discussed in Chapter Two, the case study method has been chosen as the strategy for this research. Hanoi, the capital city of Vietnam is the topic for this case study. Hanoi is the oldest capital city in Southeast Asia and became the capital city of Vietnam in 1010 and will soon celebrate its 1000th Anniversary. During its long history, Hanoi's urban fabric has been shaped by a variety of influences.

Section 5.2 of this chapter reviews the history of this age-old city, which can be divided into four major periods, namely:

1. The Feudal Period, up to 1873. In this period, Hanoi was influenced by traditional Vietnamese and Chinese culture. However, traditional Vietnamese culture was strongly influenced by the external Chinese principles. Therefore, it can be said that the dominant influence of Vietnamese culture in this period was Chinese culture;

2. The French Colonial Period, from 1873 to 1954. In this period, Hanoi was mainly influenced by the French. In 1940, the Japanese took over Hanoi for a period of less than five years but this short interlude did not exert any deep or lasting influence on the planning and design for the city;

3. The Post Independence Period, from 1955 to 1985. In this period, Hanoi had close relations with the former USSR and other countries of the Soviet bloc. Vietnam followed the former USSR command planning model and adopted the communist system; and

4. The Contemporary Period, from 1986 to the present. In 1986, the Sixth Party Congress introduced the ‘đổi mới’ or ‘renovation’ or ‘open’ policy and Vietnam opened up its economy with a view to becoming increasingly market-oriented. This policy has produced dramatic changes in Vietnam and Hanoi City. Vietnam began to introduce extensive liberalisation in all sectors of its previously hardline, centrally planned and closed economy.

The chapter continues with Section 5.3 which reviews the history of Hanoi City planning with an emphasis on the provisions for open space. In each period, city planning has had different tasks and objectives, and has been influenced by a prevailing dominant cultural influence, sometimes from an external source and other time of a domestic nature. It will be shown that these different cultural influences played an important part in the planning and provision for open space within the city.

From a historical and cultural perspective, Hanoi has been subjected to external influences from the Chinese, French, Russian and other Western cultures. From a political perspective, Hanoi has experienced different political regimes including feudalism, colonialism, communism and the current market-oriented communism. Therefore, Hanoi can be seen as a historically and culturally fragmented city featuring many Eastern and Western values and influences. These different influences are reflected in the contemporary city landscape. In Section 5.4, the chapter concludes with a discussion of the different approaches to planning, the different schools of thought about the types and functions of open space and the different approaches to planning for open space in Hanoi through different periods of time.

5.2. History of the city

Hanoi became the capital city of Vietnam in 1010 when King Ly Thai To (Lý Thái Tổ) moved the capital of Vietnam from Hoa Lu (Hoa Lư) to Dai La (Đại La) which eventually became Hanoi (Research Institute on Architecture, 1999). Over the years during the Feudal Period, the name of the city was changed several times. It was first called Thang Long (Thăng Long) – the rising dragon, a name given by King Ly Thai To and later became Dong Do (Đông Đô) – capital of the East. In the fifteenth century, it was renamed Dong Kinh (Đông Kinh) – Royal Capital of the East (Nguyen and Boudarel, 2002). The city was named Hanoi ‘Hà Nội’ in 1831, meaning ‘The City in a Bend of the River’ (Research Institute on Architecture, 1999). ‘Hà’ means ‘river’, ‘Nội’ means ‘inside’ and as the name is related to the fact that there are many rivers and lakes in Hanoi. The historical chronology of Hanoi City is presented in Appendix A8.

Hanoi is bounded by the Red River (Sông Hồng) in the East, the To Lich River (Sông Tô Lịch) in the West, the Kim Nguu River (Sông Kim Nguu) in the South and West Lake (Hồ Tây) in the North and contains many other lakes and water bodies. The relationship of these main elements of the city to the geography of the location is depicted in Figure 5.1 below.

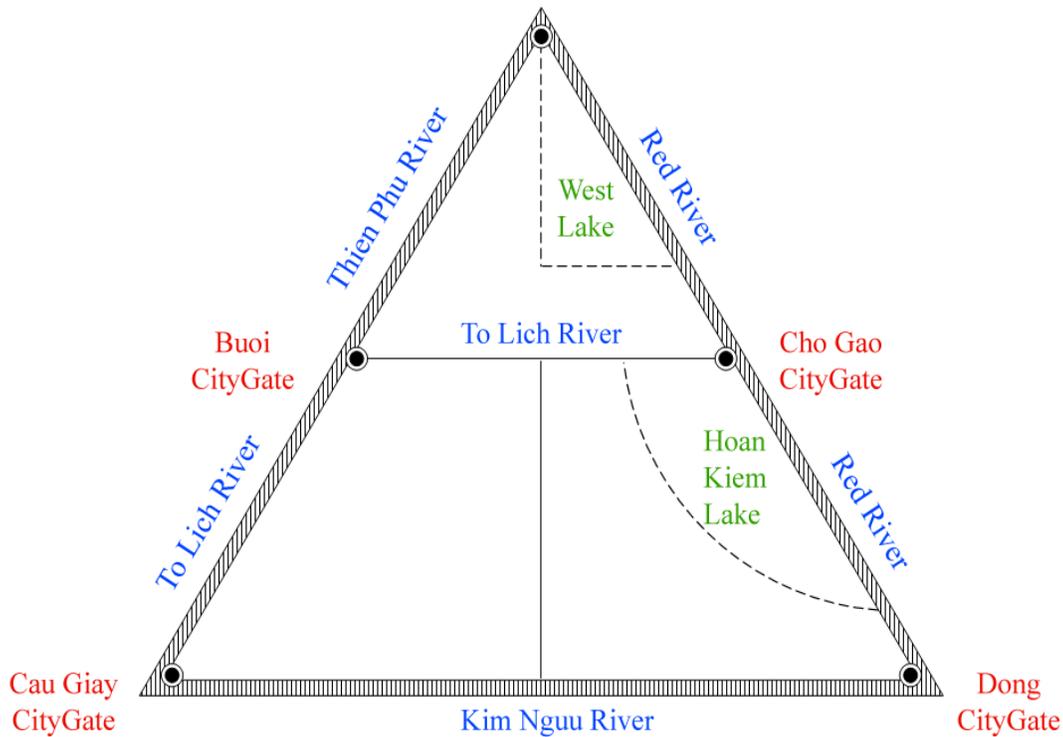


Figure 5.1. Main elements of Hanoi City

Source: Tran (2005)

In each historic period, the appearance and planning of Hanoi City had specific characteristics. Each period reflects different external influences such as Eastern (Chinese) and Western (French colonial, Soviet socialist and modern Western styles) (Logan, 2000).

5.2.1. The Feudal Period (before 1873)

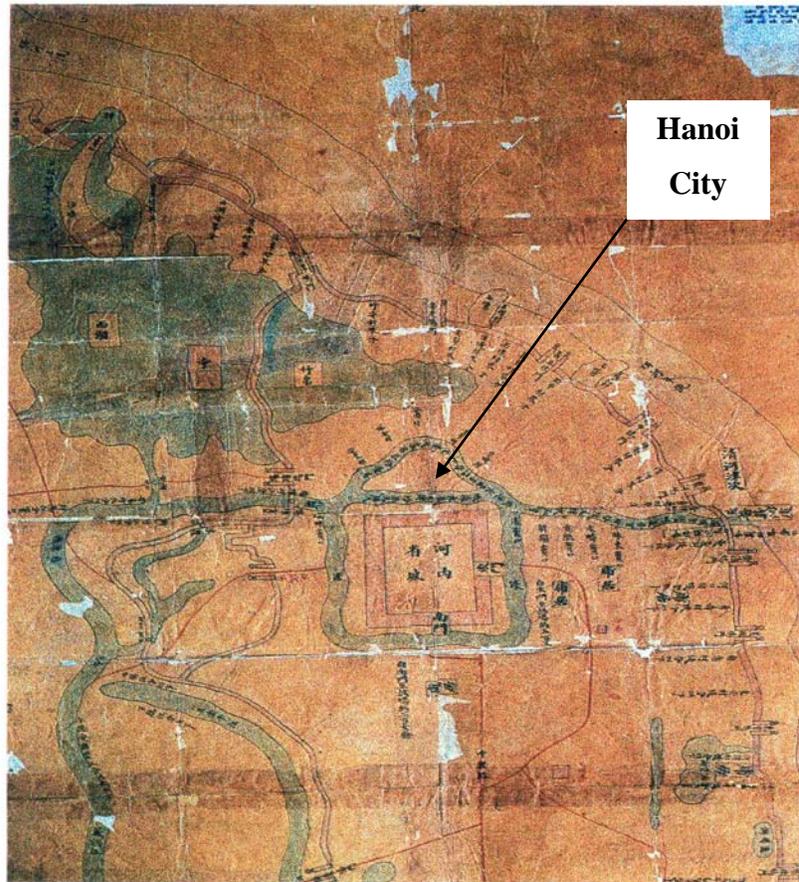
In 1009, Hanoi was a densely populated thriving merchant borough with a total area of approximately 1.4 square kilometres (Thu Hong, 2004). According to Nguyen and Boudarel (2002), Western travellers in the seventeenth century estimated the number of homes in the city at 20,000, which corresponds to a population of approximately

100,000 inhabitants. However, by the nineteenth century, due to the transfer of the capital to Hue (from 1802 to 1945), which emptied the city of a substantial part of its population, there were no more than 60,000 people living in Hanoi.

The location of Hanoi is shown in an ancient map (see Figure 5.2) with the rectangular imperial city located in the centre. Hanoi was chosen to be the capital city of Vietnam because it had advantages in natural and socio-economic conditions. The first reason was because Hanoi is located in the middle of the Red River valley and surrounded by fertile soil which is suitable for the cultivation of wet rice. The second reason was due to it being situated at the confluence of three rivers, making waterway transportation and communication between Hanoi and other areas very convenient. In the sixteenth century, merchant activities were very active along both sides of the To Lich River. The third reason was because Hanoi was located adjacent to the Northern border, making it convenient for cultural contacts and safe from border conflicts. Choosing Hanoi to be the capital was very appropriate, taking into account internal and foreign affairs, political and economic issues.

Sơ đồ bản đồ Hà Nội

Do Nathalie Lancret tập hợp



1. [Bản đồ cũ của Hà Nội]. không có năm. Thư viện khoa học và kỹ thuật Hà Nội (Christian Pédelahore de Loddis chụp).

Figure 5.2. Ancient Map of Hanoi (date unknown)

Source: Lancret (2005)

According to Logan (2000), feudal Hanoi was perhaps more like a ‘composite city’. The city started with the construction of a garrison town in the Royal Citadel (Hoàng Thành) in AD 1010. Between the citadel and the Red River, a market town grew at the confluence of the To Lich River. This market town went by various names such as Ancient City, Ancient Quarter or “Thirty-Six guilds and streets”. Major areas of the city

were agricultural land which supplied products for city residents. Furthermore, since the city was based on the Chinese model, being a cultural and religious centre, many temples, pagodas and communal houses were built.

During this Feudal Period, Luong (2005) suggests that the urban structure of Hanoi was divided into four different functional areas, namely: (i) administrative, political, military area; (ii) handicraft and merchant area; (iii) agricultural area; and (iv) cultural, educational and public areas. Those functional areas are now described in more detail with Figure 5.5 highlighting some of the distinguishing Feudal features mentioned.

(1) Administrative, Political, Military Area

This area was the Royal Citadel which contained the apparatus of the Feudal Government and was surrounded by a brick enclosure (see Figure 5.3). The Royal Palace and other main buildings within the Royal Citadel were sited following a north – south axis according to *feng-shui* (phong thủy) principles. The Royal Citadel had four gates, namely: (i) Tuong Phu (Tường Phù) gate in the east meant a good omen as receiving vitality and sunlight from the east; (ii) Quang Phuc (Quảng Phúc) gate in the west meant the beatitudes and prosperity as receiving Buddha-sent from the west; (iii) Dai Hung (Đại Hưng) gate in the south meant prosperity, good and long-lived sustainability; and (iv) Dieu Duc (Diệu Đức) gate in the north meant bright virtue and the dispelling of the cold of the north which implied the dissipation of any invasion plot of the northern aggressor.



Figure 5.3. Royal Citadel (date unknown)

Source: HHVN Community

(2) Handicraft and Merchant Area

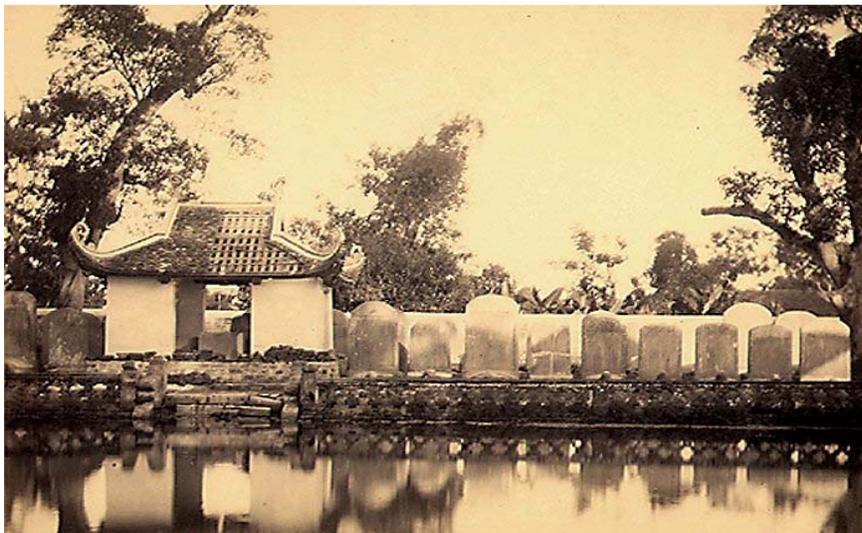
This area was a commoner or Merchant Quarter (Kinh Thành) which carried out special traditional handicrafts and trades. People of the same craft lived and worked in the same guild which was the equivalent of a village in a rural area. There were handicraft hamlets on the south side of the West Lake, merchant hamlets along the Red River and the “Thirty-Six guilds and streets” Quarter of old Thang Long. Each hamlet had living areas carrying out special handicrafts and trades, places of ancestor-worship, communal houses for the Guardian God and other religious buildings all of which contributed to the creation of the area’s special characteristics and the preservation of its traditional culture. The traffic system was not planned, but instead, developed on the basis of the natural terrain. In this area, houses were built spontaneously so that roads were established incidentally. Today there are still traces of this arrangement in the Ancient Quarter.

(3) Agricultural Area

During its developmental period, Hanoi was closely connected with rural areas and had agricultural areas inside the city. Several agricultural hamlets were placed along both banks of the To Lich River. In these areas, the architecture of the houses and other buildings and lifestyles reflected a rural community.

(4) Cultural, educational and public Areas

The most popular cultural and educational centre was the Temple of Literature (Văn Miếu - Quốc Tử Giám) (see Figure 5.4). This institution, the first National University of Vietnam, was constructed in 1076 to train talented men for the nation. Other cultural, festive and amusement activities were varied and diversified, and took place in public areas such as the West Lake, the Truc Bach Lake (Hồ Trúc Bạch), the Hoan Kiem Lake, the Red River and the To Lich River.



**Figure 5.4. Temple of Literature – The first National University of Vietnam
(date unknown)**

Source: HHVN Community

Today, distinguished places from the Feudal Period such as the Royal Citadel, the Temple of Literature and the ‘Thirty-Six streets and guilds’ (Ancient) Quarter still exist in the Hanoi City landscape (see Figure 5.5). They are the popular places for both domestic and international tourists.

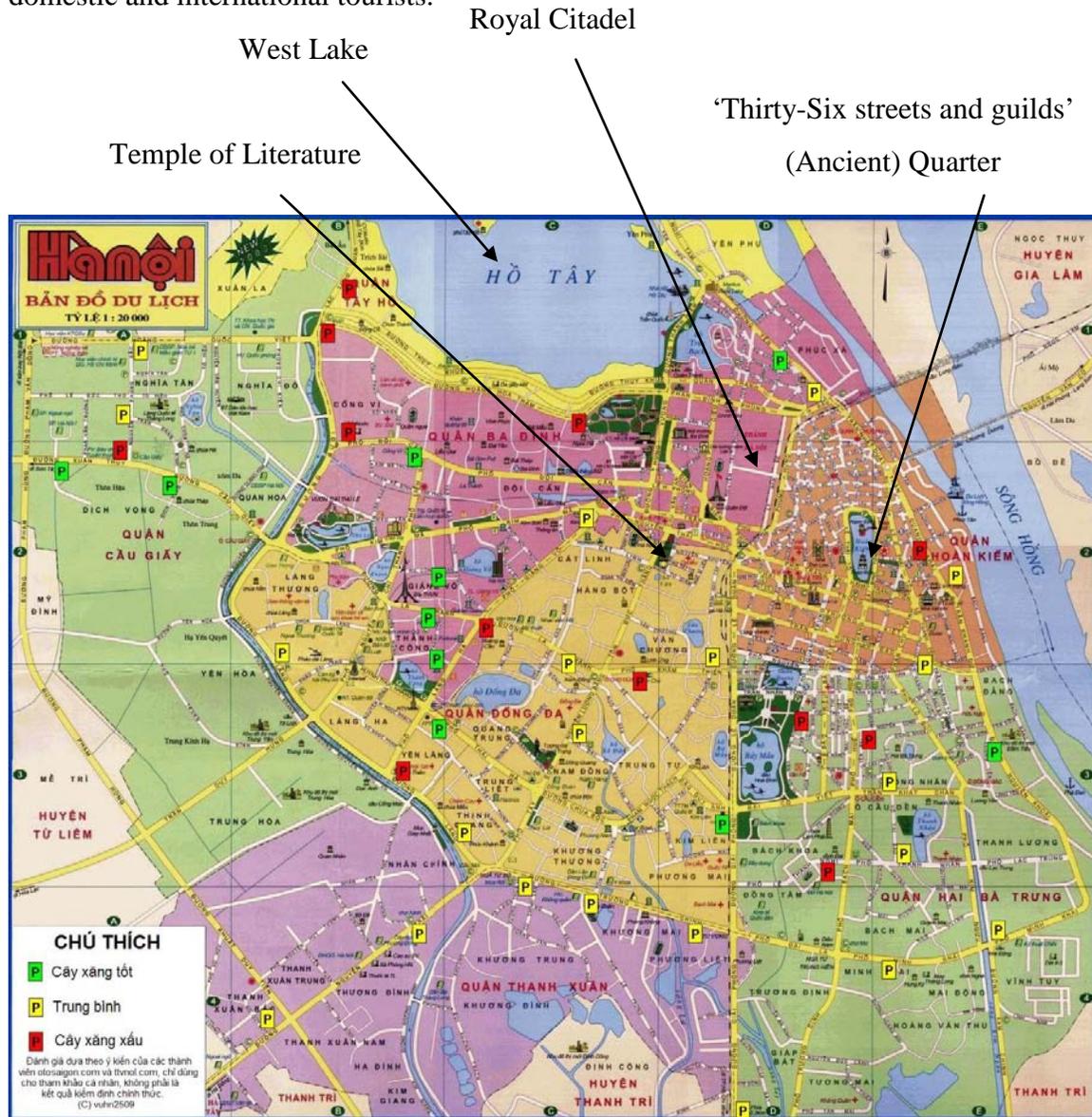


Figure 5.5. Current location of some distinguished feudal places

Source: Cartography Publishing House

5.2.2. The French Colonial Period (1873 - 1954)

An imperial agreement between the Nguyen dynasty and the French government, dated 15th March 1874, accorded a small territorial concession of twenty-five hectares (located near the present Opera House) to the French conquerors. There followed an increase in the population of Hanoi from 70,000 in 1918 to 130,000 in 1928 and reached 300,000 in 1942 (Ngo, 2008). According to Nguyen and Boudarel (2002) there were approximately 5,000 French out of a total of 150,000 Hanoi inhabitants in 1936. The area of Hanoi also increased from 9.5 square kilometres in 1904 to 130 square kilometres in 1942 (Ngo, 2008).

Before the French came, large areas of the city were paddy fields and agricultural land (see Figure 5.6). During the colonial period, the French built new buildings and reconstructed some parts of the city in an European manner with Western architecture, construction techniques and planning methods being applied to Hanoi. During that time many Vietnamese buildings were destroyed to make way for buildings intended for use by the French (for instance, the Bao Thien Pagoda (Chùa Bảo Thiên) was destroyed and St. Josephs Cathedral erected in its place). New urban structures were also established in this period. Streets were designed in a chessboard pattern with separate lanes for motor vehicles and sidewalks for pedestrians. An open space system was developed including French style squares, gardens, parks, lakes and buildings with larger proportions than traditional architecture.

During this Colonial Period, the French applied both pacification and colonial exploitation programs in parallel with construction and planning in Hanoi. In the first ten years, the French started to develop Hanoi as a political and military centre for the North

of Vietnam. Planning and construction activities were carried out by military engineers using a functional approach (Logan, 2000). In the Royal Citadel, palaces were destroyed to build army barracks and other military works. Except for the Flag Tower (Cột Cờ) (built in 1812) which was kept in order to serve military communication, many feudal architectural works were destroyed to build the military area of the colonial government. In later developments the French built trade and service shops in Trang Tien (Tràng Tiền) street, Hang Khay (Hàng Khay) street and Dong Xuan market (Chợ Đồng Xuân).

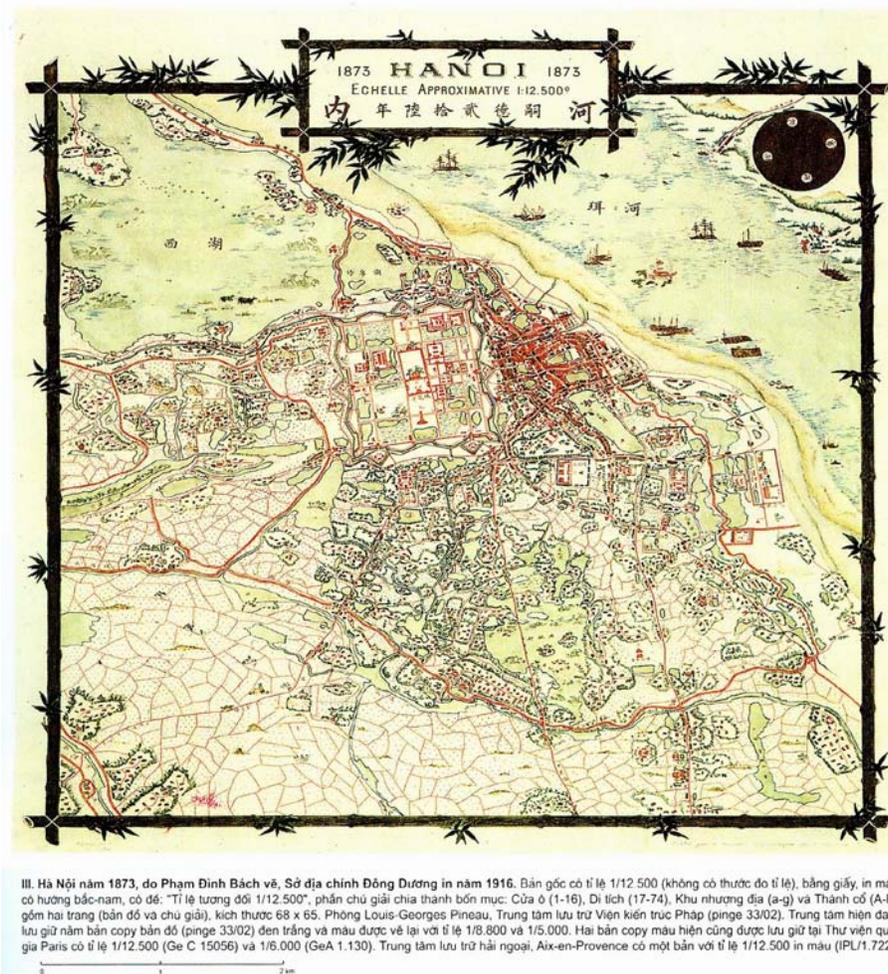


Figure 5.6. Hanoi in 1873

Source: Lancret (2005)

The first period of full colonial exploitation occurred from 1885 to 1920. After 1888, the French sought to construct and expand Hanoi in order to make it not only an administrative and political city of the North of Vietnam but also the capital of Indochina. Governors-general Paul Bert, Paulin Vial, De Lanessan and Paul Doumer started the planning, construction and expansion of Hanoi aimed at making it a “little Paris”. In the Hoan Kiem Lake area, the French destroyed many traditional cultural and architectural relics and built the French Quarter. The architectural characteristics of those initial administrative works were in the colonial architectural style and caused significant changes in the appearance of the central area. The French also renovated the “Thirty-Six guilds and streets” (Ancient) Quarter and the area around the Hoan Kiem Lake.

After consolidating governance of Indochina in 1900, the French built up its central authorities in Hanoi consistent with its intention of making it the Capital of Indochina. It was a period of great construction by the French in Hanoi. Hanoi expanded to the west from the Citadel and was gradually upgraded as it became the administrative and political nerve-centre of the French in Indochina. Construction in the southern area of the Hoan Kiem Lake was also expanded. The French also built important railways to link Hanoi with Hai Phong (Hải Phòng), Lao Cai (Lào Cai), Dong Dang (Đông Đăng) and Yunan (Yunnan) a province of China. Besides construction of transport, economic facilities and public works, the French also attended to house building.

The second period of colonial exploitation was from 1920 to 1945, a period of economic development in the colony. After 1920, modern planning principles were newly established and applied in Europe. The French government wanted to use its colonies for

the trialing of these emerging concepts. The French sought to manifest their civilisation and superiority through those trials and then to apply those lessons to urban planning in the mother country (Logan, 2000). The French applied modern European principles in planning to Hanoi's expansion. Colonial architectural and planning activity during this period was at a higher level than earlier periods. Construction and planning in Hanoi in this period were not only focused on individual buildings but also on master planning for the whole city. Spatial planning and urban zoning principles were applied. There were more new architectural styles than in the earlier periods and these new styles were a mix of Eastern and Western architecture. The Western style architecture applied in Hanoi was strongly influenced by both pure French and French provincial architectural principles. For example, the architecture of houses in the "Thirty-Six guilds and streets" Quarter was changed in this period and the houses' façades were influenced by the local architecture of Northern France (Research Institute on Architecture, 1999).

The specific characteristics of urban development in this period were as follows:

1. Areas for Europeans and indigenous people were separated;
2. Urban facilities mainly served Europeans;
3. Areas reserved for colonial officials were newly constructed and very attractive;
4. There was a rapid increase in urban population; and
5. Housing facilities were high on the list of priorities.

During the French Colonial Period, there was a significant change in the city's appearance from an Eastern to a Western style. The French also promulgated regulations and decrees of urban management and planning based on French laws of construction

and planning. These included the Decree on Urban Sanitation in 1928 (Sắc lệnh về vệ sinh đô thị) and the Decree on City's Planning and Expansion in 1930 (Sắc lệnh về quy hoạch mở rộng thành phố). Importantly, the Department of Architecture and Planning (Sở chuyên ngành về kiến trúc và quy hoạch) and the Indochinese Urban and Housing Council of Hanoi (Hội đồng đô thị và nhà ở Đông Dương tại Hà Nội) were established at this time. In 1927, the Faculty of Architecture in the Indochinese University of Fine Arts was established, aimed at training people to work in the architectural and planning fields.

Planning activities in Hanoi at that time were strongly influenced by famous French architects and urbanists such as Ernest Hébrard and Louis-Georges Pineau. Hébrard was an outstanding Beaux-Arts-trained urbanist who arrived in Hanoi in 1923. In Hanoi, Hébrard's influence was felt both in architectural and town planning terms (Logan, 2000). His urban planning achievements included the organisation of the Town Planning Service created by Governor – General Long. He prepared the first Master Plan for Hanoi in 1926 and introduced the concept of land-use zoning to Indochina in this Plan. Further planning included the project of the French architect Louis-Georges Pineau in 1943, which was developed from Hébrard's Plan. However, both of those plans were not executed because of a lack of finance and wars including the Second World War and the First Indochina War (also known as the French Indochina War).

In 1940, the Japanese took over Hanoi from the French for a period of less than five years. Whilst the Japanese claimed to pursue a policy of 'Asia is for Asian', they only focused on exploiting the country and allowed the Vichy French to administer Vietnam.

Thus, the Japanese did not exert any influence on the planning and buildings of Hanoi City.

Vietnam declared independence on 2nd September 1945, following the success of the August Revolution. However, French troops and administrators arrived back in Hanoi in June 1946 and arrangements made for a peaceful settlement between the Vietnamese and French. In the period from 1946 to 1954, the French did not execute any urban construction and planning in Hanoi. The French left Hanoi in May 1954 after their defeat at Dien Bien Phu (Điện Biên Phủ) and the subsequent 'Geneva Agreements'.

5.2.3. The Post Independence Period (1955 - 1985)

Hanoi became the capital city of the new Socialist Republic of Vietnam on 10th October 1954. In this period, construction and planning activities in Hanoi were carried out with the help and influence of countries of the Soviet bloc. Hanoi adopted the Soviet style planning approach where urban planning requirements were determined within the framework of an overall national five-year planning programme. The five-year plans for Hanoi in this period were:

(i) The first five years of the post independence was a period of reconstruction. Hanoi was planned to expand in area from 1,200 hectares in 1954 to 2,000 hectares by 1960. It manifested the pre-eminence of the new communist regime. In the five years from 1956 to 1960, one-floor tenement houses in areas such as An Duong (An Dương), Phuc Xa (Phúc Xá), Mai Huong (Mai Hương) and Dai La (Đại La) and two two-floor residential areas were also constructed (see Figure 5.7). In 1961, Hanoi covered an area of 586 square kilometres with the population of 910,000 (Phu Tho and Manh Hung, 2008);

(ii) In the next five years from 1961 to 1965, there was a concentration on featuring housing construction with the further building of the tenement houses, Kim Lien (Kim Liên), the first prefabricated house in Hanoi and also Nguyen Cong Tru (Nguyễn Công Trứ) (see Figure 5.7). In order to meet the demand for administrative, management, cultural, educational, health and other activities, many administrative offices, public buildings and schools were built. Hanoi Technical University was one of those works which was started in 1961 and completed in 1965 (see Figure 5.8). The industrial architecture of Hanoi changed rapidly with the building of ten large enterprises and factories. The Thuong Dinh (Thượng Đình) industrial area which included light industrial factories for rubber, soap, cigarette and tools manufacture was a large industrial zone having various architectural styles. The Vinh Tuy (Vĩnh Tuy), Thanh Tri (Thanh Trì) and Minh Khai (Minh Khai) industrial areas were also constructed in the south of the city. The Chem (Chèm) industrial area was located in the north west of the city and the Cau Duong (Cầu Đuống), Yen Vien (Yên Viên) and Dong Anh (Đông Anh) industrial areas were located in the north east of the city (see Figure 5.8). Besides housing and industrial building, the city government also carried out the renovation and renewal of public welfare works such as cultural houses and public parks, in order to manifest the superiority of the new socialist regime. Two important works were the Thong Nhat Park (Công viên Thống Nhất) and the Thanh Nien Park Road (Công viên Đường Thanh Niên) (see Figure 5.7).

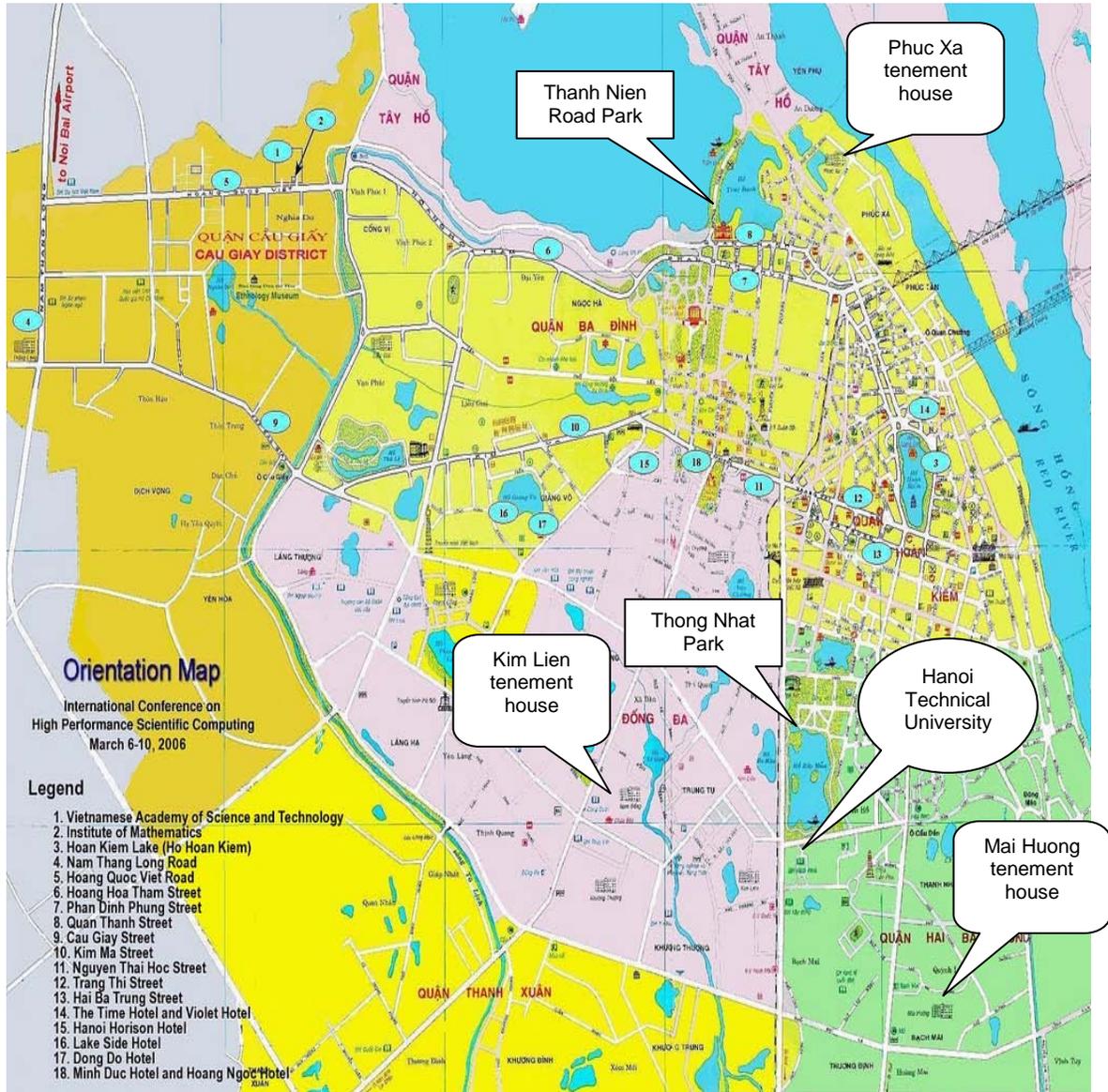


Figure 5.7. Location of major elements built in the Post Independence period

Source: Google Image

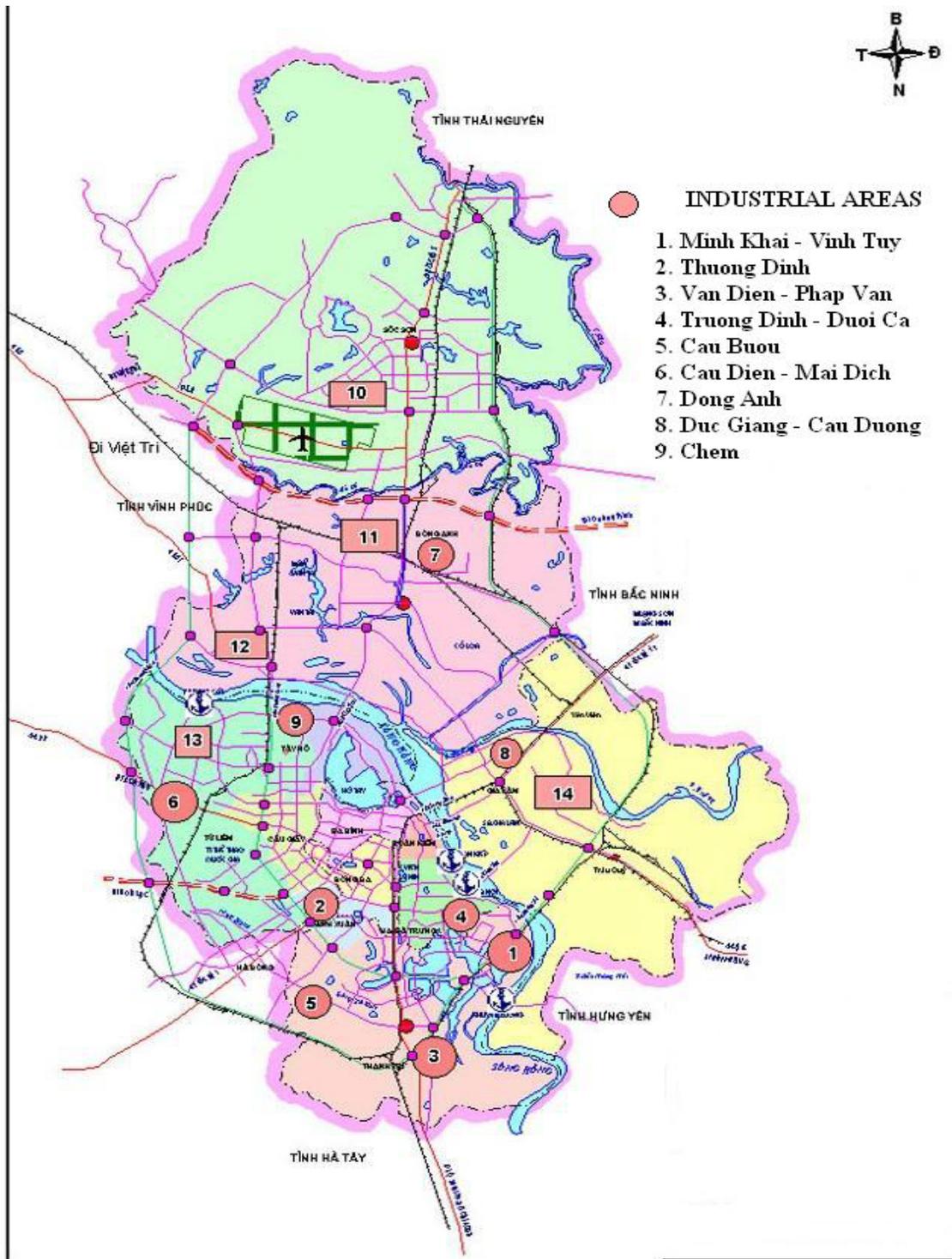


Figure 5.8. Location of Industrial Areas in the Post Independence Period

Source: Cartography Publishing House. English copy developed by Lien Nguyen, 2008

(iii) the third five-year plan (1966 to 1975) was a period of some difficulty in urban construction in Hanoi because the American War expanded to the north and in the first half of this period, urban construction was totally interrupted. There was a proposed project for the enlargement of Hanoi to Vinh Yen (Vĩnh Yên), a township of Vinh Phuc (Vĩnh Phúc) province which is located approximately sixty kilometres to the north of Hanoi. However, this plan was not implemented. Vietnam was unified in 1976 and since then urban construction in Hanoi, the capital city of the Socialist Republic of Vietnam, has increased and achieved a range of development outcomes.

5.2.4. The Contemporary Period (1986 to present)

This was a period of rapid urbanisation in Hanoi. The “Open Policy”, launched by the Sixth Party Congress in 1986, was an important motivation for urban development in Hanoi. Vietnam began to open up to Western thinking and construction and planning in Hanoi was now influenced by Western models rather than the previous French and Russian models. Consistent with the expansion of the urban area, housing construction increased with over 100,000 square metres of new housing being achieved annually. Living conditions for some groups of the city’s residents were subsequently improved. The urban development process during this period was marked by many architectural works which served the requirements of urban life and contributed to the diversification of the city’s urban architecture. Among these were administrative and cultural works and renovation of market buildings.

After this comprehensive renovation program there was a change of planning activities. In the earlier periods, investment in planning was based totally on national capital funding. In this latter period, investment in planning was increased but now relied on

capital from outside the national budget such as foreign aid and the contribution of private finance.

A Master Plan Hanoi 2010, which was approved by the Prime Minister in Decision No. 132/CT on 18th April 1992, was the first city planning activity following this change. According to this Plan, Hanoi was to be developed mainly on the south side of the Red River. The Hoan Kiem Lake, the West Lake and Ba Dinh (Ba Dinh) areas were the central areas of the city. The Plan also specified urbanisation areas and the preservation of the Ancient and Old Quarters. Urban architectural works were required to be located along radial axes and ring roads. Hanoi in 2010 was planned for a population of 1.5 to 1.7 million occupying an area of 8,000 to 9,000 hectares and an average of fifty square meters per person. However, *A Master Plan Hanoi 2010* did not keep pace with the rapid urbanisation during the last decade and by 1996, the population in the inner city was already 1.3 million and Hanoi has become an overpopulated city with a population of 3,267,000 by July 2006 and occupying a total area of 921 square kilometres (DoNREH, 2006). The city comprises nine urban districts (Ba Dinh, Hoan Kiem, Dong Da, Hai Ba Trung, Thanh Xuan, Tay Ho, Cau Giay, Long Bien and Hoang Mai) and five suburban districts (Soc Son, Dong Anh, Gia Lam, Tu Liem and Thanh Tri). Location of these districts is shown in Figure 5.9.

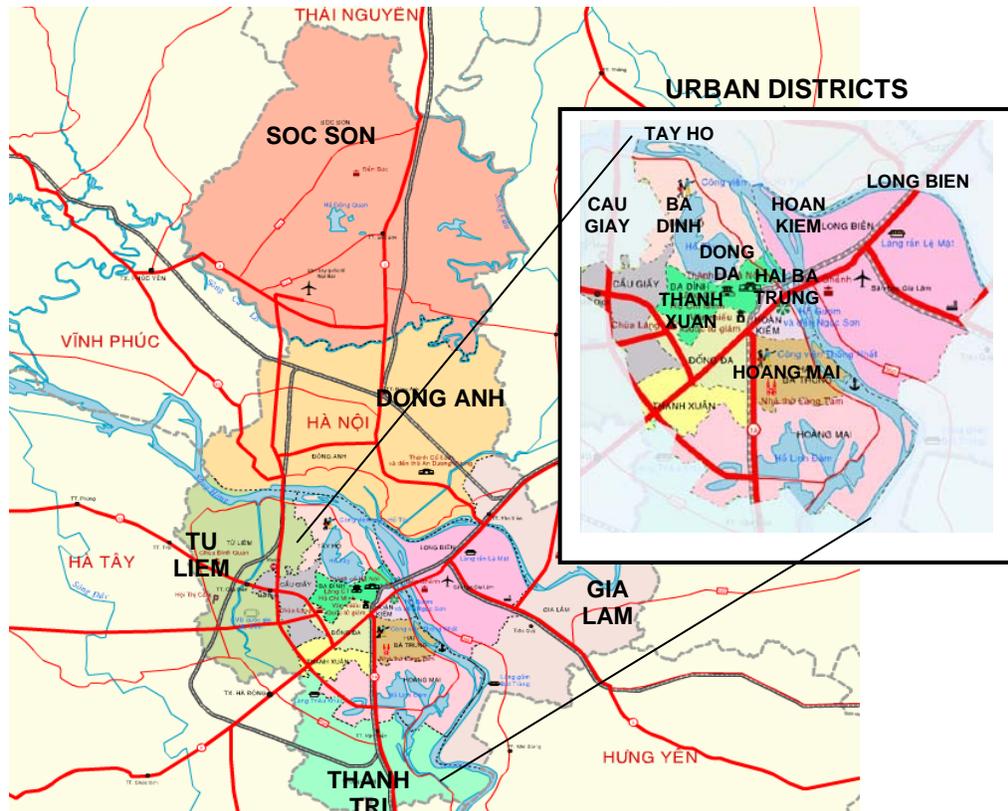


Figure 5.9. Administrative Map of Hanoi City

Source: Vietnam National Administration of Tourism (2008)

Consequently, the Plan was adjusted with a vision of the Hanoi region to 2020 and *A Master Plan Hanoi 2020* was subsequently approved by the Prime Minister on 20th June 1998 in Decision No. 108/1998/QĐ-TTg. The major change in *A Master Plan Hanoi 2020* was that Hanoi was developed on both sides of the Red River (discussed in detail in Section 5.3.4). According to that Plan, the Hanoi region including the central city, would be the nucleus of the urban spatial development. This was to include major economic and technical enterprises which would be concentrated to aid the development of the capital's region, northern Vietnam and the whole country. Besides the central city, there would be satellite urban centres in the west such as Mieu Mon (Miếu Môn), Xuan

Mai (Xuân Mai), Hoa Lac (Hoà Lạc) and Phuc Yen (Phúc Yên). This proposed 2020 urban spatial plan for the region centred on Hanoi is illustrated in Figure 5.10.

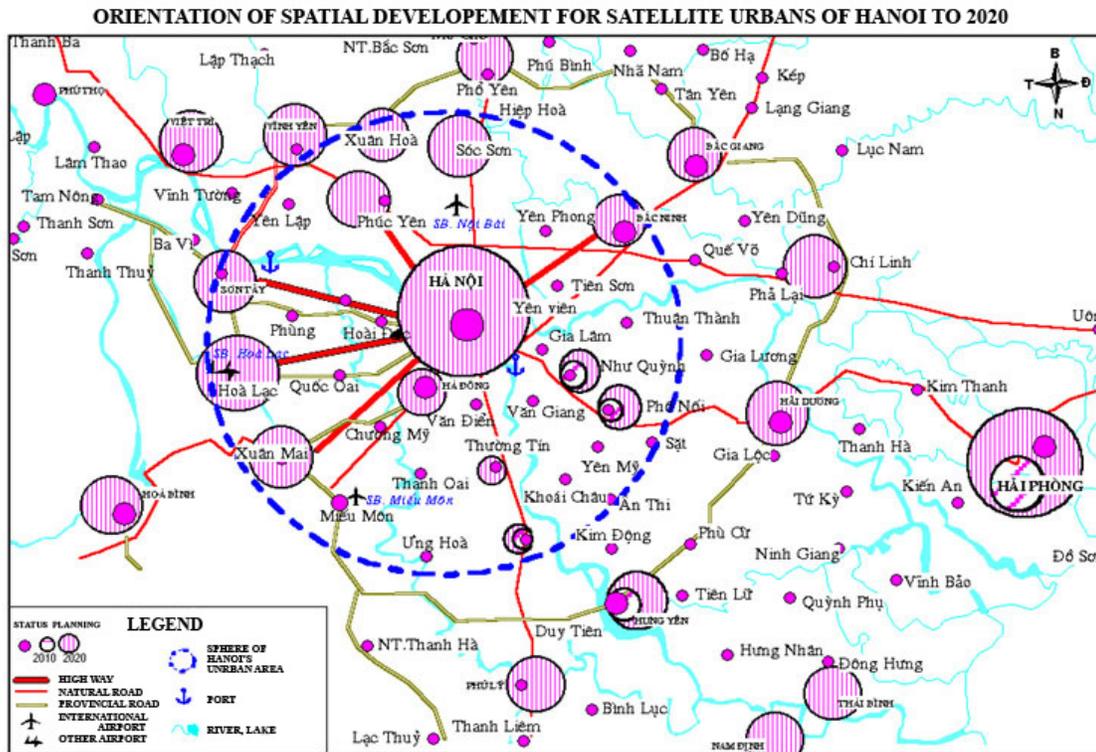


Figure 5.10. Planning for Satellite Urban Centres of Hanoi to 2020

Source: Cartography Publishing House. English copy developed by Lien Nguyen, 2005

Planning for the Hanoi region was to cover an area of 7,860 square kilometres with a population of 4.5 million in the year of 2020 (Pham et al., 1996). However, like the previous master plan, *A Master Plan Hanoi 2020* did not keep pace with the rapid population growth of the city.

Recently, the Twelfth Party Congress approved ‘The Resolution of the Enlargement of Hanoi Capital City’ (‘Nghị quyết mở rộng địa giới thủ đô Hà Nội’) on 29th May 2008 followed the planning for satellite urban centres of Hanoi to 2020. According to this resolution, Ha Tay (Hà Tây) province, Me Linh suburban district of Vinh Phuc province,

and Yen Binh (Yên Bình), Yen Trung (Yên Trung), Tien Xuan (Tiền Xuân) and Dong Xuan (Đông Xuân) communes of Luong Son (Lương Sơn) suburban district of Hoa Binh (Hòa Bình) province were incorporated into Hanoi (see Figure 5.11). According to this enlargement, Hanoi has a total area of 3,300 square kilometres and a total population of 6,232,000. This resolution became effective from 1st August 2008.

The fact is that in 1998, Hanoi was planned for a population of 4.5 million on 7,860 square kilometres by 2020 but its population was more than 6 million on about half this area in 2008. Hanoi faces significant challenges in managing this rapid population growth which is further compounded by the likelihood of continued significant growth across the entire area of the redesignated city. This would result in increasing pressures on the urban environment and the creation of numerous problems such as a lack of access to clean water, accumulating garbage and deficiencies in open space.

It is obvious that these two recent master planning exercises for Hanoi have not been realistic or well developed and implemented to account for this. They all become inconcorrespondent with the rapid urbanisation in about ten years before the target year.



Figure 5.11. Enlargement Hanoi (after 1st August 2008)

Source: Chi Tung (2008)

Throughout its long history, Hanoi has experienced significant change in its size, population and city appearance. The following figures show the changes in the city's area (see Figure 5.12) and population (see Figure 5.13) through these different historical periods. These figures show a major increase in the city's area and a corresponding significant increase in the city's population during those periods, except a drop in the population in the 1800s due to the transfer of the capital from Hanoi to Hue. Both figures indicate a continuing upwards trend which highlights the current and future urban planning challenges facing the city and national governments.

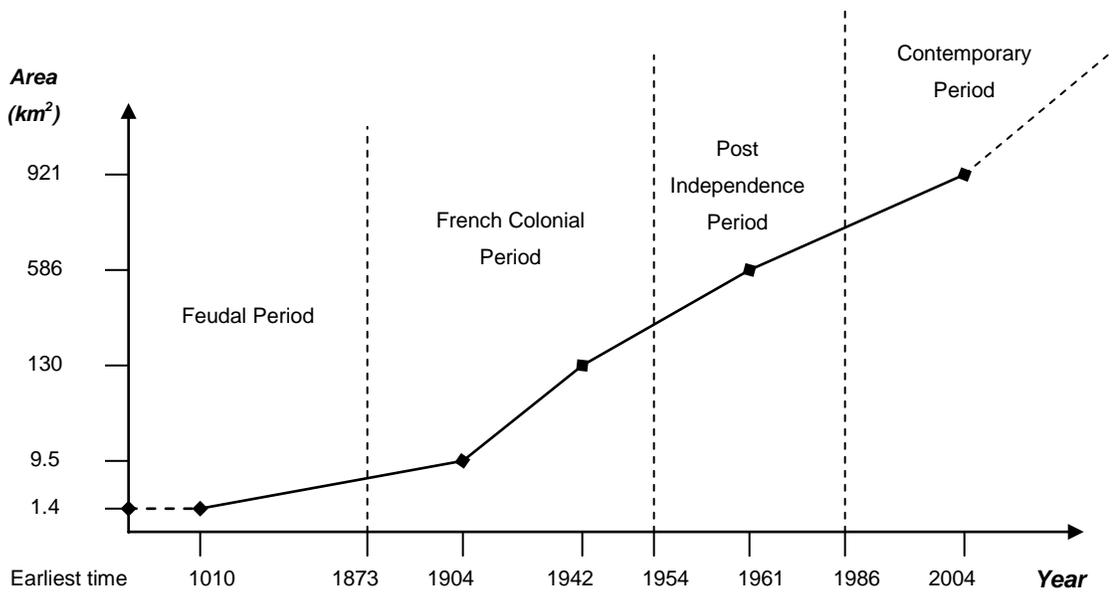


Figure 5.12. Change in the city's area during different periods

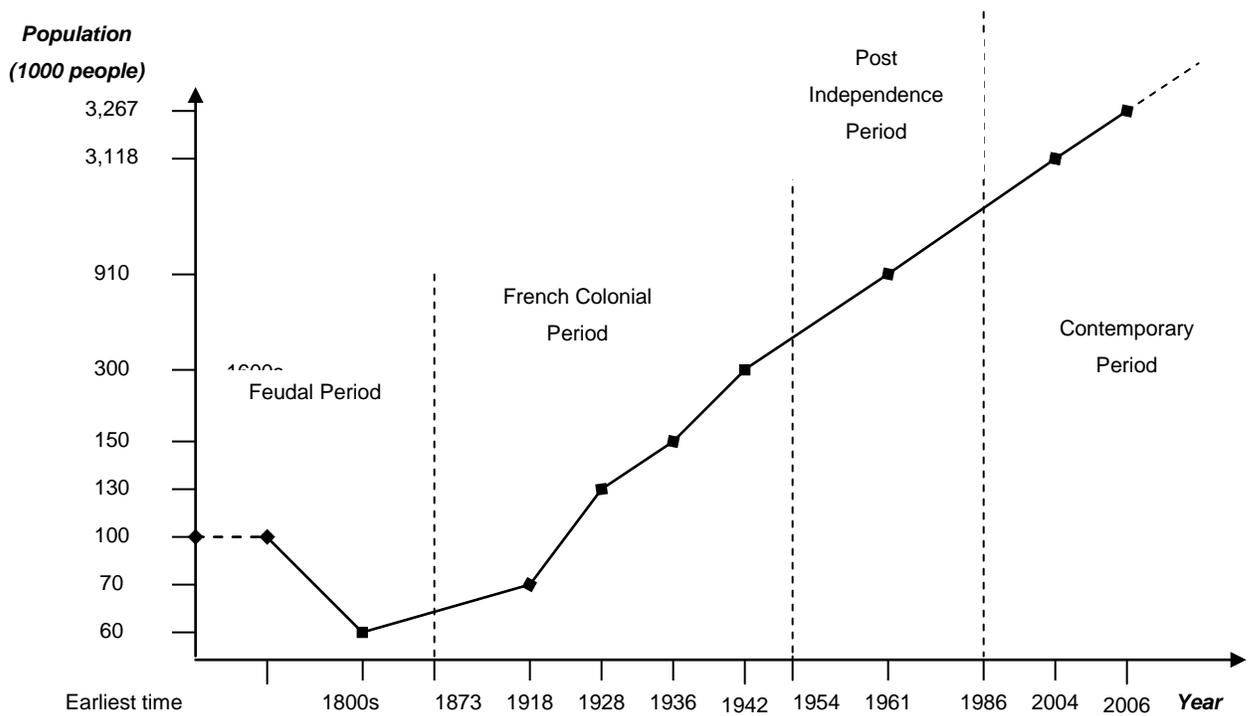


Figure 5.13. Change in the city's population during different periods

5.3. History of City Planning and Provision of Open Space

5.3.1. The Feudal Period (before 1873)

Vietnamese culture has been influenced by Chinese culture for thousands years. Especially, in the Feudal Period, both architecture and planning for Hanoi followed Chinese geomancy and *feng-shui* principles (Research Institute on Architecture, 1999; Logan, 2000; Nguyen and Boudarel, 2002). According to those principles, green and water space are the two important features of the urban environment. It was thought that green space helped to make a place more attractive and brought people closer to nature. Water was an important factor when choosing a place for living or doing business as a place which has a water area (rivers, lakes, ponds) in the front was seen as a good site for luck, happiness and prosperity. People often created artificial lakes or wells in front of an area which did not have a natural water area in order to make it a preferred site.

In the Feudal Period, Vietnamese people in general and Hanoians in particular often lived communally. Relationships were based on kinship which was derived from both traditional ethnicity and also occupations. Community activities were various with many festivals throughout the year. Those activities often took place in areas which were attractive sites such as the banks of the Red River, West Lake, Hoan Kiem Lake, in front of the Citadel gates and also in religious areas such as communal houses or temples.

A review of a map of Hanoi in feudal times indicates that the majority of the city's area was agricultural land and water areas and these were the main types of open and public spaces at that time. While agricultural land was productive space, water areas were spaces for sightseeing and amusement. However, in terms of the present concept of open space, there were three other types of spaces which can also be viewed as open space in

the Feudal Period. Those spaces were communal houses, outdoor markets and streets. Although they were not considered as open space at that time, they still played very important roles in the daily life of Hanoians. While communal houses were places for religious and community activities, outdoor markets and streets were not only merchant spaces but also communication areas. The following discussion will clarify these contentions.

As noted, in feudal times, open space in Hanoi included:

(1) Agricultural Land

Hanoi is located in the Red River delta and agriculture has been the main economic activity of Hanoi since the Feudal Period. Paddy fields and agricultural land were scattered throughout the city. Major crops were rice, vegetables, medicinal plants and flowers. Agricultural activities and a communal lifestyle were formed around agricultural villages. These agricultural villages were not separate from the city but were component parts of the city. In the Feudal Period, there were many well-known agricultural villages such as Lang (Láng), Ngoc Ha (Ngọc Hà), Nghi Tam (Nghi Tàm) or Nhat Tan (Nhật Tân).

Agricultural villages like the “Thirty-Six streets and guilds” Quarter were important colourful examples of community life in Hanoi at that time. However, in feudal times, people only focused on the productive function of paddy fields and agricultural land, which helped to supply products for people and created jobs (see Figure 5.14). From the present point of view, agricultural land is a valuable type of open space which performs a productive function.



Figure 5.14. Rice sowing

Source: HHVN Community

(2) Water Areas

In the Vietnamese language, the meaning of the word “đất nước” (country) is the combination of two words “đất” (land) and “nước” (water). Thus language highlights the importance of the “water” factor. Land and water come together, through lakes (which reflect the sky) and lead to the harmony of heaven and earth with human beings (de Loddis, 2005). In the past, Hanoi had many rivers, marshes, canals and large lakes and the most famous places were the Red River, the Dam Dam Lake (hồ Dâm Đàm) – the former name of the West Lake (see Figure 5.15), the Lục Thủy Lake (hồ Lục Thủy) – the former name of the Hoan Kiem Lake (see Figure 5.16) and the Thai Ho Lake (hồ Thái Hồ).

In the Feudal Period, rivers, lakes and ponds were pleasant sites for sightseeing, the amusement of Kings and mandarins and were seen as good sites according to *feng-*

shui principles. This explains why Kings built many palaces and temples around these sites. In the eleventh and twelfth centuries, the Ly Kings built four palaces along the banks of the Red River which were also places for Kings to watch boat races. The Ly Tran Kings also built many palaces or royal stop-over houses around West Lake to watch fishing or boating. Areas around Hoan Kiem Lake were chosen by the Ly Tran Kings to build victory monuments. The Thai Ho lake area became a school district with the famous Temple of Literature in the time of the Ly dynasty. All of these were places of harmony, sought after for relaxation by the royal family and nobles (Research Institute on Architecture, 1999). Many important religious, educational and cultural buildings were built near water areas such as the Tran Quoc Pagoda (chùa Trấn Quốc) on the edge of the West Lake, the Ngoc Son Temple (Đền Ngọc Sơn) situated on an island in the Hoan Kiem Lake or Van Mieu adjacent to the Thai Ho Lake.



Figure 5.15. Dam Dam Lake (the former name of the West Lake)

Source: HHVN Community



Figure 5.16. Luc Thuy Lake (the former name of Hoan Kiem Lake)

Source: HHVN Community

(3) Communal House

Whilst a communal house by strict definition is not open space, it served many of the main functions of our contemporary understanding of open space. The communal house first appeared during the fifteenth century (Research Institute on Architecture, 1999). It was the biggest architectural entity in the village and was often located close to a landing on a river or a lake or near a busy crossroads. Scenes from daily life such as work, festivals and village activities were represented by decorative designs on the communal houses. Each hamlet had its own temple and communal house.

The communal house was a place of worship or for housing the God of the village. Each village chose its own protecting God, who may be the founder of the village or guild, a legendary or real hero (Research Institute on Architecture, 1999). The God looks after the destiny of the village and has a great influence on the lives of each of the inhabitants. The communal house was also the centre of the village's community life. It was the

gathering place where villagers discussed affairs and concerns such as customs, the division of rice fields and the rights and obligations of the villagers. The communal house was also where ceremonies and traditional festivities took place. Popular activities were ceremonies marking the planting and harvesting of rice, performances of popular operas, dance and music, or the staging of games of ability, strength and intelligence (Research Institute on Architecture, 1999).

Through those activities the communal house helped strengthen the links and communication between members of the community. Therefore, the communal house is now recognised as (performing) open space (functions) for religious and community activities in Hanoi during the Feudal Period. Unfortunately, nowadays many communal houses (e.g. Tuu Liet communal house) are not well preserved and maintained (see Figure 5.17).



Figure 5.17. Tuu Liet (Tự Liệt) Communal House

(Photo taken on 16/06/2006)

(4) Outdoor Market

In the Feudal Period, Hanoi was referred to as Ke Cho (Kẻ Chợ) which means a huge market area. Merchant activities in Hanoi were thriving with a network of markets, ferry terminals and streets. There were many markets located in front of the city gates or along riversides as well as many small and mobile markets (chợ “cóc”).

However, for Hanoians, outdoor markets were not only merchant places but also places for community communication (see Figure 5.18). People went to the markets for economic reasons and cultural exchanges but also for simple social contact and communications with each other. Markets also were places to post important notices and announcements, hold trials and display heads of criminals (Nguyen, T. S., 2005).



Figure 5.18. A typical Outdoor Market towards the end of the Feudal Period

Source: HHVN Community

These spaces were the equivalent of formal squares and had Vietnamese cultural and communal characteristics. Later, some of those spaces were developed to become Western style squares when there was formal urban planning in Hanoi, e.g. Dong Xuan market (see Figure 5.19).



Figure 5.19. Dong Xuan (Đông Xuân) Market

Source: HHVN Community

(5) Street in Hanoi – An Eastern style Open Space

A street in Hanoi like other Asian cities does not have the same meaning as in Western cities – i.e. a simple passageway (Research Institute on Architecture, 1999). The Vietnamese street has not only a traffic function but also has commercial, communication and leisure functions. Various daily activities of people take place in the street such as trade, meetings, food preparation, ablutions, leisure and rest (Research Institute on Architecture, 1999; Dam, 2003).

A “sidewalk” life style was a special characteristic of traditional Hanoi. In the past, “sidewalk life” was recognised in the merchant area called the “Thirty-Six guilds and streets” Quarter. Each guild, the equivalent of a village in a rural area, was a place where people of the same craft lived and worked. The creation of guild communities strongly influenced the architecture of the quarter. This influence is still evident in the large number of long houses with narrow facades, called ‘shop-house’ or ‘Chinese compartment’ or ‘tube house’. Here, the room facing the street is used as a workspace

and shop where products are made and sold (Research Institute on Architecture, 1999; Logan, 2000). The width of these houses can be either one room with exceptional example of three rooms or rarely five rooms depending on the wealth and status of the owner, while their depth was often sixty metres or more (Logan, 2000).

People living in such long ‘tube houses’ communicated with the outside via the houses’ façades and the street. People ate, drank, sat and communicated on the sidewalk and joined in the atmosphere of the streets all of which contributed to the liveability of streets. Street can be recognised as a specific type of open space in Hanoi and different from Western cities.

Today, there are still traces of this arrangement in the names of the streets, which indicate the merchandise (Hàng) made and sold in each hamlet. For example, Hang Duong (Hàng Đường) or Sugar Street, Hang Tre or Bamboo Street, Hang Trong (Hàng Trống) or Drums Street and Hang Quat (Hàng Quạt) or Fan Street (see Figure 5.20).



Figure 5.20. Hang Quat (Hàng Quạt) street

Source: HHVN Community

5.3.2. The French Colonial Period (1873 - 1954)

In the French Colonial Period, Hanoi was developed to take the role of the political capital of the French Indochinese Union. Planning for Hanoi reflected ideas current in metropolitan France or adopted in other French colonies as opposed to reflecting Hanoi's specific and unique characteristics. These ideas formed the attitudes of the colonial authorities and the architects, town planners, engineers and builders who worked for them (Logan, 2000). A formal urban planning approach was first introduced and applied in Hanoi for administrative and political purposes.

In this period, two planning projects for Hanoi were prepared by two French architects, Hébrard and Pineau. Hébrard was the first architect who between 1924 and 1926 designed the expansion of and planning for Hanoi (see Figure 5.21). According to Hébrard's Plan, the city was divided into four functional areas: (a) an administrative and political centre; (b) an industrial area; (c) a living area; and (d) a greenbelt of parks and sporting facilities. The West Lake area was planned to become a park – vegetation area for relaxation and amusement activities, while the sport centre was located in Cau Giay – Nghia Do (Cầu Giấy - Nghĩa Đô) area (Tran & Nguyen, 2004). According to Hébrard's project, Hanoi was planned to expand towards the West Lake area. A large park was planned to link the areas in the south of West Lake with the Quang Ba (Quảng Bá) peninsula and Nhat Tan. The administrative and political areas and the French villas were constructed according to the new European planning approach called the 'Garden City' concept, even though this led to some parts of the Ancient Thang Long citadel being destroyed. This style of mixed living and working areas in the urban architecture of the Ba Dinh villas quarter could be an example for future urban areas in the twenty

first century. Early French initiatives reflected many contemporary elements of sustainable communities such as compact and mixed use of land.

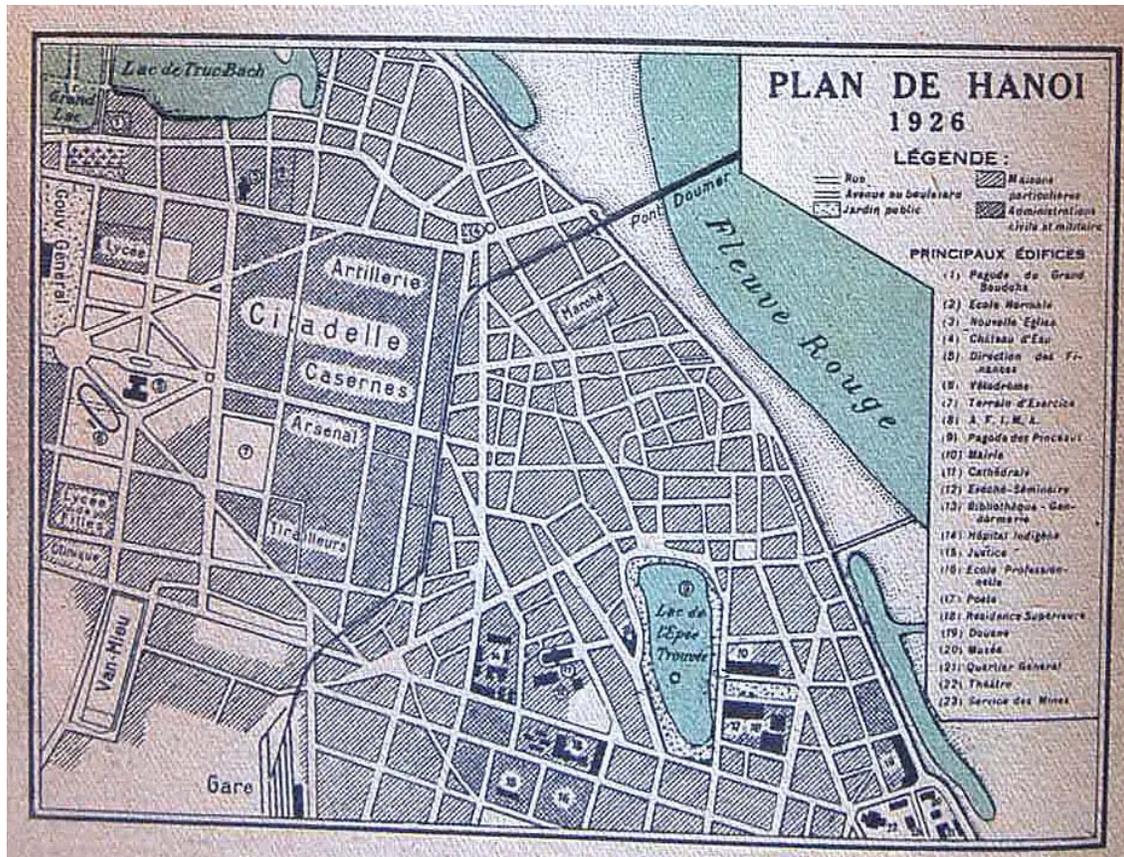
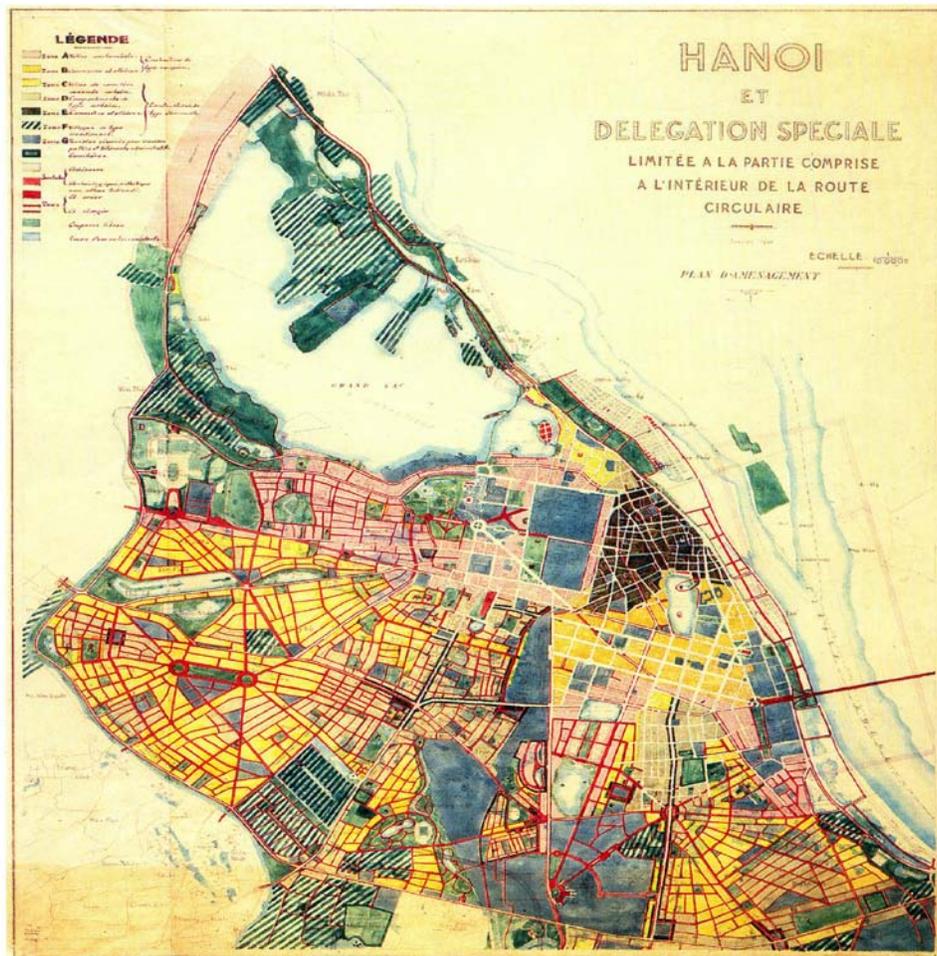


Figure 5.21. The first formal urban planning for Hanoi in 1926

Source: Nguyen (2005)

Another early planning initiative for Hanoi was that of the French Architect G.Pineau in 1943 (see Figure 5.22). In this project, beside incorporating Hébrard's ideas, star squares (squares with a star configuration of roads leading to other feature areas) along the French style were added which would help to develop the foundation of urban architecture of Hanoi.



XIII. Hà Nội. Sơ đồ quy hoạch lập tháng 1/1943 dưới sự chỉ đạo của Louis-Georges Pineau (phó giám đốc Sở kiến trúc và đô thị). Bản gốc có tỉ lệ 1/10.000 (có thước đo tỉ lệ), bằng giấy, in màu, không có hương [bác], có đề: "Hà Nội, giới hạn ở phía trong đường vành đai, tháng 1/1943. Sơ đồ quy hoạch". Phần chu giới chia thành bảy khu quy hoạch khác biệt nhau: hai khu đầu là biệt thự dành cho một gia đình và cửa hàng, xây kiểu Pháp; bốn khu sau là biệt thự kiểu Việt Nam ở thành phố, nhà ống ở thành phố, cửa hàng; nhà nông thôn truyền thống; phần sau cùng là đất dành cho công trình công cộng và cơ quan hành chính. Sơ đồ cũng nêu rõ các dịch vụ, đường cần mở hoặc mở rộng, khu vực công cộng, ao hồ hiện hữu, kích thước 90 x 59 cm. Phòng Louis-Georges Pineau, Trung tâm lưu trữ, Viện kiến trúc Pháp, Paris (pige 33/02).

Figure 5.22. Planning for Hanoi in 1943

Source: Lancret (2005)

Unfortunately, those projects were not executed due to financial reasons and the war. However, works constructed by the French in the late nineteenth century and early twentieth century had strongly influenced the urban planning and architecture of Hanoi. Through those planning and construction activities, an open space system was designed based on modern Western planning principles. Lakes were still special open space

components and furthermore, formal parks and Western style squares were introduced as new types of open space.

Those open space areas spread from the Hoan Kiem Lake in the city centre to the Bank square in the east, Hang Bai (Hàng Bài) and Ba Trieu (Bà Triệu) in the south, and Ba Dinh square and Botanic Garden (Vườn Bách Thảo) in the west. At that time, those elements were realised to be critical features of the urban landscape and helped to improve the environmental condition of Hanoi City. This aspect is discussed in more detail below.

(1) Water Areas

Upon their arrival, the French found that there was no natural drainage system in Hanoi, especially in the area around the Hoan Kiem Lake, other than the To Lich River which was partially converted into a canal. The hygienic environmental conditions in Hanoi at that time were very poor. A major concern of the French was the improvement of the environment for health and aesthetic reasons (Logan, 2000). The French executed a program of draining and filling the hundreds of swamps and ponds in and around Hanoi. By doing so, the Hoan Kiem Lake was cut off from the To Lich River and Truc Bach Lake. Although this program helped to improve the living environment and human physical health, it destroyed the natural landscape.

However, during their time in Hanoi, the French contributed through planning to make lake areas and their surrounding landscapes attractive. They built promenades and planted trees surrounding Hoan Kiem Lake (see Figure 5.23). The water surface was used for boating and sightseeing and areas surrounding lakes were made places for relaxation and amusement. Areas surrounding the West Lake were planned to be a park

– areas of vegetation and a green belt of parks and sporting facilities was proposed, stretching up to and around the northern end of this lake (Logan, 2000).



Figure 5.23. Promenade surround Hoan Kiem Lake

Source: Hanoi Gallery

(2) Park and Green Space

The French were influenced by the English concept of the ‘Garden City’ which was reflected in the French Quarter where villas had attached private gardens. The French paid special attention to green space while planning for Hanoi and from 1886, they built promenades and planted trees around the Hoan Kiem Lake. When they opened and built new roads, they built wide sidewalks and grew shade trees along the roadsides. This new French style of planned tree lines and parks created a major change in the city’s appearance.

In this period, the French were trying to complete the construction of administrative and political centres in the east of the Hoan Kiem Lake. They built the first large formal park, Paul Bert park (see Figure 5.24), in Hanoi between 1886 and 1888. The Paul Bert

park axis was the main axis and perpendicular to the Hoan Kiem Lake. This arrangement facilitated ventilation by a trees system and also linked the centre with an open space system including vegetation and promenades in the Hoan Kiem Lake area. This park was associated with surrounding works such as the City Hall (Tòa Đôc Lý) (B1 in Figure 5.27), the Residents Superior Palace (Tòa Thống sứ) (B7 in Figure 5.27), the Treasury Building (Kho Bạc) (B8 in Figure 5.27), the Post Office (Bưu điện) (B2 in Figure 5.27) and the Indochinese Bank (Ngân hàng Đông Dương) (B6 in Figure 5.27) forming the overall structure for the central area. This area was designed and built based completely on the French architectural and planning style. Later, other large parks were built including the ‘Toad’ Park (Vườn hoa ‘con cóc’) (see Figure 5.25) and the Botanic Garden (see Figure 5.26).



Figure 5.24. Paul Bert Park

Source: HHVN Community



Figure 5.25. 'Toad' Park

Source: HHVN Community

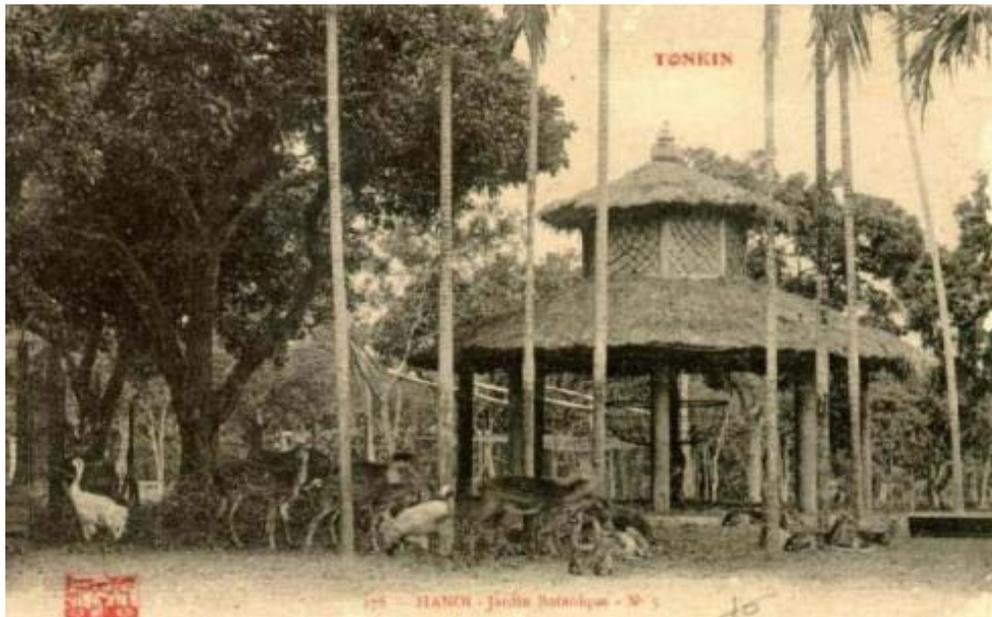


Figure 5.26. Botanic Garden

Source: HHVN Community

These parks were not only important formal open spaces but also important in providing identity and a backbone for city expansion and planning based on the symmetric principle in vogue in France at that time. The Hoan Kiem Lake was in the centre, the Paul Bert Park was in the east, the ‘Toad’ Park was in the south and the Botanic Garden was in the west of the city. The Botanic Garden in the west was a prominent point of Hébrard’s Plan while the West Lake area was planned for relaxation and amusement activities with a system of vegetation and parks. The locations of these elements are displayed in Figure 5.27.

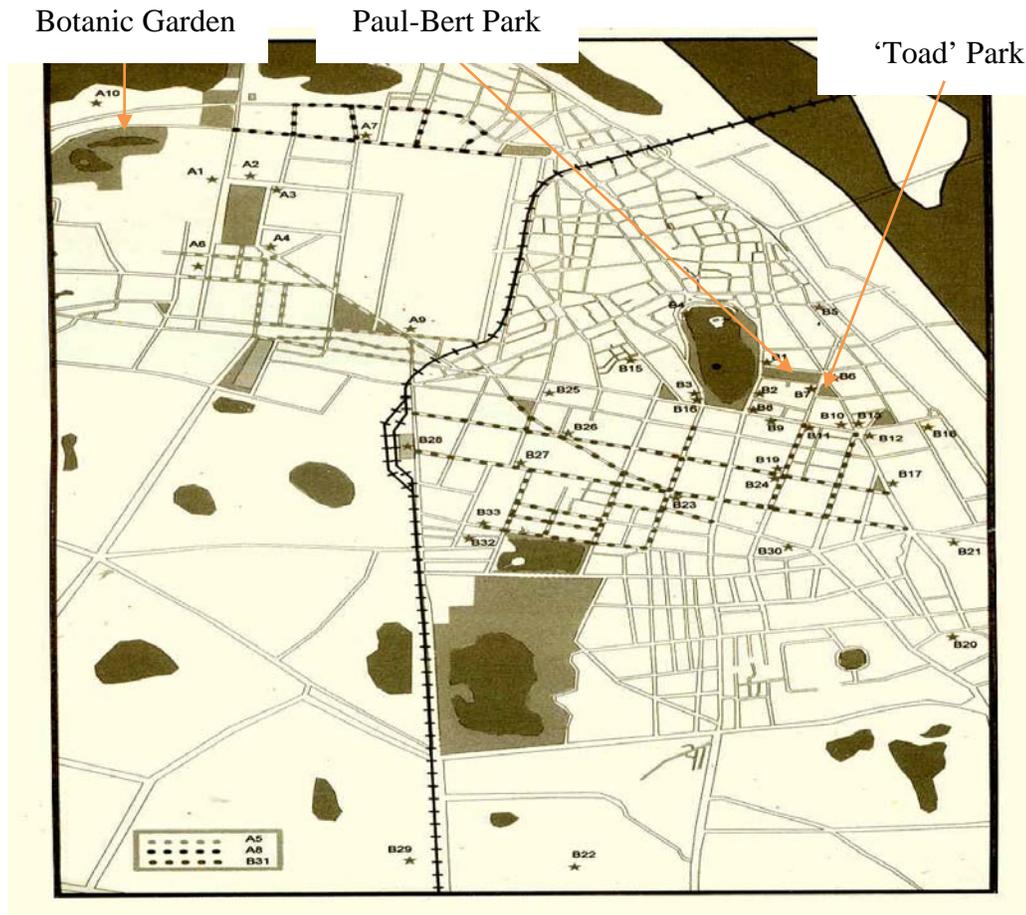


Figure 5.27. Location of major elements built in the French Colonial Period

Source: Research Institute on Architecture (1999)

Legend of Figure 5.27

Some buildings in the colonial quarters	
Name of building (Actual function)	Architect and construction date
Ba Dinh Quarter	
A1 Palace of the Governor General (Presidential Palace)	Auguste-Henri Vildieu, 1901 - 1906
A2 Lycée Albert Sarraut - high school (Office of center communist party)	1919
A3 Cercle sportif Français (Ba Dinh Sports club)	Jacques Lagisquet, 1930
A4 Finance Department (Ministry of Foreign Affairs)	Ernest Hébrard, 1931
A5 Villas (nowadays many embassies)	
A6 Convent's chapel	
A7 Cua Bac church	Ernest Hébrard, 1932
A8 Villas	1900-1930
A9 Marine's sports club (Sports Department)	
A10 Lycée du Protectorat (Chu Van An high school)	1908
Hoan Kiem Quarter	
<i>Around the Returned Sword Lake</i>	
B1 City hall	Auguste-Henri Vildieu, 1897 - 1906
B2 Chamber of commerce and agriculture (International Post Office)	Henri Cerutti-Maori
B3 Head office of "L'Avenir du Tonkin" newspaper (Head office of Ha Noi Moi newspaper)	
B4 Lake pavilion	
B5 Public Works Department	Auguste-Henri Vildieu, 1895
B6 Indochina Bank (Vietcombank)	Georges-André Trouvé, 1925 - 1930
B7 Offices and Résidence supérieure (Government's Guest House)	Auguste-Henri Vildieu, 1897-1906, 1918
B8 Crédit foncier de l'Indochine - credit institution	Georges-André Trouvé
B9 French Information House	
B10 Extrême-Orient printing house (Head office of Nhan Dan newspaper)	1928
B11 French-Chinese Bank (Ministry of Commerce)	
B12 Municipal Theatre	1911
B13 Protestant church	
B14 St-Joseph's Cathedral	1883-1891
B15 Louis Finot Museum (History Museum)	Ernest Hébrard, 1925 - 1932
<i>South of the Returned Sword Lake</i>	
B16 Police station	
B17 University of Hanoi	Ernest Hébrard, 1926
B18 Head office of SHELL company (Ministry of Science)	1925 - 1930
B19 École française d'Extrême-Orient (School)	
B20 Pasteur Institute (Hygiene and Epidemiology Institute)	Gaston Roger, 1925-1930
B21 Lanessan hospital (Hospital 108)	Henri Cerutti-Maori, 1937
B22 Cité universitaire (Bach Khoa University)	Chauchon, Masson, Gilles et Arthur Kruze, 1942
B23 French Embassy	
B24 Hôtel Splendid (Hoa Binh hotel)	
B25 Radium Institute	
B26 Palais de justice (Supreme Court)	Auguste-Henri Vildieu, 1900-1906, 1912
B27 Compagnie des chemins de fer du Yunnan - railroad company (Ministry of transport) and general office of labour unions	
B28 Railway station	1902
B29 René-Robin hospital (Bach Mai hospital)	Christian
B30 Ham Long church	1934
B31 Around 100 villas	French and Vietnamese architects
B32 House at n° 17 Thuyên Quang Street	Nguyễn Cao Luyên, 1933 - 1940
B33 House at n° 84 Nguyễn Du Street	Ngô Huy Quỳnh, 1941

(3) Western Style Square

Western style squares were established when the French carried out traffic planning in Hanoi during the Colonial Period. They built new roads and widened some old streets in the French Quarter. Streets were planned in a chessboard pattern and many large squares were established at the intersections of the main roads. Those squares such as Opera House Square or August Revolution Square, Puginier Square or Lenin Park Square, Circle Square in front of Dau Xao (Đầu Xảo) or 1st May Square and St-Joseph's Cathedral Square or Church Square quickly became important spaces in Hanoi (Nguyen, T. S., 2005) (see Figure 5.28 and Figure 5.29).



Figure 5.28. Opera House Square

Above French colonial time

Below The present (renamed August Revolution square)

Source: Hanoi Gallery

These new open space features, which originated from Western planning, with their surrounding works and other elements such as trees, lakes, new buildings and planned streets were prominent landmarks and contributed to change the city's appearance.

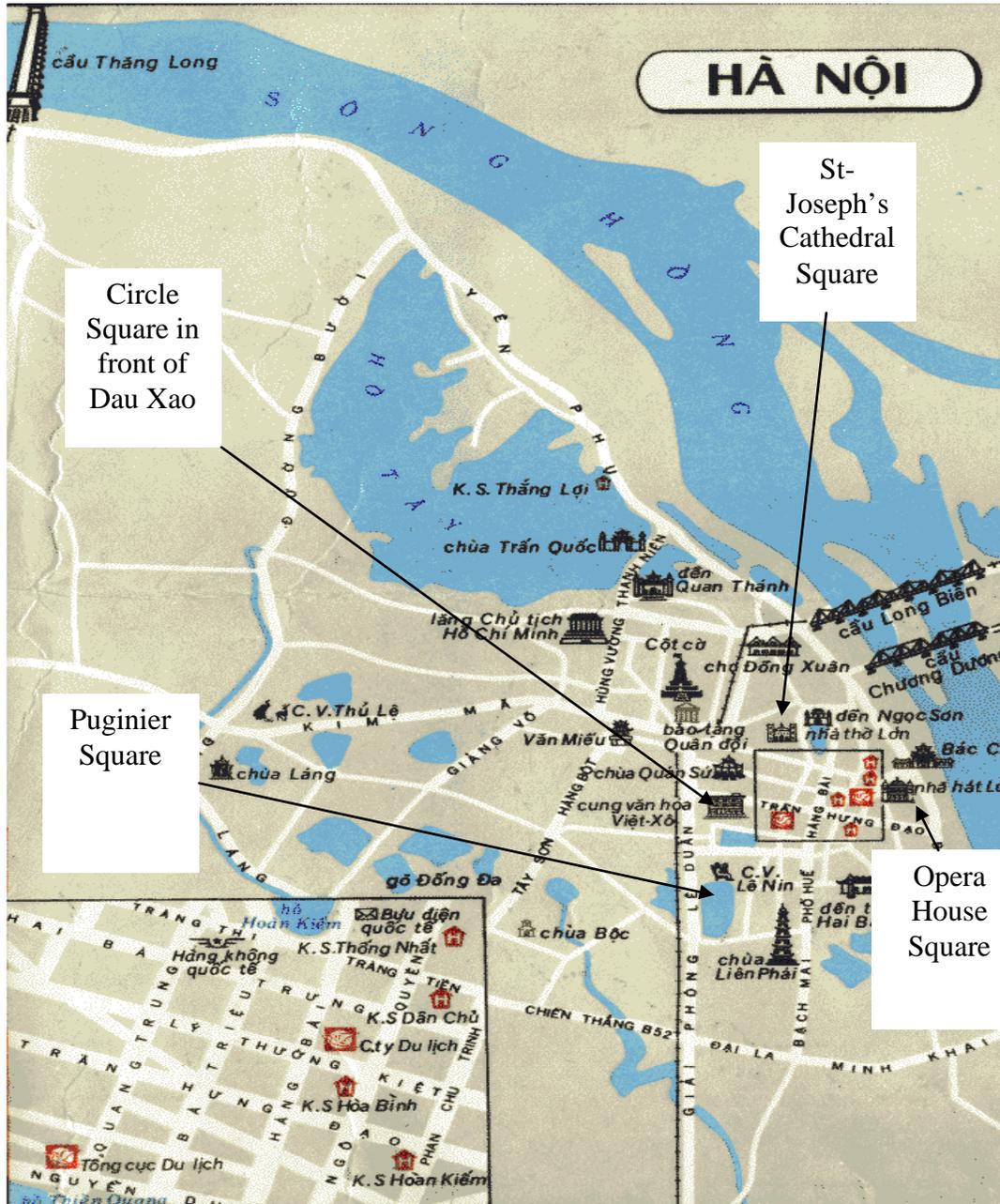


Figure 5.29. Location of major squares built in the French Colonial Period

Source: Google Image

5.3.3. The Post Independence Period (1955 – 1985)

The ten years following the war against the French which finished in 1954 was a period of economic restoration, rehabilitation and gradual development. Hanoi had been severely damaged by the war and faced serious difficulties because of war damage and the political ‘cold war’. At that time, Vietnam only had a close relationship with and received significant help from the former USSR and other countries of the Soviet bloc. During the 1955-1985 period, Vietnam adopted a centrally planned economy and also command planning following the Soviet model (van Horen, 2005). The Soviet influence on Hanoi was expressed in both the design of individual buildings and housing estates and the planning of whole districts and cities. Many public buildings were constructed under the influence of Soviet style architecture such as the Ho Chi Minh Mausoleum, the State Assembly Building, the Soviet-Vietnamese Friendship Cultural Palace, the Hanoi People’s Committee Building and the Hanoi Polytechnical Institute (see Figure 5.30). In addition, a number of Soviet style industrial zones and residential neighbourhoods were constructed during this period. Although, those buildings had significance as evidence of Soviet-Vietnamese friendship and cooperation, their appearance was undiversified and unattractive. A further problem was the fact that public housing blocks were designed for nuclear families, rather than the more common extended families and this caused constraints on the family living space within dwelling units.

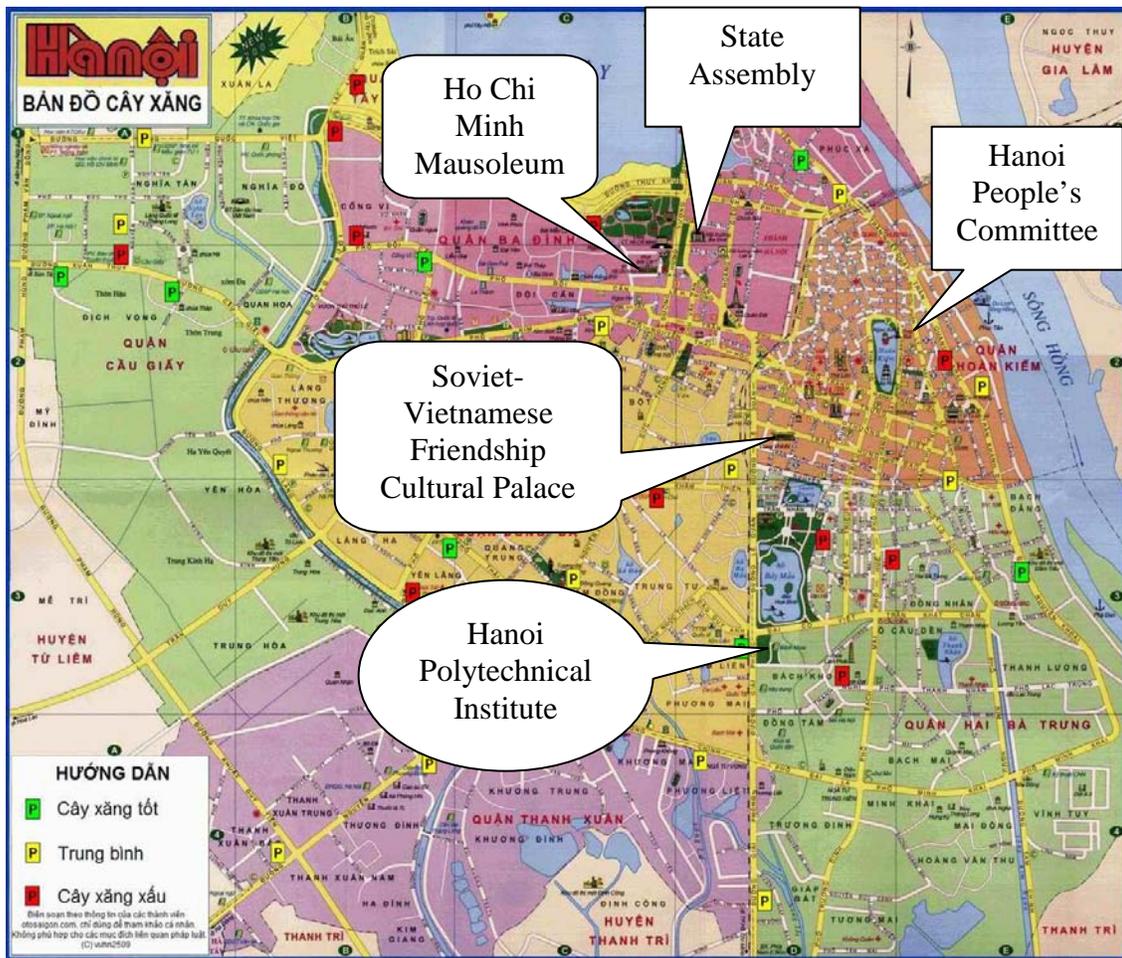


Figure 5.30. Location of major public buildings built in the Post Independence Period

Source: Google Image

In regard to the planning of whole districts and cities, a top-down planning process was adopted with five components. They included: (i) an economic-technical feasibility study; (ii) a general plan; (iii) a development plan for the first stage of implementation; (iv) a detailed implementation plan; and (v) an execution plan (Forbes, 1995). Forbes also noted that information in respect of planning was inaccessible until the late 1980s.

During this period, several Soviet bloc architectural and planning experts helped local city planners by studying Hanoi's planning problems and needs. One of the first experts was P. Zaremba, a Professor from Poland who visited Hanoi in 1960 and presented a 'suggestive plan' (Logan, 2000). This Plan proposed that Hanoi be a city of one million people and the amount of urban land planned for each person was 100 square meters per person. The city was to be expanded to the West Lake area and occupy the right bank of the Red River.

In 1962, the Soviet Architect I.A. Antyonov, in association with Vietnamese architects, completed the first Master Plan for Hanoi, which also incorporated Zaremba's Plan. According to this Plan, Hanoi was to be mainly developed on the right bank of the Red River and to be fan-shaped with four centripetal axes and three main ring roads. The city's centre would extend from the Hoan Kiem Lake then around the West Lake and incorporate the Ba Dinh area (Logan, 2000). The main directions of development of the city was to the west of the West Lake, south-west to connect with Ha Dong (Hà Đông) township and west-north to Gia Lam (Gia Lâm) across the Red River. The Hoan Kiem Lake, the West Lake and the Red River were highlighted as valuable open space features. The total area of the city was to be about 8,000 hectares and included four urban districts (Hoan Kiem, Ba Dinh, Dong Da, Hai Ba Trung) and four rural districts (Gia Lam, Dong Anh, Tu Liem, Thanh Tri). The population of one million people was predicted in twenty to twenty five years. The Plan was adopted by the Government in 1965 but it was not implemented because of the American War and aerial blitzes between 1965 and 1972 (Logan, 2000).

In 1974, a team from the Leningrad Institute of Urban Research and Planning, headed by S.I. Sokolov, drew up a new plan called the 'Leningrad Plan' (see Figure 5.31). The idea of the Soviet master plan was based on two main concepts, namely: (i) integrated city: planning a mix of residences, commerce, public buildings, factories, green and open areas all connected within the city form; and (ii) micro-regions or cities within the city: autonomous little cities inside and outside Hanoi, the idea of integrated new towns. Standard Soviet planning techniques were used, such as the planning of residential communities as micro-regions, which normally equated to 'housing estates' in the West or translated as 'living quarters' in Vietnamese. According to this standard, planning units of residential and associated facilities were theoretically based on a fixed population formula and replicated around the city outskirts. In Hanoi's case, the size of the micro-region was to be set by the number of people required to provide a viable base for a senior high school – 60,000 to 70,000. Public housing and industrial development (including workers residences) were the top priorities of this Plan. Five industrial zones were planned, each housing about 60,000 workers and based on specialises trades. In this Plan, once again, the West Lake was respected. A new city centre was to be built on the southern and south-western banks of the West Lake and to have radial boulevards, green space, high-rise public buildings and pedestrian overpasses (Logan, 2000). As in the earlier plan, Hanoi was proposed to develop to the north-west, west, south-west and across the Red River to Gia Lam and surrounding areas. The special importance was attached to the political function of Hanoi, the capital of the new socialist country. The Ba Dinh square area was radically changed to become the political centre of the city and the whole country. However, the redesign dramatically changed the nature of the public

space in this area. For example, the curved pathways and roundabouts were changed into two straight boulevards that were more suitable for military parades. The first stage of the Plan was approved in 1976 and the final Plan was fully approved in 1981 by the Vietnamese Government.



Figure 5.31. Leningrad Plan

Source: Huynh (2005)

In this period, the first priority of urban construction and planning was housing construction including public housing and houses within industrial areas. In order to show the pre-eminence of the new political regime, the city's government also paid attention to the improvement of the city's appearance through providing public parks. The highlights of this period were the construction of two new parks, Thong Nhat Park

or Unification Park (Công viên Thống Nhất) (see Figure 5.32) and Thanh Nien Road Park (Công viên Đường Thanh Niên) (see Figure 5.33). These parks were the important public works with Hanoians contributing some 600,000 unpaid public work days to build both parks.

The Thong Nhat Park area was formerly refuse dumps and swamps. After two years of construction (1958-1959), this park was opened early in 1960 and became a popular relaxation and amusement site. The Thanh Nien Road Park was another attempt to improve the city's appearance. This park included Thanh Nien Park (Công viên Thanh Niên) on the side of West Lake and Tay Ho Park (Công viên Tây Hồ) adjacent to Quan Thanh Temple (Đền Quán Thánh).



Figure 5.32. Thong Nhat Park

Source: Google Image



Figure 5.33. Thanh Nien Road Park

Source: Hanoi Gallery

Urban construction and planning in Hanoi during the period from 1966 to 1975 was interrupted because of the expansion of the war against America. After the country was unified in 1976, urban construction and planning in Hanoi sped up and achieved significant results with parks and vegetation being given considerable attention. Thong Nhat Park was expanded and supplemented, and another new park was built, called Thu Le Park (Công viên Thủ Lệ) (see Figure 5.34). It was located in the area of Thu Le Lake and the Voi Phuc Temple (Đền Voi Phục) where there were already many old trees.



Figure 5.34. Thu Le Park

Source: Hanoi Gallery

5.3.4. The Contemporary Period (1986 to present)

A profound change occurred after Vietnam initiated its ‘đổi mới’ policy in 1986. State dominance made way for economic and social reforms. Since the introduction of the ‘đổi mới’ policy, Vietnam has shifted from a command economy toward a structured and more market driven system (van Horen, 2005). In this period, resource allocation was determined by a mix of market mechanisms and some state control and it was particularly apparent in the urban areas of the country. This policy has influenced the planning system in Vietnam in general and Hanoi in particular.

In 1992, *Decree 91* was enacted by the Vietnamese Government with a view to improving planning and implementation provisions under a market-oriented economy. A significant shift was that planning and management documents could be accessed by the public and many of them are now available on the internet. The old-style Master

Planning which comprised five stages has been replaced by the Strategic Planning approach. According to this new approach, the planning process includes only two phases: *Master Plans* and *Detailed Plans*. *Master Plans* were prepared for periods of fifteen to twenty years with updates every five years and *Detailed Plans* were formulated in accordance with the *Master Plans* (van Horen, 2005). Up to the present, two Master Plans for Hanoi were approved by the Prime Minister including: (1) *A Master Plan Hanoi 2010* approved in 1992; and (2) *A Master Plan Hanoi 2020 – adjustment of A Master Plan Hanoi 2010*, approved in 1998 (see Figure 5.35).

In *A Master Plan Hanoi 2020*, the task of increasing the areas of parks and green space and improving water quality of lakes and rivers has been raised. The Red River was seen as an important feature of the city landscape, and lakes and rivers were preserved to become relaxation and amusement areas. Importantly, the West Lake area, first mentioned in the Hébrard's Plan in 1926, was once again defined as a tourist and relaxation centre. Strong links were to be developed between it and Hoan Kiem Lake and the Ba Dinh Quarter. Thus the West Lake tourist centre closely connects with the Ba Dinh political centre and the Hoan Kiem Ancient Quarter. West Lake is a valuable open space in Hanoi with an area of 500 hectares and a perimeter of sixteen kilometres. According to the Plan, the water surface of West Lake would be reserved for sport and amusement activities such as swimming, boating or sailing.

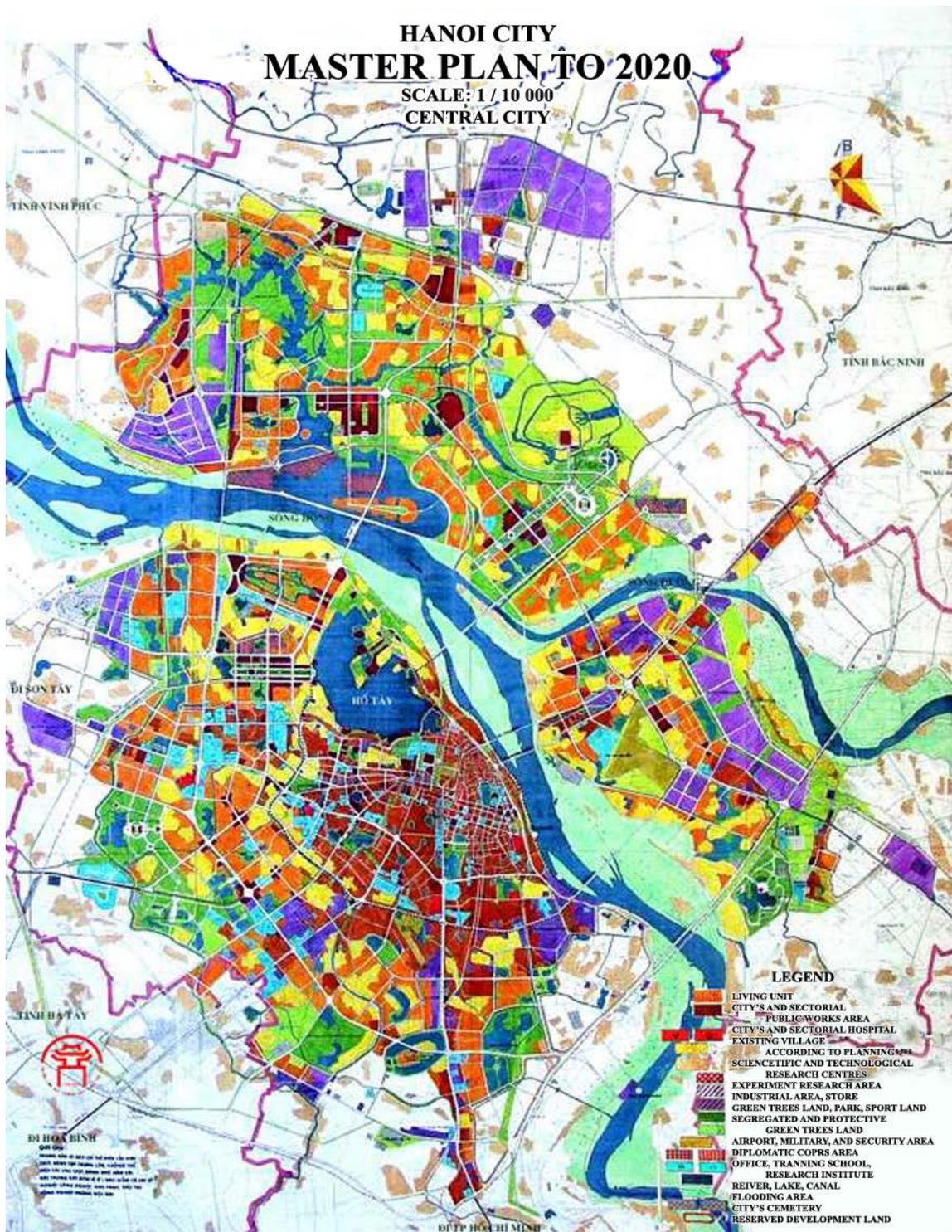


Figure 5.35. A Master Plan Hanoi 2020

Source: Cartography Publishing House. English copy developed by Lien Nguyen, 2005

The green space system would be improved by including existing parks, flower gardens, green areas attached to parks in the new urban areas and tree lines along the city's rivers. Tree lines were planned along rivers' banks and around lakes in order to improve environmental quality and create attractive scenery. The city's parks and gardens were planned to become relaxation and amusement areas within an attractive setting. Special attention was given to relaxation and amusement areas in Soc Son (Sóc Sơn). Soc Son is about forty kilometres from Hanoi's centre. In this rural district, there are nine man made water bodies with a total area of 300 hectares and 1,200 hectares of pine forest and local plants (Hanoi Department of Natural Resources - Environment and Housing (DoNREH), 2005). It has potential for tourist, entertainment and relaxation activities. However this Plan has addressed the unequal distribution of vegetation and open space in the different parts of the city, especially the lack of green areas in urban districts. Furthermore, the expansion of the central city will lead to the conversion of large areas of good agricultural land into construction and urban land in future suburban districts. Hanoi has changed rapidly with new construction and associated urban transportation and infrastructure development. Urban sprawl and population growth has led to increases in the human demand for land use. Consequently the city's expansion and new construction has led to the conversion of agricultural land and water spaces to urban land. Within the five years from 2000 to 2005, there was about 598 hectares of paddy fields converted to urban land in the many new development areas such as Dinh Cong (Định Công), Linh Dam (Linh Đàm) and Trung Hoa – Nhan Chinh (Trung Hòa – Nhân Chính) (see Figure 5.36). According to the *City Land Use Plan 2006-2010*, a further 6,000 hectares of agricultural land will be converted to non-agricultural land in that five-

year period (Hanoi Department of Natural Resources - Environment and Housing (DoNREH), 2005).



Figure 5.36. Trung Hoa – Nhan Chinh New Development Area

Built on former agricultural areas (*photo taken on 16th June 2006*)

Another reason which brings about the urban conversion of non-urban land is the increase in land price. Under pressure of officials and real estate businessmen, some master and detailed plans have reduced the spaces that were set aside as non-commercial land, such as green spaces, squares or playing grounds (see Figure 5.37).



Figure 5.37. Reduction of open space by construction adjacent to Thanh Cong Lake

Source: Nguyen and Minh (2004)

The decrease in the quality and quantity of open space is considered to affect the quality of the environment and the quality of life in the city. Unfortunately, management and planning of open space in Hanoi has not been given adequate attention.

Summary

This historical reviews show that open space issues have had different priorities during various period in the history of Hanoi City.

In the Feudal Period, open space areas were mainly based on natural features such as lakes and rivers. Large water areas were for the exclusive use of Royalty, mandarines and the wealthy. Other open space served only the people living within the guild areas. Many of these open spaces have not been well managed or have been replaced by other urban uses. However, the existing open space areas still play important roles in the daily

life of people living in the Ancient Quarter and they also contribute to the liveability of the whole city.

In the French Colonial Period, open space was planned more systematically and was a high priority of the formal urban planning process. There were more types of open space than in the previous period. Open space was designed to serve various purposes such as enhancing the city's appearance, improving hygienic and environmental conditions or promoting Hanoi as the capital of Indochina. However, the French focused only on planning for the French Quarter, where they lived. To this day, the French Quarter with its buildings, parks and other open space has been seen as the most liveable part of Hanoi City.

In the Post Independence Period, open space received less attention than housing and industrial construction. Parks and playgrounds were the main types of open space in this period which served to meet the standard needs of Hanoians. Parks and open space were seen as public welfare works which were open for everybody. They were also used to make 'political' statements about a 'classless' communist society. Some of these open space have not satisfied community needs in that some poorly designed public parks have not attracted visitors. Playgrounds in public housing blocks planned for nuclear families have not kept pace with the demands of extended families.

In the Contemporary Period, the need for the provision of open space has been put forward in city programs. An open space system has been managed and planned systematically from the city through the district to the neighbourhood level. However, open space in Hanoi has been impacted by rapid urbanisation. Large areas of water space and agricultural land have been converted to other urban land uses. This change

has caused various effects such as a lack of recreational and amusement areas for residents, a decrease of agricultural land, loss of the city’s valuable open space and a decline in the quality of life of the city. Thus, finding a way of dealing with these issues is part of the effort towards achieving a more liveable Hanoi.

5.4. Hanoi: A Culturally Fragmented City Displaying Eastern and Western Open Space Values

The review of the case study shows that planning for Hanoi was influenced by different cultures. Eastern and Western cultures have created a multifaceted Hanoi and also contributed to its liveability. In each period during its long history, Hanoi adopted different approaches to urban planning and the provision of open space which are now summarised in Box 5.1).

Box 5.1. Different Cultures of Planning for Open Space in Hanoi

1. DIFFERENT APPROACHES IN PLANNING PRINCIPLE	
The Feudal Period	Arrangement of urban objects adopted <i>feng-shui</i> principles which was influenced by the Chinese. <i>Feng-shui</i> is the practice of arranging objects, (such as the internal placement of furniture in an environment), to achieve harmony with one’s environment. It is also used for choosing a place to live, for plotting a burial site and still others use it for agricultural planning. According to <i>feng-shui</i> principles, trees and water are two important factors which bring luck, happiness and prosperity to

Box 5.1. continued

The Feudal Period	residents and also create a healthy living environment. Therefore, gardens and lakes were indispensable features of building construction. In this period, open space was managed individually based on each house or guild and not as a system of the city's open space.
The French Colonial Period	Spatial planning, urban zoning, master planning and 'Garden City' approaches were new principles of professional urban planning that were applied in Hanoi by the French. Planning for open space such as parks and Western style squares was one of the most important priorities of city planning in this period. In this period, open space was planned more systematically and included the city's open space (e.g. city's parks), district open space (e.g. new Western style squares) and neighbourhood open space (e.g. garden attached villas). However, most of these open spaces were concentrated mainly in the present-day French Quarter.
The Post Independence Period	Hanoi adopted Soviet command Master Planning. Urban planning requirements were normally determined within the framework of an overall national plan usually phased into five-year programmes. Open space planning and

Box 5.1. continued

<p>The Post Independence Period</p>	<p>management was mentioned but not in detail (in the Master Planning). Planning information was inaccessible to the public.</p>
<p>The Contemporary Period</p>	<p>Urban planning has shifted from command planning to a more Strategic Planning approach. Planning activities are determined by a mix of a market driven system and some state control. Planning for open space is considered an important part of planning for the whole city. Many projects to upgrade existing parks, building new parks and improving water quality of large lakes have been carried out or are being developed. In this period, the open space system includes the city's open space (e.g. city's parks), district open space (e.g. district parks) and neighbourhood open space (e.g. open space in new living apartments). A significant shift has seen planning information now be partially accessed by the public.</p>

Box 5.1. continued

2. DIFFERENT SCHOOLS OF THOUGHT ABOUT TYPES AND FUNCTIONS OF OPEN SPACE	
The Feudal Period	Lakes and rivers were natural open space which mainly served for relaxation and sightseeing of Royalty, mandarins and the wealthy. Other open space areas included Communal Houses which served community religious demands and community gathering places; streets and open markets which served merchant activities and community interaction. Agricultural land was categorised as productive open space.
The French Colonial Period	In addition to natural open space such as existing lakes and rivers, the French built new parks and squares. Open space areas were designed in order to improve hygiene and enhance the city's appearance. They were considered important features in promoting Hanoi as the colonial capital of Indochina.
The Post Independence Period	As recognised in the earlier period, lakes, rivers, parks and squares were the main types of open space. Notably, a welfare value was assigned to some open space such as Thong Nhat Park, with social justice and welfare being seen as lofty goals of a socialist society.

Box 5.1. continued

<p>The Contemporary Period</p>	<p>The main types of open space in Hanoi are lakes, rivers, parks and squares. Functions of open space are now better recognised. Open space can perform many functions for society and provides several benefits that can be considered in social, economic and environmental contexts.</p>
<p>3. DIFFERENT APPROACHES TO PLANNING FOR OPEN SPACE</p>	
<p>The Feudal Period</p>	<p>Open space system was not centrally planned and often based on natural sites such as lakes and rivers.</p>
<p>The French Colonial Period</p>	<p>Open space was highly valued as the French and influenced by the ‘Garden City’ planning approach. Many new parks, promenades and tree lines were built and many gardens attached to villas. However, these elements were mainly provided for foreigners in the French Quarter and caused social inequity.</p>
<p>The Post Independence Period</p>	<p>Open space planning was less important than housing and industrial construction. Soviet design and planning was undiversified.</p>
<p>The Contemporary Period</p>	<p>Open space issues have been put forward in city planning projects. However, under pressure of rapid urbanisation, a large amount of open space areas has been encroached by urban construction.</p>

5.5. Summary

Hanoi is an ancient city with a thousand-year history. Its long history can be divided into different periods including the Feudal Period, the French Colonial Period, the Post Independence Period and the Contemporary Period. In each period, urban planning activities have been influenced by different cultures.

There was no formal urban planning in the Feudal Period. Planning activities followed *feng-shui* principles which were influenced by the Chinese.

In the French Colonial times, urban planning in Hanoi was strongly influenced by French urbanists and planners who followed Beaux-Arts and 'Garden City' planning approaches. Hébrard's Plan in 1926 and Pineau's Plan in 1943 were the first formal city planning in the history of Hanoi. Although those plans were not implemented, Hébrard's project especially made a deep impression on city planning of Hanoi to this day and can be considered a representative planning in this period.

In the Post Independence Period, urban planning implemented a Soviet style, top-down Master Planning approach. There were three plans for Hanoi, namely: (i) Zaremba's 'suggestive plan' (1960); (ii) Antyonov's 'master plan' (1962) which incorporated Zaremba's Plan; and (iii) 'Leningrad Plan' (1974). The first two plans were not implemented because of the American war. Only the 'Leningrad Plan' was partially approved in 1976 and fully approved in 1981 by the Vietnamese Government and can be recognised as representative planning for this period.

Since 1986, urban planning in Hanoi has shifted from command planning to a more Strategic Planning approach. A *Master Plan Hanoi 2010* which was approved in 1992, was the first planning following this change. However, in 1998 this plan was adjusted

and replaced by *A Master Plan Hanoi 2020* which is the current effective planning instrument for Hanoi City.

Differences in planning approaches have influenced open space planning and management in Hanoi. In the Feudal Period, city planning in general and planning for city's open space was strongly influenced by the Chinese *feng-shui* principles and open space was mainly designed and provided for the Royalty. In the French Colonial Period, provision of open space was given much attention but only to improve the living quality of the foreigners in the French Quarter and the appearance of this Quarter. In the Post Independence Period, city planning was strongly influenced by the Soviet planning principles and open space provision was less important than industrial and public housing building. In the Contemporary Period, open space is highly valued in the current city planning. However, Hanoi is facing several unsolved issues of open space planning and management and rapid urbanisation in the city.

Conducting research on Hanoi helps to understand this historically and culturally fragmented city. Evaluating the influences which Eastern and Western cultures have had on city and open space planning and thus contributing to achieving the liveable aspirations of the city residents and administration elites will be discussed in the next chapter.

Chapter 6 . Analysis of the Case Study

6.1. Introduction

This chapter analyses how the provision of open space in the context of city planning has contributed to the liveability of Hanoi City through different planning periods. In order to deal with this task, the representative plans for each period are evaluated. There are three steps in this evaluation process, namely:

1. Evaluating the planning process: The purpose of the evaluation is to assess whether the planning for open space in Hanoi embraced the essential elements of a planning process, in particular, a cyclic process that incorporated an adaptive management approach (see Section 4.2.1). It is argued that this process is an approach towards achieving planning for sustainability and liveability;

2. Evaluating the planning content: This is to assess to what degree did the representative plans for each period meet the criteria for the achievement of planning goal for liveability (see Section 4.2.2); and

3. Evaluating the functionality of the open space system: Has the open space system contributed to achieving liveable goal in Hanoi when tested by the set of open space indicators proposed in Section 4.2.3.

Data used for the analysis came from various sources of evidence including: (i) a review of planning documents (planning reports, maps, etc.) (see Chapter Five); (ii) field observations; and (iii) semi-structured interviews (see Appendix A7). All of this evidence has been triangulated (see Figure 6.1) in order to develop an in-depth understanding of the case study.

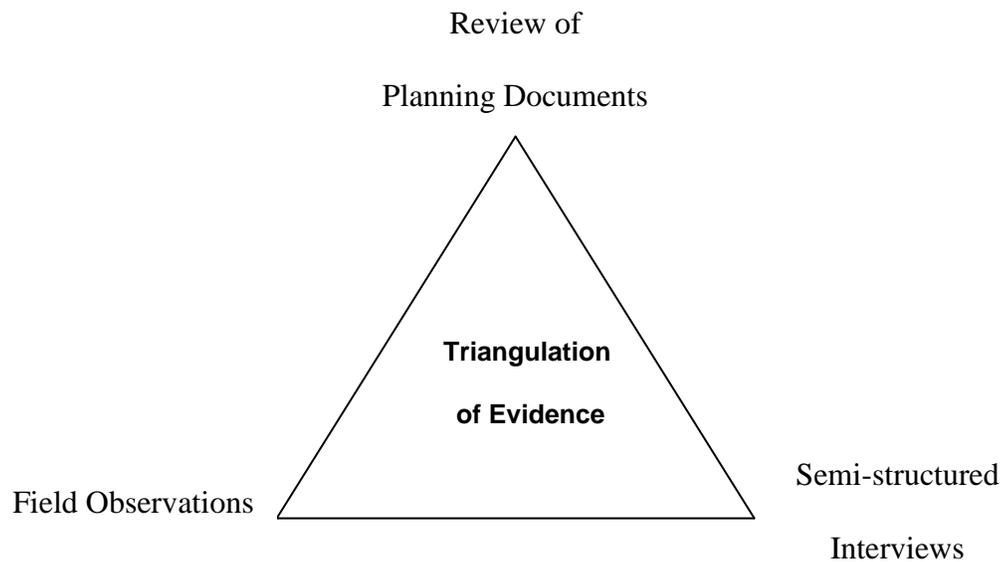


Figure 6.1. Triangulation of evidence of the case study research

6.2. Evaluating the Planning Process

The literature demonstrates that planning for liveability should adopt a cyclic planning process incorporating an adaptive management framework (refer to Section 4.2.1). This approach acknowledges the importance of a formal implementation phase as part of the overall planning process. In this section, the processes related to the representative plans for each period are reviewed by comparing them with a cyclic planning process as shown in Figure 4.1. It is aimed to evaluate whether different representative plans followed the sustainability planning process.

6.2.1. The Feudal Period

In the Feudal Period, there was no formal urban planning in Hanoi. Planning focused only on producing ‘the plan’. The planning process was very simple and the sequence of actions followed a linear approach as described below.

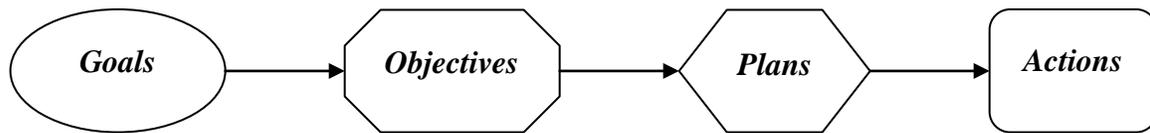


Figure 6.2. Planning Process in the Feudal Period

Planning in this period was not a cyclic process (as described in Figure 4.1) and did not focus on the meaning of planning as a continuous process of plan making and plan implementation. In addition, community engagement was not permitted, as city residents were seen as servants and were not allowed to participate in the planning process.

In the planning process, the goals and objectives were often decided by Kings and the Royal families whilst plans and subsequent actions were proposed by geomancers (thầy bói đất), astrologers (nhà chiêm tinh), sorcerers (thầy pháp) and spirit mediums (nhà tâm linh) (Nguyen, 1993). The geomancers calculated favourable times for meetings and actions, and also identified the best sites to avoid evil spirits. They played crucial roles in both architectural and planning activities in feudal Hanoi and were universally respected at that time, as society firmly believed the mysterious set of beliefs of *feng-shui*. It means that in the Feudal Period, planning for Hanoi was not executed by formal urban planners. Planning did not adopt principles of urban planning like in other Western countries at that time and was mainly influenced by the Chinese *feng-shui* principles which much related to the careful arrangement of objects (as described in Box 5.1).

6.2.2. The French Colonial Period (Hébrard's Plan)

Hébrard's Plan was the first formal urban planning for Hanoi. New principles of Western professional urban planning of that time (spatial planning, urban zoning, master planning and the 'Garden City' approach) were applied in the planning for Hanoi (Logan, 2000). This resulted in the changing of city's appearance as discussed in Chapter 5.

However, the Plan did not follow a cyclic planning process. This Plan merely comprised a set of actions related to the plan making phase and focused on the ends of that planning phase, in order to serve the administrative and political purposes of the colonists and not the local community. As this Plan was not fully executed, the major elements of an adaptive management approach in the plan implementation phase such as plan monitoring, evaluating, reporting and reviewing were not undertaken.

In addition, this Plan did not reflect a high regard for local cultural and indigenous landscape values. Traditional buildings were destroyed for new French buildings (refer to Section 5.2.2). This reflected contemporary views of that time about the control and management of colonies by their Western imperial powers.

6.2.3. The Post Independence Period (Leningrad Plan)

In this period, a command planning approach was adopted. Planning followed the Soviet top-down model and was centralised in regard to decision-making and allocation of productive resources. Planning was not a cyclic process and focused only on producing the master plan. Planners and decision-makers drew up the plan and others enacted it through legislation, regulations and policies. It was assumed that once the plan was legislated, it would provide a relatively stable form of long term planning and design. In other words, this Plan was fixed and not amenable to review, modification and revision,

which are essential steps of the adaptive management approach in the plan implementation phase.

In addition, planning for the city was based on decisions of political and bureaucratic decision-makers and planners and had no community input. Planning information was inaccessible to the public and therefore the Plan did not involve any broad participation of the community.

6.2.4. The Contemporary Period (A Master Plan Hanoi 2020)

A Master Plan Hanoi 2020 theoretically comprised all the components of a cyclic planning process. However, the actual implementation of this Plan did not fully comply with the intended planning proposal. First, although this Plan was prepared for a period of twenty-five years with the requirement of updating every five years, this has not happened. Second, while it was mentioned in the Plan that community participation plays an important role in the achievement of planning success, this Plan was exhibited for public information only. City residents merely viewed the Plan and did not really participate in the process of plan making for their own city through comment and other means of formal involvement and input.

Summary

Evaluating the planning processes of the representative plans for each period shows that none of those plans adopted a cyclic planning process incorporating an adaptive management framework that involved serious attempts to monitor the implementation of the Plans. All of those plans, except *A Master Plan Hanoi 2020*, adopted a linear approach and focused only on plan making. In the end, *A Master Plan Hanoi 2020* did not fully adopt accepted principles of the cyclic planning and adaptive management

approach. Major steps of the plan implementation phase including reviewing, reporting, monitoring, evaluation and, perhaps more importantly, stakeholders learning were not executed or even not mentioned in the plans. Therefore, several problems and limitations of those plans were not fully resolved and still appear in the present Hanoi. They are discussed below.

6.3. Evaluating the Planning Content

In this section, the representative plans for each period are evaluated based on the key evaluation criteria that were developed in Section 4.2.2. Information gained from reviewing the case study and semi-structured interviews provided supplementary evidence for this analysis. The following comments are drawn from the evaluation of how well the representative plans met these evaluation criteria.

6.3.1. The Feudal Period

The goal of city planning was to achieve harmony with the environment, according to *feng-shui* principles. ‘Green’ features such as trees and water features were considered important for achieving the planning goal, as they brought people closer to nature. It is obvious that the goal of city planning did not address the issues of sustainability and liveability directly, but this can be best understood in the light of the current principle of reducing and eliminating conflicts between urban development and environmental protection relating to sustainable development.

Hanoi was planned to be a composite city, ‘a place of communal activities and prosperity’ (*‘Một chốn muôn vật rất thịnh và phồn vinh’*). It was to be a compact area where the administrative capital, trading areas and many of the handicraft and agricultural villages were brought together (refer to Section 5.2.1). This reflects

contemporary elements of sustainable development such as compactness and mixed use of land, and became the basis for urban land use planning for Hanoi in later periods.

However, there were no specific objectives of planning aimed at achieving high quality open space and satisfying community aspirations. As introduced in Section 5.3.1, open space in the Feudal Period was considered as relaxation areas which mainly served Kings and the Royal family. Open space for community activities was not given importance and was not planned. City residents were prohibited from using major open space areas and people participated in outdoor activities in other inferior places such as vacant ground in outdoor markets, streets or communal houses. This did not satisfy the principle of equity relating to the contemporary concept of sustainability and liveability.

A significant limitation of planning in this period was that it was limited to producing the plan and did not adopt a long-term planning horizon as previously discussed in Section 6.2.1. Plans were not amenable to review, monitoring, evaluation or reporting as planning was not seen as a continuous process. Furthermore, city residents were not strongly engaged in the planning process. Responsibility for planning was clearly assigned to Kings and Royal families who had the supreme power to approve the plan. Plan making was the responsibility of informal urban planners and their work was limited to site selection and building alignment according to *feng-shui* principles. City residents had no right to access the planning information and were not allowed to take part in decision making related to plan making. City residents were merely obliged to be the labour force for urban construction. This means a stakeholder learning process, an important step in a cyclic planning process incorporating adaptive management framework was ignored in the planning process during the Feudal Period.

6.3.2. The French Colonial Period (Hébrard's Plan)

The vision of the Hébrard's Plan was to upgrade 'little Hanoi' to a 'metropolitan city' in Indochina following European architecture and planning principles (Logan, 2000). The goals of this Plan were to achieve a higher level of urban planning and management than had previously been seen in the colonies. The integration of background city information such as economics, statistics, physical and human geography, hygiene and epidemiology was considered important to the achievement of the planning goals (Logan, 2000; Nguyen and Boudarel, 2002). Those integrated elements are recognised as major issues relevant to the contemporary concepts of sustainability and liveability.

The Plan was for the city to have open space "worthy of a great colony" and better hygienic conditions and living environment (Logan, 2000). While these objectives were not sufficiently specific, these requirements are often sought by contemporary architects and planners in planning for sustainable and liveable communities.

Improving environmental quality, a goal of contemporary sustainable development, was recognised as an important task of this Plan. Hébrard moved the manufacturing industries and utilities scattered around Hanoi to Gia Lam on the left, or eastern bank of the Red River, in order to reduce air pollution (Logan, 2000). This idea was strongly influenced by Ebenezer Howard's 'Garden City' concept.

Improving the open space system was considered an important goal of this Plan. Hébrard designed a green belt and boulevards in order to improve the city's appearance and connect different functional areas. Promenades and green space were planned around Hoan Kiem Lake and a five kilometres long sport and amusement area, which embraced the West Lake, was proposed. The West Lake area was highly valued not only

as an important open space but it also influenced the direction for future city development. If this Plan had been implemented there would have been a conflict between open space preservation and urban sprawl resulting in an encroachment by urban land uses. This effect would have led to a decline in landscape quality and favourable liveability status. This was in contradiction with the goals and objectives of the Plan for improving the quality of open space system. Hébrard also proposed to build wide sidewalks and grow shade trees along the sides of new roads. Hébrard's idea about wide tree-lined design was developed in the contemporary planning and to this day this approach still presents an attractive vista through the green open space.

This Plan did not adopt a long-term horizon and also had some failings in regard to the principle of equity relating to sustainability and liveability. The Plan did not meet the principle of intragenerational equity used in the contemporary concept of sustainability and liveability. Hébrard followed the concept of the 'dual city' where the traditional town was maintained alongside the imposed Western town, with a buffer zone between them (Logan, 2000; Nguyen and Boudarel, 2002). His Plan focused only on the French Quarter and separated the European and indigenous residential areas. This imposition of colonial rule caused racial and class segregation issues. According to Logan (2000), such a planning approach demonstrated an associationist rather than assimilationist philosophy, one that was widely seen in British as well as French colonial town planning. Consequently, it created discontinuity of urban structure where a new European town was built alongside the established indigenous town (see Figure 6.3).



**Figure 6.3. Differentiation between the Indigenous Town and the French Quarter
in the French Colonial Period**

Above: Hang Dong Street in the Indigenous Town

Below: Sofitel Metropol in the French Quarter

Source: Google Image

Furthermore, Hébrard's Plan failed to meet the requirement of integrating planning for contemporary sustainability liveability because he did not plan Hanoi as a whole system. Hébrard largely ignored the suburbs where the bulk of Hanoi's population lived and had no interest at all in making provision for affordable housing for the majority of Vietnamese residents (Logan, 2000; Masson, 2002). He also lacked interest in suburban industrial development due to colonial policies which were not geared towards encouraging the expansion of industry in Indochina.

Local knowledge was not fully incorporated in Hébrard Plan and it did not involve any broad participation of the local community. The physical aspects of this architecture and planning represented the interest of the coloniser and did not include the cultural and spiritual values of the local community. Hanoi was seen as something of an experimental laboratory for the demonstration of the latest planning ideas and regulations, introduced in France itself (Research Institute on Architecture, 1999).

However, the use of indigenous architectural decorative features in French buildings can be seen as an attempt to achieve a consolidation between the local and French culture. For example, in the case of the Cua Bac Church (see Figure 6.4), the main expression of French architecture is manifested in roof cornices and canopies, rafters and supports while indigenous temple style roofs and round windows hints at an impression of traditional Vietnamese architecture (Research Institute on Architecture, 1999).



Figure 6.4. Hébrard’s *style indochinoise* Cua Bac Church – A marriage of Vietnamese and French Architecture

Source: Tran (2008)

This idea of Hébrard became the new hybrid architectural style, *style indochinoise* (or Indochinese architectural style), which incorporated local culture into colonial planning. Unfortunately, he focused on introducing his *style indochinoise* and apparently never envisaged Vietnamese architects and planners developing their own natural style (Logan, 2000; Nguyen and Boudarel, 2002).

This Plan did not receive adequate political support from the Governors-General of the 1920s and also experienced budgetary constraints at that time. Thus, his Plan was not fully executed and his work was limited to preliminary design of several ministerial buildings. Nevertheless, his Plan remained the official reference and provided

inspiration and guidelines for later projects by Louis George Pineau in 1943 and contemporary planning for Hanoi City.

6.3.3. The Post Independence Period (Leningrad Plan)

This Plan's vision was to build Hanoi as a modern, urbanised and industrialised socialist city (Logan, 2000). The goal of this planning was for Hanoi to have an outstanding appearance which would reflect the pre-eminence of the new socialist regime. However, this goal was too general and mainly concentrated on industrial development.

Industrial development was the top priority for city planning in this period, while the provision of good-quality housing for all citizens was seen as the next important responsibility that architects had to uphold (Logan, 2000). Most of Hanoi's housing construction activity occurred in the suburbs, which differed from the previous period when the French had given low priority to the new suburbs and outlying villages and their urban functions. However, because Hanoi was the national capital, civic and monumental design was often utilised in order to reflect the power of the new socialist regime and its ideology. Notably, improving environmental quality was not given importance in this Plan.

Provision of open space was less important than housing and industrial construction and the open space that was provided did not satisfy the requirements of the city's residents. Playgrounds were limited and based on nuclear families, rather than the more common extended families and this caused constraints on the public space within residential units. Only three new city parks were built which were not sufficient to provide recreation opportunities for the estimated 1.3 million city residents.

The Plan was set for a period of twenty-six years (1974-2000). A major problem with this Plan was that it did not develop indicators for monitoring or providing information which would help to assess the plan's implementation progress. Furthermore, due to the influence of Soviet style planning, this Plan was seen as a fixed form of long term planning and design and did not allow for modification and revision. It was inflexible and unable to cope with the speed of urban development and some parts of the Plan were 'unrealistic' and overly 'optimistic'. For example, the population prediction for the year 2000 on which the Plan was based, was too low. Vast factories and industrial estates were part of the Plan but it did not take into account the lack of capital available to fund this explosion of large scale industry. A highway was to go through the old city and across the Thang Long bridge to Noi Bai Airport which was located forty kilometres from the city. The projected volume of the Thang Long bridge (in Noi Bai highway) traffic was 6,000 vehicles per day. However, when it was first opened, the traffic amounted to only half of that projected figure as the highway ended abruptly when it reached the inner city areas and the traffic had to filter out into the existing network of narrow and crowded streets (Logan, 2000).

Consequently, because there was no attention to formal implementation nor the existence of an adaptive management framework, the planners and the government could not learn from these circumstances and outcomes. Consequently, they could not go back and readjust the plan and its policies. They simply had no process to receive feedback and adjust the plan in light of any learnings.

The city government did not establish institutional capacity for planning and planning activities which at that time had been mainly carried out by Soviet architects and planners. In this period, there was a shortage of professionals and technicians generally in Hanoi and Vietnam. This was the result of the educational policies of the French colonial administration, the interruption of training programs and the battlefield deaths of skilled personnel (Logan, 2000; Nguyen and Boudarel, 2002). It is obvious that by applying their own design principles and implementation practices, Soviet architects and planners played a significant role not only in shaping Hanoi's planning activities and its townscapes, but also in reinforcing general Soviet hegemony in Hanoi (see Figure 6.5).

In addition, the implementation of planning was not provided with sufficient supporting resources. Resources were allocated according to plan directives rather than market demand (van Horen, 2005) and the planning budget relied on financial aid and debt from Soviet bloc countries, especially the former USSR. Thus planning for Hanoi in particular and Vietnam in general, suffered due to the Soviet economic recession of the mid-1980s and its collapse in 1989.

This Plan did not involve the broad participation of the community. Notably, information of this planning was not accessible by the public. Planners designed and imposed comprehensive plans, decision-makers enacted them through legislation, regulations and policies, and residents were merely expected to obey them. Clearly it did not satisfy the community-based principle of sustainable development.

**The State Assembly
Building**



**The Hanoi People's
Committee Building**



**The Soviet-Vietnamese
Friendship Cultural Palace**



Figure 6.5. Poorly designed and undiversified Soviet Buildings

Source: Google Image

Not surprisingly, local knowledge was not fully incorporated into the Plan. The Soviet architects and planners tended to impose their ideas with little modification to fit local circumstances. The Plan's recommendations were based on an inadequate understanding of Hanoi's history and demography and were totally divorced from both the local culture and the economic realities of an impoverished government (Nguyen, 1993; Logan, 2000). However, to a degree, decorative detailing of Soviet buildings was somewhat restrained and included some Vietnamese cultural features. In this respect, the work of Soviet architects followed Hébrard's approach of incorporating elements of the local traditional art and architecture into new buildings.

6.3.4. The Contemporary Period (A Master Plan Hanoi 2020)

The stated intention of this planning initiative was to achieve sustainable development in the Hanoi region (Nguyen, T. B., 2005). The Hanoi region was to include the central city which would be the nucleus of the urban spatial development of Hanoi City. It would be a place of major economic and technical enterprises, in order to create motivation for the development of the national capital, its region, northern Vietnam and the whole country. Hanoi was planned to be an eco-city of the twenty-first century. Improving the quality of the open space system, especially green and water space, was recognised as an important requirement for achieving this goal. Interviewees strongly agreed that water and green space are the two valuable specific characteristics of open space of Hanoi which help to improve the city's appearance and environmental quality (see Appendix A7). However, the objective of reaching eighteen square meters of vegetation, parks and sport land per head of population in 2020 (Pham et al., 1996) seems to be unachievable as the figure of

green area was only one square meter per head in 2005 (Hanoi Department of Natural Resources - Environment and Housing (DoNREH), 2005).

This planning had several shortcomings due to a lack of strategies for dealing with major issues relating to the open space system in Hanoi. In Hanoi and Vietnam, there is no formal concept or description of open space and the term ‘open space’ is mentioned in very few documents. According to the interviewees, the terms ‘public space’, ‘green space’ or ‘water space’ have been widely used instead. This leads to the divergences in planning and management for open space between different authorities and decision-makers. As evidenced, respondents differed from each other in listing the several authorities involved in managing and planning urban open space in Hanoi (see Appendix A7). This is because the ultimate responsibility for planning and management of open space has not been clearly assigned by the city government. More importantly as the leading body in open space planning has not been defined, there is an overlapping of responsibilities in management and implementation by relevant authorities. The management of urban lakes is a specific example of this overlapping management, where one lake can have five to seven responsible management agents. For instance, West Lake is under the management of the Hanoi Water Drainage Company (Công ty Thoát nước Hà Nội), the HOTAYINEXCO (Công ty Đầu tư khai thác Hồ Tây), the Hanoi Department of Tourism (Sở Du lịch Hà Nội), the Hanoi Sport Department (Sở Thể dục Thể thao), the West Lake Aquaculture Company (Công ty khai thác thủy sản Hồ Tây) and the People’s Committee of Ba Dinh and Tay Ho districts. Responsibilities of those authorities have not been clearly assigned. This situation leads to ill-defined and cumbersome management and planning for open space throughout Hanoi.

Current standards and norms of open space are insufficient. For example, the norm of the space used for communication activities in multistorey houses is not stipulated properly in the design standard. The norm for public space available to multistorey houses is not related to construction density and the higher the house (with more stories) the lesser the ratio of public space (Vietnam National Institute for Urban and Rural Planning, 2005). This means that while the number of households and people is increasing, the area of public space is decreasing. Furthermore, as these open spaces are located at ground level, accessibility becomes increasingly difficult for people as buildings become higher.

Another shortcoming of this Plan is that it has no effective solution for dealing with the loss of agricultural land and its impacts on the local community and the city as a whole. The expansion of the central city has led to the conversion of large areas of agricultural land to urban land uses. Consequently, this continual loss of agricultural land has resulted in a number of negative impacts of an economic, environmental and social nature. This will be discussed in more detail in Section 6.4. Furthermore, the Plan has not proposed solutions for overcoming the imbalance between areas of green space in different parts of the city. At present, the per capita area of green space in the urban districts is very low whilst the population density in those districts is very high. It is the opposite in the suburban districts although as previously discussed, green space in the outer suburban districts is rapidly declining due to rapid urban development (see Figure 6.6 and Figure 6.7).

Population density
(person/km²)

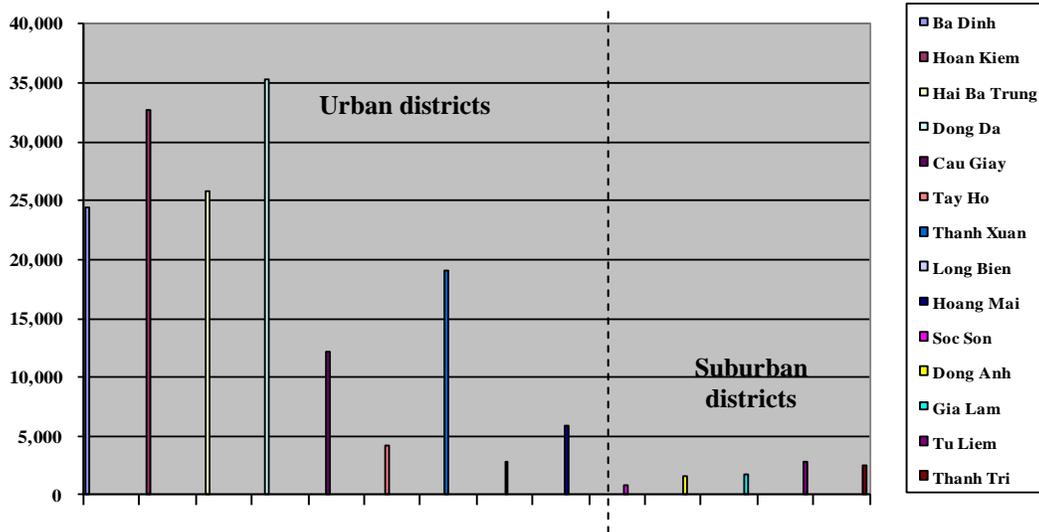


Figure 6.6. Population Density

Source: General Statistics Office (2007)

Areas per capita of green space
(m²/person)

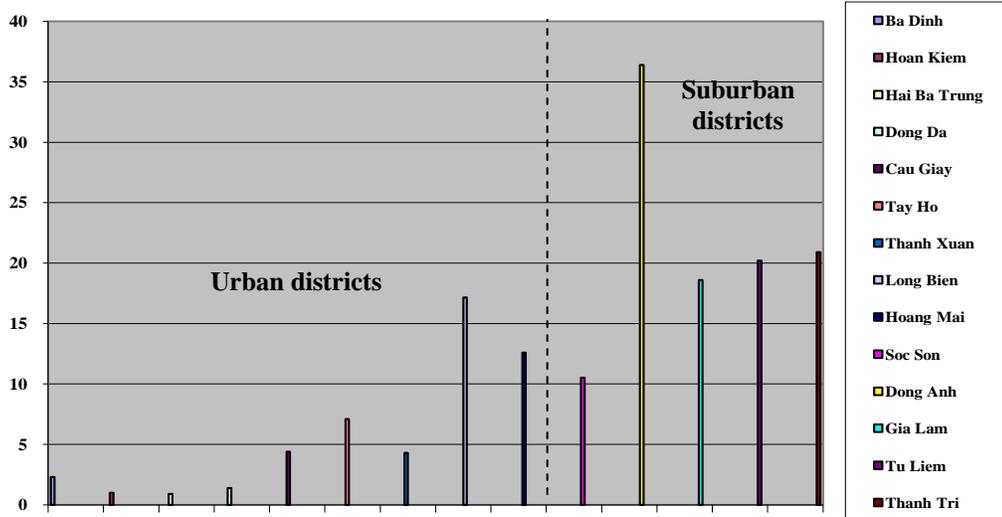


Figure 6.7. Areas per capita of green space

Source: Trinh (2008); Hanoi People’s Committee (2008)

According to the interviewees, there is a lack of systematic and comprehensive management of open space. More than one half of the interviewees (R2, R4, R5 and R7) agreed that the effectiveness of the relevant authorities in the field of city planning and open space planning was limited. In particular, respondents noted that the co-operation between those authorities is not effective; administrative formalities are very complicated; in some cases, direction and management was not consistent; and infringements have not been dealt with adequately.

Interviewees (R1, R2, R7 in Appendix A7) also mentioned difficulties in budgeting for the management and maintenance of open space areas. The city government is calling for public contributions in money and labour for the management and operation of open space areas in order to overcome these budgetary shortfalls.

Hanoi is also facing a shortage of high quality human resources for effective management and planning. Only fifteen percent of the staff working in the field of urban management are university or college graduates and there is insufficient staff to do the work (Huynh, 2008).

Another shortcoming of the Plan is that it did not incorporate all of the essential elements of the cyclic planning process (as discussed in Section 6.2.4). This planning was expected to be updated every five years but the Plan has not been reviewed since it was approved in 1998. This shortcoming prevented an adaptive management approach where the Plan could be reviewed to account for changing circumstances. For example, the Plan was for a city of 4.5 million people by 2020 but the population of the city reached six million in 2008. This led to some aspects of the Plan became out of date and impractical.

A major change from the Post Independence Period is that planning information is now accessible to the public. However, the city planning has not involved a broad participation of the community as city residents can merely view the plan and are not seen as central nor serious stakeholders of city planning. The city's master plan was put on public exhibition for one month. However, this map was too technical and consequently not many city residents could read and understand the Plan.

Summary

The above evaluation demonstrates that none of the representative plans fully met the criteria for evaluating urban open space planning towards liveable communities. To some extent this can be explained by the relatively recent emergence of the concepts of 'sustainability', 'liveability' and 'sustainability planning' towards the close of the twentieth century – at the same time that recent Plans were prepared. This may partly explain why such concepts were not directly mentioned or fully scoped within the past planning for Hanoi. However, the past planning did reflect contemporary elements of sustainability and liveability such as planning for achieving harmony with the environment, compactness and mix use of land (the Feudal Period), planning for improving environmental quality (the French Colonial Period), and planning for economic development and social justice (the Post Independence Period). Contemporary planning for Hanoi was supposed to be developed in the light of the current principles of sustainable development. However, the evaluation demonstrates that the implementation of this planning in practice has resulted in several shortcomings and problems. This evaluation of the past and current planning has identified several limitations of each

representative plans that the city needs to overcome in order to achieve a more sustainable and liveable future. This will be discussed in more detail in the next chapter.

6.4. Evaluating the Functionality of the Open Space System

In this section, indicators of open space proposed in Section 4.2.3 (see Figure 4.2 and Table 4.1) have been used to evaluate the functionality of the open space system. There is a limitation on this evaluation in that data for some indicators are not available. However, applying the available indicators can still help to inform on the status of the open space system and its ongoing contribution to achieving a more liveable future for the city.

6.4.1. The contribution of open space to the city's economic viability

A set of economic open space indicators has been used to evaluate the contribution of open space to the city's economic viability. In Hanoi City, several economic benefits are derived from, and linked to, the use of city parks and to agricultural production.

There are hundreds of thousands of people visiting city parks each day. Some interviewees (R1, R2, R3, R5 and R6 in Appendix A7) agreed that open space provides monetary benefits from the services provided. Unfortunately, data for the indicator of city park expenditure per visitor is not available. It would be expected to include entrance fees, parking fees or public transport fees and money spent for using services and facilities provided in the parks. However, the park system has not been well planned and managed. For instance, public parks are not readily accessible by the public, poorly designed, or have not met community demand (refer to analysis of interviews in Appendix 7). These issues will be discussed in more detail in Section 6.4.2 and 6.4.3.

This has influenced the attractiveness of parks and resulted in the decline in the number of visitors and economic benefits gained from the use of parks and their facilities.

Agricultural land is an important productive open space component in Hanoi City. Agricultural production provides opportunities for local economic development through creating jobs, supplying agricultural products, increasing local income and contributing to the city's economic development. However the average income from agricultural production per capita was approximately 300 USD per year in 2005 which was far lower than the average annual income per capita of about 2,000 USD (Hanoi People's Committee, 2005).

Although the economic benefits of agricultural land have been acknowledged by the city's government and community, large areas of agricultural land have been under increasing pressure from the urban sprawl. The loss of productive agricultural land is shown in Table 6.1. During the period from 2000 to 2005, some 5.7 percent of agricultural land was permanently lost to urban development.

Table 6.1. Areas of Agricultural Land converted to Urban Purposes (2000 – 2005)

Converted agricultural land (ha) District	Living land	Public Works	Industrial land	Total of lost agricultural land (ha)	Lost agricultural land as percentage of total agricultural land in 2000 (%)
Hoan Kiem urban district	0	0	0	0	0
Ba Dinh urban district	0	0	0	0	0
Dong Da urban district	0	0	0	0	0
Hai Ba Trung urban district	0	0	0	0	0
Tay Ho urban district	45.21	50.15	0	95.36	0.22
Cau Giay urban district	61.83	107.35	20	189.18	0.45
Thanh Xuan urban district	19.31	0	0	19.31	0.05
Hoang Mai urban district	50.44	63.84	0	114.28	0.27
Long Bien urban district	187.83	29.97	29.57	247.37	0.58
Gia Lam suburban district	65.44	60.01	148	273.45	0.65
Dong Anh suburban district	11.16	174.1	126.6	311.86	0.74
Soc Son suburban district	35.06	274.37	37.9	347.33	0.82
Tu Liem suburban district	110.5	496.86	87.99	695.35	1.64
Thanh Tri suburban district	61.47	37.98	20.53	119.98	0.28
Total	648.25	1294.63	470.59	2,413.47	5.7

Source: Hanoi Department of Natural Resources – Environment and Housing (2005)

The loss of agricultural land has caused several negative impacts, including:

(i) Decreasing the value of agricultural production. Agricultural production as a proportion of the city's economy is shown in Figure 6.8. It indicates that it has decreased from nine percent in 1990 to three percent in 2005 and it is estimated that it will continue to fall to two percent by 2010 (Hanoi People's Committee, 2005). This has implications for the urban population access to a local food source, not to mention issues of potential food security. Household income and the livelihoods of people living in these agricultural districts are also at threat.

Notably, most of the farms in Hanoi are characterised by small land size, low farm income, limited financial resources and limited workforce. Most small farms rely almost entirely on family members for labour and management. Loss of agricultural land has resulted in decreasing agricultural production and serious social upheaval involving forced changes in employment and residence of farmers and their families exiting agriculture.

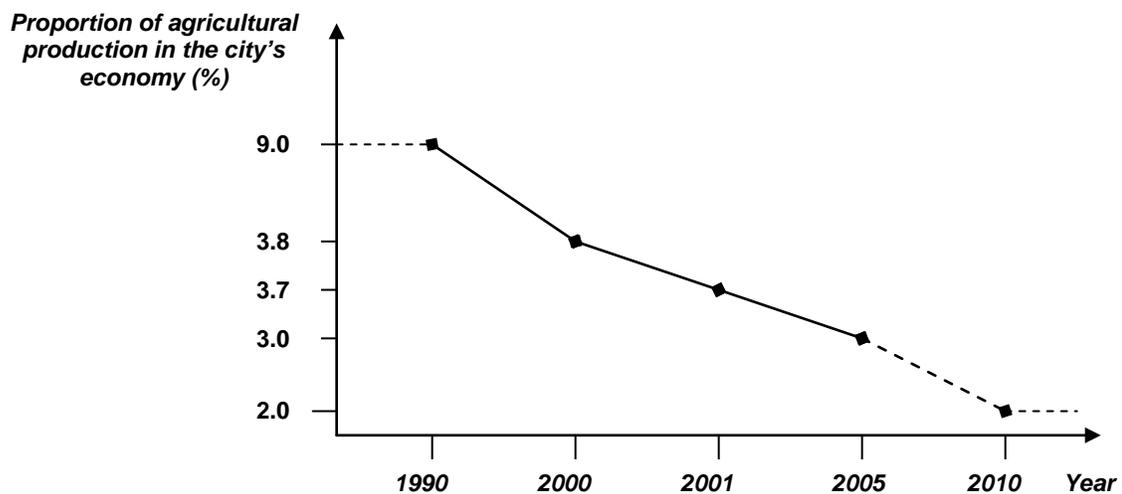


Figure 6.8. Proportion of Agricultural Production in the economy of Hanoi City

Source: Hanoi People's Committee (2005)

(ii) Loss of farm employment: The percentage of people working in the agricultural sector in Hanoi from 1995 to 2005 is shown in Figure 6.9. In this period, many farmers have had to change to working in non-farming jobs as the consequence of the loss of their productive agricultural land, except a slight increase of about 0.4% from 1996 to 1997. It has been estimated that losing one hectare of agricultural land has led to the loss of the jobs of approximately ten farmers (Dong Phuong, 2008). Over the 2000-2005 period, some 2,400 hectares of farm land (open space) was lost, resulting in an excess of 24,000 farmers being displaced from the agricultural sector. It has been predicted that a further 200,000 farmers will be displaced and lose their farming jobs and livelihoods in the three years from 2007 to 2010 (Hanoi Natural Resources and Environment Department, 2007). The city's economy is facing difficulty in dealing with the huge influx of unemployed farmers looking for jobs with the majority of them being untrained and not well-educated.

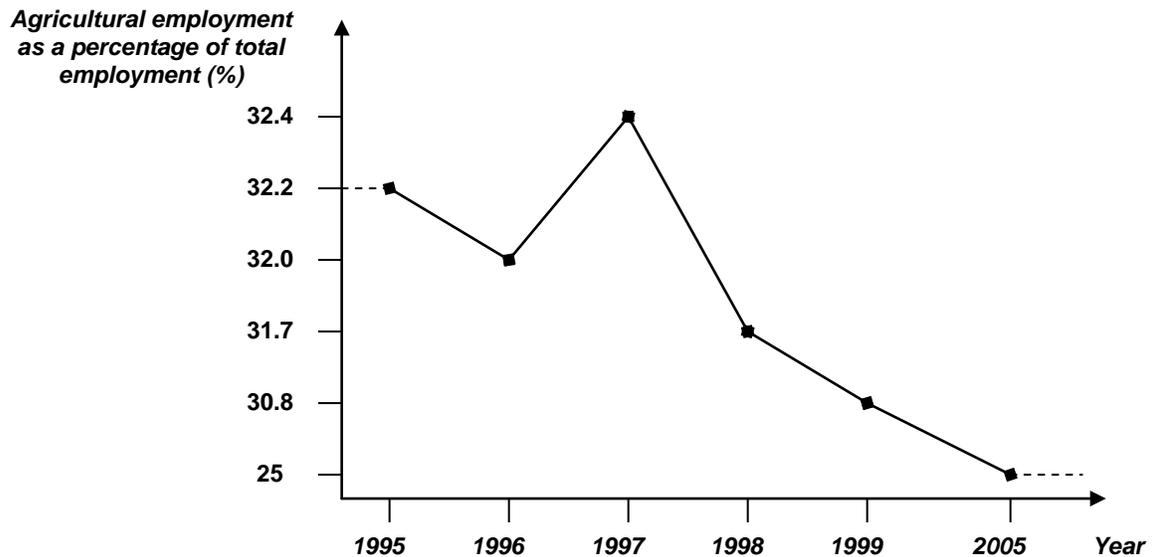


Figure 6.9. Agricultural employment in Hanoi as percent of total population

Source: Hanoi People's Committee (2005)

(iii) Other impacts: The loss of agricultural land has not only caused negative economic impacts but also serious social and environmental impacts. These will be discussed in more detail in Section 6.4.2 and 6.4.3.

Future city government planning initiatives will have to attach special and priority importance to the preservation of good quality agricultural land in order to address these negative impacts.

6.4.2. The contribution of open space to the city's environmental sustainability

All interviewees agreed that one of the major values of open space in Hanoi is in improving environmental quality, e.g. improved air quality and micro climate. However, poor management and planning of the open space system has adversely influenced its contribution to the environmental sustainability of the city. These adverse impacts have affected the positive contribution from a number of open space elements including:

(i) Well-managed agricultural land supplies important non-market goods and services. For example, agricultural land provides food and cover for wildlife, helps control flooding, protects wetlands and watersheds, maintains air quality, absorbs and filters wastewater, and provides ground water recharge. However, there was a large quantity of agricultural land that has been irreversibly converted to urban land as previously discussed. In the five years between 2000 and 2005, there was 598.34 hectares of agricultural land converted to urban construction land and some 1,873.83 hectares converted to other urban land uses (Hanoi Department of Natural Resources - Environment and Housing (DoNREH), 2005). This loss of agricultural land has influenced resource protection (soil, water, air) and the quality of the environment;

(ii) Parks, especially those with a greater concentration of trees and vegetation, provide several environmental benefits such as reduction in stormwater runoff, control of erosion (rainfall interception), improved water quality (absorbing and filtering runoff), restoration of habitats for wildlife, improved air quality (capturing airborne particulates, acquisition and storage of CO₂), and keeping impervious surfaces cool by providing shade. Parks also make a significant contribution to the amenity of an area. The areas of public parks and gardens greatly increased from thirty-four hectares in 1954 to four hundred hectares in 2005. However, all interviewees agreed that this increase has not kept pace with the rate of population growth and the area per capita of parks is now far lower than the community demand. As reported earlier, parks are distributed unequally between different parts of the city. There were forty-eight of the total number of fifty-one city parks concentrated in the inner urban districts (see Appendix A9), making access for people from suburban areas rather difficult;

(iii) Lakes and rivers, in addition to parks, are important features of the open space system. Urban lakes and rivers provide several environmental benefits including water drainage, preliminary treatment of waste water and environmental sanitation improvement. However, they have not been well preserved and managed. At the end of the nineteenth century, there were about a hundred lakes scattered around the city. At present, only fifty lakes remain including forty-eight lakes in the urban districts and two lakes in the suburban districts (see Appendix A10). The location of major lakes and rivers in urban districts is shown in Figure 6.10.

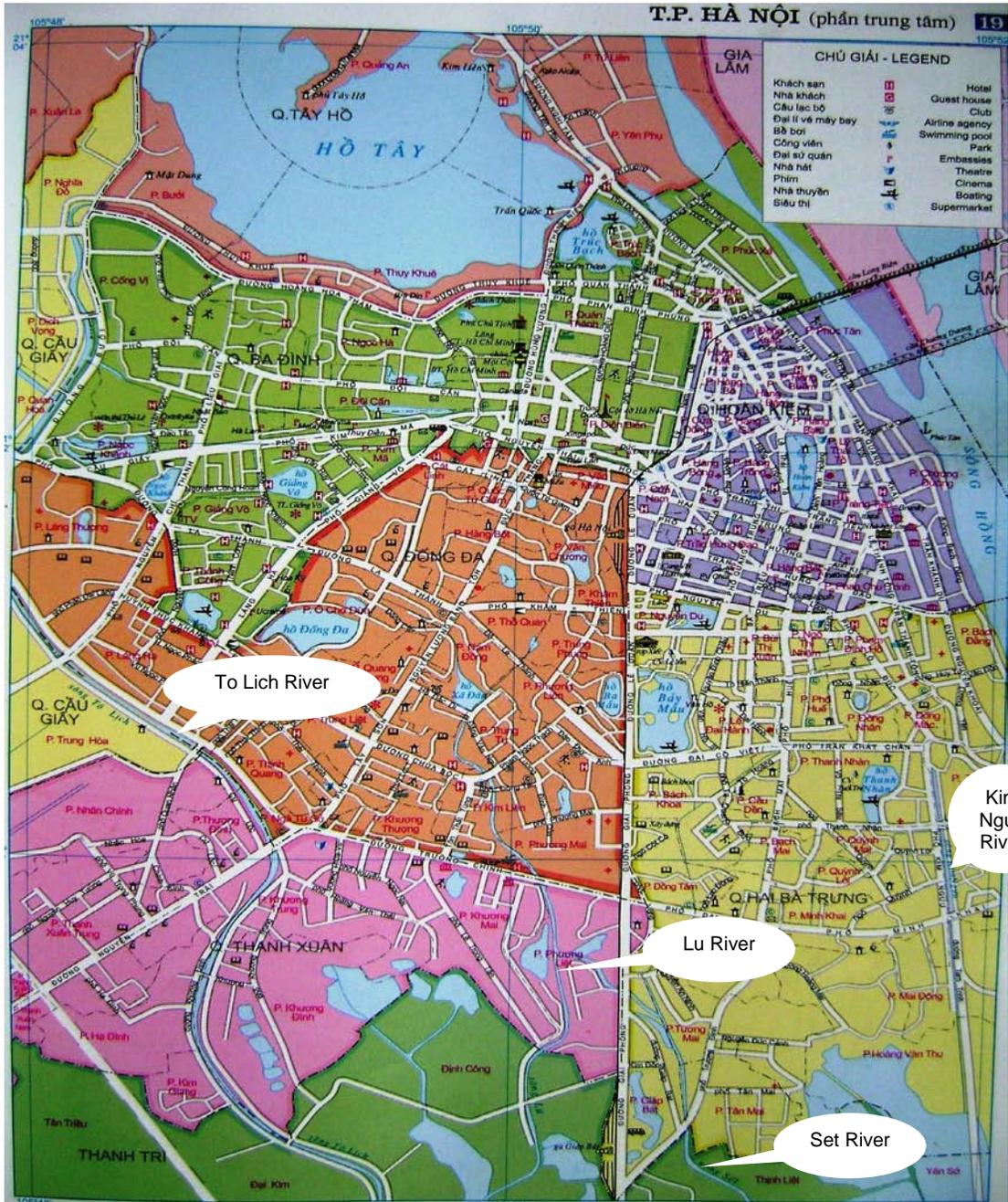


Figure 6.10. Location of major lakes and rivers in urban districts

○ Lake

Source: Google Image

Furthermore, the water quality of many lakes and rivers has declined as they perform the functions of water drainage and preliminary treatment of waste water in addition to functions like leisure, production and environmental infrastructure. For example, the To Lich, Lu, Set and Kim Nguu rivers receive 400,000m³ of domestic waste water and 100,000m³ of industrial and hospital waste water per day. Their reading of BOD₅, COD, NH₄⁺, Mn, Pb, Hg, Cr⁺⁶ and coliform are higher than permitted standards (Hanoi Department of Natural Resources - Environment and Housing (DoNREH), 2005).

(iv) In terms of systems connectivity, the city's individual open space components were not effectively connected. Thus the city lacks a comprehensive and continuous open space system across the whole area (Hanoi Department of Natural Resources - Environment and Housing (DoNREH), 2005; National Institute for Urban and Rural Planning, 2005; Hoang Lan, 2008). This has major implications for the accessibility of public open space for city residents.

(v) There are no areas of national parks or reserves in Hanoi City which means there is no open space performing the function of biodiversity protection and nature conservation. Only the Botanic Garden and the Zoological Garden are able to perform the function of protecting rare and endangered flora and fauna species. However, they are not well managed and the protection function is not regarded highly. The area of the Botanic Garden has been reduced from thirty-three hectares when it was established in 1890 to 19.6 hectares at present. The Zoological Garden has been regarded as an amusement park rather than a conservation area.

6.4.3. The contribution of open space to the city's social liveability

In Vietnam in general and in Hanoi in particular, neighbourhood and community relationships are very important to community life. Most of all interviewees (R2, R3, R4, R5, R6 and R7 in Appendix A7) mentioned that open space, such as parks, squares, lakes and their surrounding areas, are common places for community activities including outdoor meetings, relaxation and amusement. Research carried out by Nguyen *et al.* (2005) showed that outdoor exercise was the most popular activity in public open space. As these activities commonly occur in public open space areas in the city (see Figure 6.11). It can be said that open space in Hanoi provides benefits for public health and well-being.



Figure 6.11. Morning exercise in Hoan Kiem Lake

Popular activity of Hanoians (especially old people) in their daily lives

Source: Google Image

However, all interviewees mentioned that the open space system has not satisfied community demand for both quality and quantity, as described below:

(i) Public parks are not freely accessible as visitors often have to pay an entrance fee. This restricts the accessibility to public parks by the public, especially by those segments of the population with limited disposable income (Nguyen, 2007; Tran, 2007);

(ii) Facilities for disabled people have never been considered in planning for open space. This limits the accessibility to open space by disabled people (Center for Environmental Protection and Sustainable Development Planning, 2004; Le, 2005);

(iii) Public open space areas are distributed unevenly in different areas (DoNREH, 2006; Trinh, 2008). Thus, people living in the suburban areas have to travel up to forty kilometres to access the city parks which are mostly located in the inner urban districts. Traffic jams, high parking fees and a lack of available public transport are accompanying difficulties associated with public park accessibility;

(iv) Personal safety in some parks and public open space is of concern due to insufficient night lighting and a lack of security (Tran, 2007). Unfortunately, there is no available data for police reports on crime in public open space;

(v) Public open space areas are not fully utilised by city residents. According to Nguyen *et al.* (2005), public open space plays a role as a communal space for community activities and they are most frequently used in the early morning and late afternoon, and mostly used for group exercise;

(vi) Many open space areas are poorly designed, have poor facilities and are not well-managed (Center for Environmental Protection and Sustainable Development Planning, 2004);

(vii) Non-farm development has changed the peri-urban environment which is so essential to a farmer's livelihood (Huynh, 2005; Hanoi Natural Resources and Environment Department, 2007). This has also threatened the physical and aesthetic environment which originally was the attraction of peri-urban areas and continues to be an integral part of the farmer's way of life. Small farmers have made important contributions to the nature of the city and their disappearance is leading to a decline in cultural diversity in a society that is becoming increasingly urban.

6.5. Summary

The above analysis demonstrates the degree to which the representative plans from the principal periods of Hanoi's history met, or had the potential to meet, the criteria for planning towards liveable community. The conclusion drawn from the above analysis is that none of these plans satisfied the majority of the evaluation criteria. In other words, none of the planning for Hanoi City to this day has achieved the goal for liveability. However, it is obvious that to varying degrees, they all took an interest in the provision of open space and was often seen as an integral part of the city throughout its history. Nevertheless, the open space system has not been well planned and managed and large areas of open space have been converted and encroached upon by urban land uses. This has led to several economic, environmental and social impacts and issues that the city government and community will have to deal with in order to successfully pursue the goals for liveability.

Analysis of past and current planning contributes to the understanding of how Hanoi City was planned and also assists in the identification of the contemporary planning issues facing the present administration and community of Hanoi. Findings drawn from

the above analysis and discussed in the following chapter can help to inform city government, planners and city residents, about the shortcomings of each plan. Taking into account all these issues and finding solutions to deal with them is the way forward to achieving the planning goal for a more liveable Hanoi in the future.

Chapter 7 . Discussion of Findings

This study has sought to ascertain if the open space landscape of a former Asian colonial city, namely Hanoi, which was planned through a number of distinct “eastern’ and “western” domains, has contributed to the achievement of liveable outcomes for the city’s present and future communities. Furthermore, it has examined how influential open space policies from past and contemporary planning have proven to be in terms of their contribution to the achievement of liveable outcomes. Another dimension of the study’s inquiry looked at how different Eastern and Western cultures, that have dominated the development of Asian cities, may have influenced open space planning.

These questions are addressed through the following discussion of the main findings of this study. These findings were drawn from the analysis and discussed in relation to the literature and the review of the theory reported in previous chapters. This chapter also makes several recommendations that need to be taken into account in order to achieve the planning goal for liveability for Hanoi City.

7.1. The contribution of open space in achieving the planning goal for liveability

The literature showed that open space is important for achieving liveable communities (Beatley and Manning, 1997; Rees, 1997; Fischer, 2000). Hence, the planning for liveable communities should seek the achievement of a high quality and accessible open space system. Analysis of the case study helps to examine this theoretical relationship.

Previous analysis showed that open space can provide several benefits for communities. However, under different planning regimes the values of open space were differentially recognised. This is best described in the Table 7.1 below.

Table 7.1. Values of open space through different planning regimes

Open Space Attributes	Hanoi Case Study			
	<i>Feudal Period</i>	<i>French Colonial Period</i>	<i>Post-Independence Period</i>	<i>Contemporary Period</i>
<i>Recreational value</i>	Relaxation and amusement value	Relaxation and amusement value	Relaxation and amusement value	Relaxation and amusement value
<i>Promotion of social cohesion</i>	Not addressed	Not addressed	Not addressed	Place for communal life
<i>Environmental benefits</i>	Not addressed	Only helped to improve environmental quality in the French Quarter	Not addressed	Improved environmental quality
<i>Benefits of public health and well-being</i>	Not addressed	Improving hygienic condition but only in the French Quarter	Not addressed	Place for outdoor group exercise
<i>Support for economic development opportunities</i>	Outdoor markets provided economic opportunities	Not addressed	Not addressed	Provided opportunities for economic development

Table 7.1. *continued*

Open Space Attributes	Hanoi Case Study			
	<i>Feudal Period</i>	<i>French Colonial Period</i>	<i>Post-Independence Period</i>	<i>Contemporary Period</i>
<i>Contributing to a sense of a place</i>	Enhanced the attractiveness of places	Sought to enhance city appearance	Sought to create a notable place (express the pre- eminence of new socialist regime)	Sought to create attractive scenery

These values of open space can be grouped in economic, social and environmental categories. The quality of open space is a key factor in defining community identity and its unique sense of place. High quality open space helps to improve the quality of life which is one of the main contributing elements to liveability. These benefits of open space satisfy the major principles of sustainability and liveability.

In Chapter Six, the representative plans of each historical period of city planning and development were analysed in order to examine the contribution of open space in planning for a more liveable Hanoi. An evaluation framework was developed in Chapter Four and applied as a methodological framework for this analysis. The set of open space indicators developed during the course of this study provided a useful framework for the evaluation of past and current planning endeavours.

With respect to each of the principal historical periods reviewed, it was concluded that none of the evaluated plans fully met all the criteria for the achievement of the planning goal for liveability. Although these plans often claimed to place a high value on open space as a method of improving the quality of the living environment and enhancing the city's appearance, the open space system has not been well planned and managed, nor

has it satisfied community demand. This issue is summarised in more detail in Table 7.2 below. This is reviewed in different key components of a cyclic planning process including planning vision and goal, objective, policies (strategies), planning implementation mechanisms (monitoring, evaluation, reporting, reviewing) and community engagement in planning process (see Figure 4.1).

Table 7.2. The contribution of open space on achieving planning goals for liveability in Hanoi

Criteria		Feudal Period	French Colonial Period	Post Independence Period	Contemporary Period
VISION AND GOALS	Has the vision and goals of city planning addressed the issues of sustainability and liveability?	No	No	No	Yes
	Is there any attempt to define 'sustainable development' in the city context?	No	No	No	Yes. The city was planned to become an eco-city with prosperous economic development.
	Have issues facing the achievement of liveability vision and goals been identified?	No	No	No	No

Table 7.2. *continued*

Criteria		Feudal Period	French Colonial Period	Post Independence Period	Contemporary Period
VISION AND GOALS	Has the achievement of high quality open space been attached in the vision and goals of city planning?	No	No	No.	Yes. Improving green and water space was recognised as vital for achieving the planning goal.
OBJECTIVES	Are the objectives of city planning aimed at achieving a more and liveable future?	Yes. The city was planned to be a compact area with mixed use of land. This encompassed a contemporary principle of sustainability urban planning.	Yes. City planning aimed at improving hygiene conditions, the living environment and environmental quality.	No. City planning just focused on industrial and housing development and ignored other environmental and social issues.	Yes. The city was planned to be a multifunctional city with economic development, environmental sustainability and social stability.

Table 7.2. *continued*

	Criteria	Feudal Period	French Colonial Period	Post Independence Period	Contemporary Period
OBJECTIVES	Are the objectives of open space planning aimed at achieving high quality open space and satisfying community aspirations for a liveable environment?	Yes. Planning for green and water features in order to achieve harmony with the environment according to <i>feng-shui</i> principles, but only the royalty could access these 'planned' open space areas.	Yes. Dredging lakes and drainage channels, establishing new parks and green areas were put forward, but focused only in the French Quarter.	No. Open space planning was less important than industrial and housing development and there were no objectives for improving the open space system in the city.	Yes. The city was planned to improve the quality of open space system and increase the average green area per head to eighteen square meters by 2020.
	Are these objectives measureable and achievable?	No. There was no specific objective for achieving high quality open space.	No. There was no specific objective for achieving high quality open space.	No. There was no specific objective for achieving high quality open space.	No. This objective is measureable but seems unachievable. It is difficult to increase the figure of green area per head from one square meter in 2005 to eighteen square meters in 2020.

Table 7.2. *continued*

Criteria		Feudal Period	French Colonial Period	Post Independence Period	Contemporary Period
POLICIES/STRATEGIES	Have city planning policies taken into account the principles of sustainability and liveability?	No	No	No	Yes
	Where do the issues of urban open space rank among other major issues of city planning?	There was no obvious evidence about the rank of urban open space issues among other major issues of city planning. However, it was recognised that provision of green and water space played a vital role for achieving the harmony with the environment.	It was recognised that open space issues were given priority in order to enhance city's appearance and living environment. Unfortunately, this was only focused on the French Quarter.	Open space issues were less important than industrial and housing development.	There was no obvious evidence about the rank of urban open space issues among other major issues of city planning. However, it was stated that open space planning was important in order to achieve the planning goal for an eco-city by 2020.

Table 7.2. *continued*

POLICIES/STRATEGIES	Has city planning adopted a long-term planning horizon?	No	No	No	Yes, but the Plan did not cope with the rapid urbanisation as discussed in Section 5.2.4.
	Has city planning developed an explicit set of categories or an organizing framework that links vision and goals to indicators and assessment criteria?	No	No	No	No
	Has city planning drawn from a number of indicators or indicators combinations to provide information of planning progress?	No	No	No	No

Table 7.2. continued

IMPLEMENTATION MECHANISM	Has city planning developed a capacity for repeated monitoring, evaluating, reporting and reviewing to determine trends?	No	No	No	Yes, theoretically but the actual implementation of this Plan did not fully adopt these important steps of the cyclic planning and adaptive management approach (refer to Section 6.2.4).
	Has city government established institutional capacity to achieve planning policies?	No	No	No	No
	Has city government provided affordable supporting resources to implement planning policies?	No	No	No	No

Table 7.2. *continued*

IMPLEMENTATION MECHANISM	Has city government clearly assigned responsibility and provided ongoing support in the decision-making process?	No	No	No	No
COMMUNITY ENGAGEMENT	Has city planning obtained a broad participation of community?	No	No	No	No
	Has city planning been opened to and accessed by the public?	No	No	No	Yes, but city residents only viewed the Plan on the public exhibition and had no chance to give comment or take part in the planning process.

Table 7.2. *continued*

COMMUNITY ENGAGEMENT	How effective is the relationship between community and government?	Not effective.	Not effective.	Not effective.	Less effective.
	Has city planning incorporated local knowledge?	Yes	No	No	No

Summary

The above discussion demonstrated how open space has been planned in the past and at the current time in Hanoi City. The analysis showed that the functionality and quality of the open space system was poor through the different planning regimes of Hanoi City.

In the Feudal Period, open space such as water bodies and green areas were seen as important factors in achieving a better living environment according to the prevailing *feng-shui* principles. However, since there was no formal urban planning, open space was not considered systematically. Major open space such as communal houses, streets and outdoor markets were a feature of the identity of feudal Hanoi. However, these open space areas were provided individually, based on each guild, and not as an integrated system of the city's open space. This did not provide a sense of continuity and inhibited the city's residents from accessing community resources, facilities and services. In addition, the provision of open space did not satisfy the principle of equity relating to contemporary sustainability, as major open space components were mainly designed to serve Kings and Royal families. City residents were prohibited from using these open space areas and had no right of access to the closed planning process. Further public open space for general community activities was not well planned and the provision of open space did not satisfy community needs and aspirations. It is concluded that open space in feudal Hanoi was not well-planned and was not freely accessible by the public. This inhibited the achievement of a high quality of life and liveability for communities in the feudal past.

During the French Colonial Period, the first formal urban planning for Hanoi, Hébrard's Plan, was introduced. It gave no consideration as to how the Plan was to be implemented

and crucial steps such as plan monitoring, evaluating, reporting and reviewing were not executed. Open space was given a considerable degree of attention in city planning, due to the French being influenced by the 'Garden City' movement. The goal of enhancing the quality of life was addressed as the French planned open space more systematically, aimed at enhancing the city's appearance, and improving hygiene and the living environment. Many new formal parks, gardens attached to villas, Western style squares and broad-tree line avenues were built. However, the provision of open space did not meet the needs of the city's residents as whole. Open space planning activities were limited to the French Quarter in order to serve the colonialists. The provision of open space for a wide range of the indigenous community was ignored as colonial interests were supreme. Consequently, this caused social inequity which did not meet the criteria of providing equity in a sustainability and liveability sense. While new open space elements were provided in the French Quarter they were not linked with other major open space components in the indigenous areas. This resulted in the fragmentation of the city's landscape, isolated traces of which can be seen in present day Hanoi City. It can be concluded that the provision of open space contributed to enhance the quality of life and liveability of the French Quarter, but not for the whole city. The bulk of indigenous population had to live in poorly planned areas and was not provided with sufficient open space for their needs.

In the Post Independence Period, the *Leningrad Plan* followed the Soviet centralised model and focused only on producing the plan. The Plan was rigid and did not adopt an adaptive management approach. Furthermore, the Plan did not facilitate community engagement in the planning process and planning information was not accessible to the

public. Therefore, it could not contribute to the creation of a strong sense of identity and belonging in the community. The issues of improving environmental quality and social liveability were not given the same importance as economic development. Therefore, the provision of open space was treated as being less important than public housing and industrial construction and the community's needs and aspirations for open space were not satisfied. Open space was planned to meet only minimal standards. There were only three new city parks and a limited number of playgrounds in residential units provided or built. In fact, these three city parks did not satisfy the growing demands for relaxation and amusement of a city of one million people. Playgrounds were designed for nuclear families rather than the more common extended Vietnamese families which resulted in severe space limitations within residential units. Furthermore, these open space elements were poorly designed and undiversified. Notably, the issue of social equity was given importance as reflecting the pre-eminence of the new socialist regime. New public parks were recognised as important public welfare works. They were built by the contribution of unpaid public work and were readily available to the public. However, as reported earlier, three city parks were not sufficient to serve a population of one million people. Therefore, it can be said that the goal of providing equity was theoretically addressed, but not practically achieved. It is concluded that planning for open space in the Post Independence Period did not support the major principles of sustainability and liveability. Open space was not sufficiently provided and was poorly designed. This negatively influenced the quality of life and liveability of the city at that time. It is argued that the Old Districts developed in this period were the least liveable part of the

city. Low quality housing, lack of public open space, undiversified, poorly designed and ill-managed open space still characterise this area.

In the Contemporary Period, *A Master Plan Hanoi 2020* partly followed a cyclic planning process but did not effectively incorporate an adaptive management approach. The Plan was intended to be updated every five years. Although approved in 1998 no updating has been undertaken and to date it has been nothing more than a linear approach to planning. Planning information has now been made partly available to the public but the community has not been broadly involved in the city planning process. According to the objectives of *A Master Plan Hanoi 2020*, the open space system of Hanoi is progressing towards a more liveable future and the goal of this planning has been defined as achieving sustainable development. Open space issues have been seen as important features in order to improve environmental quality, to enhance the city's appearance, and to serve a wide range of community activities. Several strategies and policies for increasing the quantity and improving the quality of open space have been developed. However, the existing open space system has been poorly planned and managed. Major issues are loss of large areas of open space (e.g. good quality agricultural land and lakes), overlapping responsibilities in management of open space by a range of authorities, and the limited capacity of staff and managers to deal with open space issues. Addressing these shortcomings is a challenge that needs to be achieved through a carefully designed and implemented planning process in order to pursue the planning goals of liveability.

Analysis of the case study showed that the developed evaluation framework acted as an useful instrument in evaluating the planning process. Open space indicators are the key

part of this framework and these indicators helped to determine the status of the open space system. They also allowed identification of the issues that need to be solved in order to achieve a high quality open space, which in turn contribute to the liveability of the city. All this information would help to inform the city government, planners and the public on the effectiveness of the past and current planning and determine whether the city is on the pathway towards its stated liveability goal.

Conclusion drawn from the analysis is that within the context of past and current planning, the provision of open space system has not contributed to the achievement of liveable outcomes for the city's communities. In the light of these findings, several recommendations have been formulated.

Recommendations

The review of literature and analysis of the case study showed that open space provides several benefits for the community and can play an important role in contributing to the achievement of the planning goal for liveable communities. The provision of high quality and accessible open space should be recognised as one of the fundamental prerequisites for achieving liveable communities.

It is recommended that open space should be used as a surrogate indicator for evaluating the achievement of planning goals for liveability. This is an initiative enabling the city government and community to assess the functionality of their open space system and its contribution to the ongoing process of planning for liveability.

It is also proposed that an adaptive management approach should be adopted as an integral element of the cyclic planning process seeking to achieve liveable outcomes for Hanoi City. It would help to improve implementation of the goals and objectives of

planning for a dynamic concept of liveability. Open space indicators as part of the cyclic planning process incorporating an adaptive management framework need to be monitored, reviewed and reported in order to provide integrated information on the city's progress toward achieving its goals and objectives of liveability.

It is also recommended that the city government adopt a community-based planning approach operating in a bottom-up mode. This would provide the community with opportunities for involvement in the planning process. This will lead to an improved understanding of public opinion, in regard to open space and related issues, and provide additional information which may not have been identified by the planners and decision-makers. This would strengthen public participation and promote cooperation among different stakeholders.

7.2. Influences of culture on open space planning

In terms of the second sub-research question, the literature showed that planning is a process that is embedded in the socio-cultural environment and is influenced by the interaction between planners and communities (Ambrose, 1986; Burayidi, 2000; Healey, 2006). Different planners may be influenced by different schools of planning thought and different communities may have different interests and needs.

Planning processes often reflect the dominant values of a culture. Culture shapes the way people think and behave, while personal factors, in turn, affect decision-making processes such as planning. Furthermore, different cultures vary and bring critical values and beliefs that affect a variety of management processes including planning.

Culture is recognised as an essential factor for influencing the appearance, promoting the values and creating the identity of a city. Therefore, matters of culture have to be taken into account in order to achieve the effectiveness of urban planning processes.

The review of the case study showed that during its long history, Hanoi City was influenced by a number of distinctly different cultures. Hanoi's urban fabric reflects the indigenous Vietnamese and Chinese feudal past, the period of French dominance, the recent years of independence with Soviet bloc influences and other contemporary Western influences. These different cultures influenced different approaches to planning for the city and have become embedded in the city's cultural landscapes, especially the open space system. Although open space has often been recognised as an important feature of urban planning in Hanoi, Easterners and Westerners have had different perspectives on the provision of particular types of open space.

Streets, communal houses and outdoor markets are typical types of open space according to the Eastern view. Streets in Hanoi do not only have a traffic function but also assist the functions of merchandising, public communication, relaxation and entertainment. These characteristics combine to make a significant difference between the streets in Western and Eastern traditions. In addition, a Communal House is a typical open space in an Eastern city like Hanoi and this served community religious demands as well as functioning as community gathering places. It is the place of worship for the protecting God of the village who is honoured during ceremonies and festivities. It is also the place for community meetings and activities. In addition, there were outdoor markets which were not only merchant places but also open space for community communication.

The open space system was planned more systematically when Westerners brought new schools of thought about the types and functions of open space. Western style squares, formal parks and broad-tree line avenues are important types of open space according to the Western view. In addition to the commonly understood functions of serving the community's demands for relaxation, sightseeing and community gathering places, the West also introduced the functions of improving hygiene and enhancing the city's appearance through the open space system.

In addition, different Western planners have had different influences on open space planning in Hanoi. The French planners desired to improve the liveability of their part of the city through open space planning such as the building of new parks, squares and promenades. Planners from Soviet bloc countries, on the other hand, merely planned open space to serve the very basic and immediate needs of residents.

The main characteristics of open space planning from different periods in the history of Hanoi City are described in Table 7.3 below.

Table 7.3. Main characteristics of open space planning in different periods in the history of Hanoi City

Characteristic	Feudal Period	French Colonial Period	Post-Independence Period	Contemporary Period
Type of city	Imperial Capital	Colonial Capital	Political Capital	Multi-function Capital
Planning culture	Informal urban planning	Capitalist planning (imposed colonial rules)	Socialist planning (top-down/command planning)	Mixture of capitalist and socialist planning (market oriented command planning)
Typical types of open space	'Royal' open spaces (eg. royal gardens). Public open spaces (eg. communal houses, outdoor markets, streets).	Formal park Western square	Public park	Water space Green space Public space
Major role of open space	'Royal' open spaces served relaxation and amusement needs of Kings and Royal families. Public open spaces served community meeting and activities.	Improved living environment for foreigner in the French Quarter.	Provided opportunities for wider public access to public parks (reflected social justice as the pre-eminence of the new socialist regime).	Serve diverse needs of communities, especially communal activities (eg. places for outdoor meeting or group exercise).

Table 7.3. continued

Characteristic	Feudal Period	French Colonial Period	Post-Independence Period	Contemporary Period
Ownership of open space	Both 'Royal' and public open spaces were owned by the royalty. However, only royalty can access to the 'Royal' open spaces.	Public owned	Public owned	Public owned

The above discussion showed that planning for Hanoi City during different periods of history was strongly influenced by different domestic and foreign cultures. Successive layers of these cultural influences played crucial roles in shaping Hanoi's townscape. All cultural layers are significant and represent important periods in the history of the city. Acknowledging the importance of the city's cultural landscape, especially its open space landscape, is critical in helping to arrest the decline in the quality of the urban environment and to maintain links with the past. However, this has not been given priority in the city's planning agendas. The city government needs to develop appropriate policies that balance cultural landscape protection with urban development in order to seek the sustainable development of the local community. The following recommendations are made regarding these issues.

Recommendations

Hanoi is a multi-faceted city where Eastern and Western, traditional and modern values co-exist. It is obvious that past planning has influenced current planning and also shaped the appearance of present day Hanoi City. In order to achieve effectiveness in city planning, the city government and planners should adopt an inclusive planning approach, and recognise and acknowledge all these influences. The city's open space landscape should have due regard to the environmental and cultural heritage values embedded in that landscape. There is a need to identify those remnant traces of the past that have a continuing significance in the contemporary city and which should be protected.

The Ancient Quarter, which was developed in the Feudal Period, is an essential basis of Hanoi's sense of identity. However, the city government and planners have to improve

sanitation and the overall housing conditions, as well as upgrade the facilities in the existing open space area. Furthermore, the key elements in this area such as pagodas, temples and communal houses need to be preserved for their heritage values as most of them have a traditional symbolic value.

The French Quarter, developed in the French Colonial Period, is regarded as the most liveable area of the city. The urban environment in this area is in a better condition than that of other parts of the city. Broad tree-line avenues, gardens attached to villas, and the classical and modern public buildings are key elements which need to be preserved.

The Old Districts, which were developed in the Post Independence Period, manifest the Soviet impact on the city's architecture and planning. Soviet buildings were poorly designed and undiversified. Public housing was of a poor standard and now accommodates far more residents than was originally intended. The area lacks open space for community activities and some playgrounds built for high rise tenements are poorly managed and not attractive to residents. However, some monuments, buildings and precincts should be regarded as key elements relating to the heritage value of the urban architectural and planning style of that time.

The New Development Areas were developed in the Contemporary Period after the recent Vietnamese opening to modern Western influences. These are the most rapidly growing urbanisation areas in the present day Hanoi City. The most important task is to minimise the conversion of valuable open space, especially the remaining productive agricultural lands, into urban land uses. In addition, these areas should be planned in harmony with other parts of the city and not as isolated areas.

These different parts of the city are fragmented in terms of the cultural landscape. The challenge facing the city government, the planning professions and the community at large is how to properly plan for the city as a whole system while preserving the heritage values of the cultural landscape that are embodied in isolated open space areas throughout the city. It is recommended that the city government adopt an integrated approach to urban planning and management. This requires a focus on the interaction between diverse landscape features and the linking of isolated and discrete cultural landscape elements that exist across the city.

The existing city's open space system includes the three main typologies. At local level, open space serves as the recreational and social focus of the neighbourhood and precinct. Local open space includes playgrounds associated with residential units, neighbourhood parks, precinct gardens and water bodies. At district level, open space serves broader purposes than local open space, and includes extensive parks, squares, large lakes and urban farms. At city level, open space plays a vital role in maintaining the liveability of the city and includes city parks, rivers, forest parks and metropolitan squares.

The study found that the open space system of Hanoi City lacked crucial linkages between the individual open space components that together could form a continuous and integrated network. This resulted in discontinuity of the city's landscape and also inhibited the accessibility of public open space to the public.

Hence, it is recommended that an integrated open space system be developed which would link all key open space areas of the city and provide an integrated sense of continuity (see Figure 7.1). These linkages are in addition to the communication

corridors between different open space areas. Within the context of Hanoi City, it is recommended that this be developed on two levels of linkages which can take various forms including:

(i) Inner city linkages: Help to connect individual open space elements in the inner urban areas (Ancient Quarter, French Quarter, Old Districts and New Urban Districts). These linkages would be broad-tree lines avenues, tree-lines along rivers, promenades surrounding lakes and water bodies, or parkways; and

(ii) Outer city linkages: Serve to connect major open space components in the urban areas with suburban areas. These linkages would be pathways, cycle ways, greenbelts formed by agricultural land, corridors along rivers and water ways, greenways, or green buffer zones.

Open space linkages would provide many benefits and result in a higher quality of life, a healthier environment and a more liveable community. The linkages would allow disparate and separated open space to form an interconnected network. More importantly, they would help to effectively link different parts of the city to form a whole system that would be more resilient and robust than a series of separate parts. These would help people to experience a valuable sense of place. They would also provide access and allow isolated open space to be used and allow previously inaccessible resources to be experienced by the public.

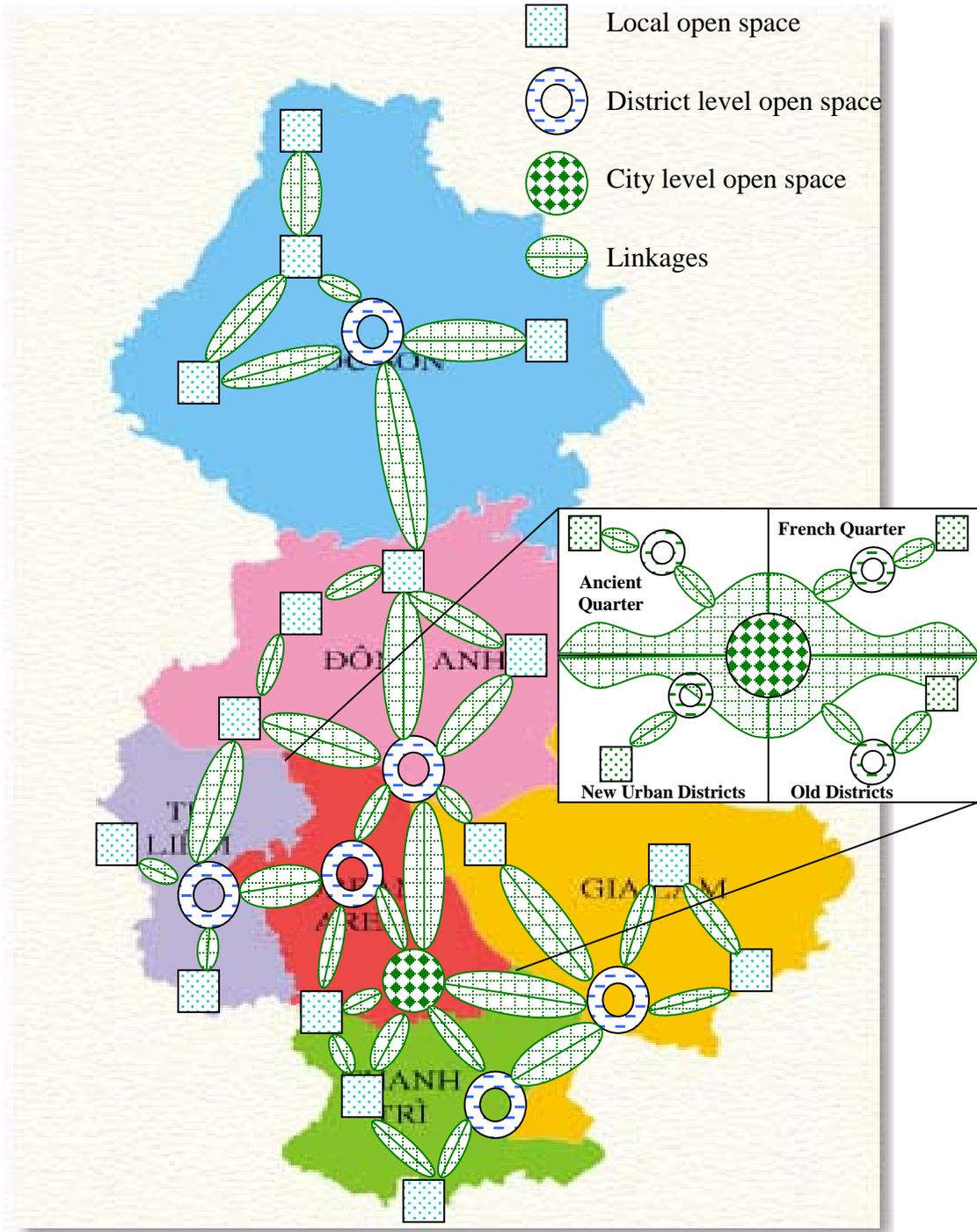


Figure 7.1. Towards an Integrated Open Space System for Hanoi City

7.3. Towards a more liveable Hanoi: Recommendations for an open space planning strategy and policy

The analysis of the case study demonstrated that to date, planning for Hanoi has not met the planning goals for liveability. The open space system in Hanoi has not met the requirements of the community's demand for open space in both a quality or quantity sense. The reasons for this conclusion were:

1. The open space system was not well protected and preserved: e.g. loss of lakes; conversion of agricultural land into other urban land uses;

2. The open space system was not well planned: e.g. unequal distribution of public parks and green space in different parts of the city; lack of linkages to connect major open space components to form a continuous system; ineffective participation of the community in the planning process;

3. The open space system was not well managed: e.g. responsibilities of relevant authorities involved in open space management were not clearly assigned; overlapping in management of open space; and

4. Open space issues were not given priority among the other major issues of city planning: e.g. low investment of capital and human resources in open space planning and management. Although all interviewees agreed that open space plays an important role in achieving a liveable Hanoi but not all of them listed planning for a quality open space system as one of their five priorities in sustainability planning.

In order to achieve the planning goals for a high quality open space system which in turn contributes to achieving liveable communities, the city government needs to overcome the shortcomings in planning and management of open space.

Recommendations

The following recommendations are made:

1. Review of the case study found that there is no official concept of the term 'open space'. Therefore, it is recommended that a formal working definition of open space be developed as well as a classification of types of open space. This would assist in dealing with the current issue where there is no unique regulation relating to the functional classification of parks and green space. It would also provide a basis to address the variations between open space data that different agencies have and which depend on the different definitions of managers, planners or researchers.

2. Analysis of the case study showed that government and community relationship in management and planning for open space was not effective. Thus, it is recommended that effective public participation in open space planning and management be sought through an improved commitment to community engagement. Community engagement should be regarded as a powerful mechanism for the success of city planning. It could be carried out by information sharing between government and communities, community participation in planning and active community participation in decision making.

3. At the moment, many parks are surrounded by fences and people often have to pay an entrance fee both of which restrict 'open' access to public parks by the general public. It is recommended that open space be accessible to the public so that it serves public needs. Furthermore, the provision of open space for people with disabilities needs to be addressed. Increasing 'openness' of public open space areas can help to increase the use of those spaces and their usefulness for the city's residents as a whole.

4. It is recommended that an integrated network of open space be developed that links natural and man-made land and water assets. These linkages would help to connect existing open space areas and different culturally important parts of the city (as suggested in Figure 7.1).

5. Increased investment and budget allocation for open space management and planning is required and should be given the same priority as the provision of other urban infrastructures. Furthermore, it is recommended that the city government should call for wider investment in open space from outside of its city's budget.

6. The city government should clarify the roles and responsibilities of relevant stakeholders. These stakeholders are those who may benefit from or are related to some extent to open space planning and management. They include: (a) *decision – makers*, i.e. open space authorities and planning authorities, who should be *responsible* for the planning and policies of open space (implementing, managing, assessing, monitoring); and (b) open space *users*, i.e. residents, visitors and recreationist, who might be *affected* (positively and/or negatively) or those who represent people affected by planning and policies. Most important is the need to assign responsibility to a lead authority for open space planning and management across the entire city and across government agencies of all levels.

7. It is necessary to improve the capacity of authorities and staff responsible for open space planning and management. Planners and managers play an important role in conceptualising, planning and translating government policy into practical strategies and programs. In addition they help communities to determine their needs and find ways to

address those needs. Highly skilled planners and managers can provide opportunities for successful and effective planning and management programs.

8. Planning should be adaptive and comply with a cyclic process in which realistic planning reviews, monitoring, evaluating and reporting have to be implemented. City government has to commit to a process of continual improvement through the review and monitoring of their plans. Furthermore, evaluation of planning should be regarded as an important task in assessing a project's progress towards its goals and objectives. The evaluation framework proposed in this research can be an appropriate method for planning evaluation.

9. Planning for liveability should adopt a long-term horizon to ensure that the needs of future generations are addressed. This would require the development of indicators to monitor the progress towards liveability. Open space indicators are recommended to be used as an important tool for evaluating the liveability of city communities.

7.4. Summary

The study has shown that the provision of open space was often considered in the planning for Hanoi City albeit to limited effect. Although it was differently planned and provided by different planning regimes, it was often highly valued as a method of improving the quality of the living environment and enhancing the city's appearance. In the Feudal Period, according to *feng-shui* principles, water and green space were two important features of the urban environment. They played important roles in the spiritual life of Hanoians and also influenced site selection, urban construction and layout. However, open space was not planned systematically and only served Kings and Royal

families. In the French Colonial Period, French urbanists and planners were influenced by the 'Garden City' movement and attached special importance to the provision of open space. Open space was planned in order to enhance the city's appearance and improve the quality of the living environment. However, these activities were only focused on the French Quarter. In the Post Independence Period, open space planning was less important than housing and industrial construction. Some new open space areas were provided or built but were to serve only the very basic demands of community. In the Contemporary Period, open space is highly valued and policies for planning and management of open space have gained importance on the city government agenda. However, the open space system has been poorly planned and managed. It is concluded that none of the planning for open space in the different planning regimes in Hanoi City has achieved the planning goal for liveability.

The study demonstrated that culture is an important factor influencing city planning and open space provision. During its long history, Hanoi's townscape has been influenced by different external cultures including Chinese, French, Soviet and other contemporary Western cultures. The differences of the dominant influence of cultures have become embedded in the city landscape, especially its open space system. The Ancient Quarter was familiar with Communal Houses, typical Asian streets and outdoor markets. The valuable open space components in the French Quarters were gardens attached to villas, Western style squares, broad tree-line avenues and formal parks. The Old Districts were distinguished by Soviet style monuments and public buildings. These external influences are integral parts of Hanoi's heritage, each contributing to its overall richness.

Acknowledging these influences is critical to sustainability planning for the city's cultural landscape.

In order to achieve the planning goal for liveability, the city government should develop appropriate policies for improving the functionality and quality of the city's open space system. Open space indicators should be used to inform the city government and the community of the status of the city's open space system, and also to monitor the ongoing contribution of open space to the sustainability and liveability of the city. This study has presented a series of recommendations aimed at assisting the city, its community and the city government to achieve these ends.

Chapter 8 . Conclusion

8.1. Major Conclusions

The literature demonstrated that open space can provide several benefits for communities including a recreational value, promotion of social cohesion, benefits of public health and well being, environmental benefits, opportunity for education, support for economic development opportunities and contributing to a sense of place (Freeman, 1984; Burns, 1998; Lundberg, 1998). Research on the case study of Hanoi demonstrated that to some extent, open space in that city provides a similar set of values. Whilst the literature defines open space to include public and private land, the Vietnamese view of open space only acknowledges public owned land.

The literature broadly recognised that there is a close relationship between open space and the liveability of communities (Wheeler, 1998; Newman and Kenworthy, 1999; Fischer, 2000). Open space plays an important role in making places “greener”, healthier, and more enjoyable. Open space can contribute to the quality of life and liveability of the urban environment. The quality of life in an urban centre in turn is influenced by the quality, the values and the functions of urban open space and these should be safeguarded through a planning process. Therefore, planning for liveability should seek to achieve high quality and accessible open space.

Analysis of the case study showed that although open space has often been highly valued in different historical urban planning regimes, the provision of open space in Hanoi has not supported the achievement of liveable outcomes. In the Feudal Period, water and green space were seen as important elements which created harmony between

people and the natural environment. However, since there was no formal planning at that time, open space was not systematic and only reserved for the Royal families and nobles. In the French Colonial Period, open space was given importance as the French were influenced by the 'Garden City' movement. Formal parks, lakes and surrounding areas, Western squares and gardens attached to villas were regarded as key elements for improving the living environment and enhancing the city's appearance. However, they were only developed in the French Quarter and not in the indigenous areas and this caused social inequality issues across the city. In the Post Independence Period, planning for Hanoi and its open space system was strongly influenced by the Soviet model which focused mainly on industrial development and housing construction. There were only a few open space elements such as formal parks and playgrounds in the tenement houses, built in this period. These open space areas were poorly designed and did not satisfy the convenience and demands of the city residents. In the Contemporary Period, while the importance of open space areas have been acknowledged, these areas have been threatened by the impacts of urbanisation. Large areas of open space have been converted to other urban land use and the existing open space system is not well managed as there is no lead authority responsible for open space planning and management. Ultimate responsibility for planning and management of open space has not been clearly assigned by the city government. Furthermore, none of the representative plans fully adopted a cyclic planning process incorporating an adaptive management framework which is considered as best practice for sustainability and liveability planning. In order to improve the quality of the open space system and seeking to achieve the goals of planning for a liveable future, the city government and

planners need to give priority to open space planning and management and broadly engage the public in future open space programs. More importantly, a lead agency in city government needs to take coordinating responsibility for open space planning and management. The proposed recommendations of this study will assist in this regard.

The literature also demonstrated that culture is recognised as an important factor influencing planning approaches (Hugo-Brunt, 1972; Habermas, 1981; Foglesong, 1986; Burayidi, 2000). This occurs because planning is carried out in a social context and is influenced by the interaction between planners and communities. Analysis of the case study did support the view that culture influences urban planning and the provision of open space.

The review and analysis of the case study showed that different cultures have impressed different schools of thought on the issues of urban planning and provision of open space throughout the extended history of Hanoi. In the Feudal Period, city planning was influenced by Chinese *feng-shui* principles and open space was not well planned. In the French Colonial Period, city planning was imposed by colonial planning rules. In this period, provision of open space was given high priority in urban planning activities but limited in the French Quarter. In the Post Independence Period, city planning followed the Soviet top-down planning model and planning was centrally directed by government directives. In this period, plans were considered as fixed and did not allow for review, modification and evaluation and notably were not available to the public. Provision of open space was less important than industrial development and housing construction. In the Contemporary Period, city planning while still centralised is also market driven and planning information is partly accessible to the public. Private organisations are now

permitted to participate in the planning process by contributing human and financial resources for open space programs. Provision of open space has been put forward in city's agenda but not in practical planning activities. The existing open space system has not been well planned or managed. The result is that each of the plans from the particular historical eras has contributed to the unique landscape of present day Hanoi City. Therefore, when planning for an age-old Hanoi City, it is recommended that the city government and planners adopt an inclusive approach and give effect to all the influences of past planning regimes.

The study showed that planning evaluation is recognised as an important task in order to inform decision-makers and other stakeholders whether a planning process is on the pathway towards achieving planning goals. Developing an evaluation framework should be recognised as an useful tool to deal with this task. Evaluation criteria form the basis of the framework and indicators play an important role in providing information for the evaluation. The evaluation framework developed in this research is able to be used in future planning evaluation and needs to be further tested in other planning circumstances.

The ability to use open space indicators for evaluating the achievement of planning goals for liveability has been tested in this research. It has provided useful information and data for the planning evaluation. It also helps to inform decision-makers of outstanding issues related to open space planning and management with a view to initiating remedial actions. The development of these open space indicators would be enhanced as they are applied in other cases of planning evaluation. In other planning situations they may need to be tested prior to full implementation and, where necessary, adjusted.

8.2. Directions for further research

While considerable effort has already been made pursuing the research objectives, it is clear that this study is not all encompassing. A number of agenda items for further research are suggested below:

1. The lessons learnt from this research suggest that planning should adopt an adaptive management approach complying with a cyclic process in order to improve the achievement of the planning goals for liveability. Evaluation of planning is a significant step in this cyclic process which helps to assess the degree to which the implementation of the planning performs against the intended planning goals and how far it is from achieving those goals. An evaluation framework was developed in this research and applied to the Hanoi case study. While this framework was developed and tested for this research project, it is capable of being applied for the planning evaluation in other case studies.

2. The development of open space indicators is regarded as a vital tool in the plan monitoring and evaluation stage of the adaptive management framework. It helps to inform and guide future urban planning decision-making and demonstrates the progress towards a liveable future. However, more work is needed to test the effectiveness of these proposed open space indicators. These indicators are capable of being applied to both capital and non-capital cities, which may perform different functions, in order to contribute to a more comprehensive understanding.

3. It was shown that culture plays a very influential role in the planning process. There is a need to study multiple cases in order to have a broader view of how different

cultures have influenced planning approaches, particularly for open space. Cases should be selected from different geographical regions or political regimes.

8.3. A Way Ahead

Sustainability and liveability have become desired goals of contemporary society and its urban planning activities. In achieving these planning goals, the challenge is how to minimise or compensate negative environmental impacts while allowing for growth to occur in a sustainable manner.

Dealing with the challenge acknowledges that urban planning and environmental protection, including open space preservation, are part of the same process. Managing urban growth is the effective way to protect open space.

Contemporary views hold that planning for liveable communities requires the achieving of a high quality open space system that benefits society and the environment. Addressing these outcomes is a challenge that needs to be achieved through an integrated planning process.

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Appendices

A1. Major Principles of Sustainable Development of Rio Declaration 1992

1. Sustainable development must to meet human needs equitably

Principle 3 - *The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.*

Principle 5 – *All States and all people shall cooperate in the essential task of eradicating poverty as an indispensable requirement for sustainable development, in order to decrease the disparities in standards of living and better meet the needs of the majority of the people of the world.*

2. Community-base principle

Principle 1 - *Human beings are at the center of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature.*

Principle 10 – *Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.*

Community knowledge and public participation is the basis used to direct particular state or country to an appropriate development direction in consistent with their context:

Principle 11 – ... *Environmental standards, management objectives and priorities should reflect the environmental and developmental context to which they apply. Standards applied by some countries may be inappropriate and of unwarranted economic and social cost to other countries, in particular developing countries.*

3. Environmental issues have to be integrated in the development process in order to achieve sustainable development

Principle 4 - *In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.*

Principle 8 – *To achieve sustainable development and a higher quality of life for all people, States should reduce and eliminate unsustainable patterns of production and consumption and promote appropriate demographic policies.*

Principle 17 – *Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority.*

4. Sustainable development has to take into account principles of equity

4.1. Reduce the gap between rich and poor

Principle 6 – *The special situation and needs of developing countries, particularly the least developed and those most environmentally vulnerable, shall be given special priority. International actions in the field of environment and development should also address the interests and needs of all countries.*

Principle 23 – *The environment and natural resources of people under oppression, domination and occupation shall be protected.*

4.2. Enhance women role

Principle 20 – *Women have a vital role in environmental management and development. Their full participation is therefore essential to achieve sustainable development.*

4.3. Engage the youth

Principle 21 – *The creativity, ideals and courage of the youth of the world should be mobilized to forge a global partnership in order to achieve sustainable development and ensure a better future for all.*

4.4. Ethnic equity

Principle 22 – *Indigenous people and their communities and other local communities have a vital role in environmental management and development because of their knowledge and traditional practices. States should recognize and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development.*

5. Polluter pays principle

Principle 16 – *National authorities should endeavor to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.*

6. Precautionary principle

Principle 15 – *In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats*

of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

Principle 19 – States shall provide prior and timely notification and relevant information to potentially affected States on activities that may have a significant adverse transboundary environmental effect and shall consult with those States at an early stage and in good faith.

7. Collaboration

7.1. Inter-sectoral collaboration

Principle 9 – States should cooperate to strengthen endogenous capacity-building for sustainable development by improving scientific understanding through exchanges of scientific and technological knowledge, and by enhancing the development, adaptation, diffusion and transfer of technologies, including new and innovative technologies.

7.2. National-level collaboration

Principle 2 - States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.

Principle 14 – States should effectively cooperate to discourage or prevent the relocation and transfer to other States of any activities and substances that cause severe environmental degradation or are found to be harmful to human health.

Principle 18 – *States shall immediately notify other States of any natural disasters or other emergencies that are likely to produce sudden harmful effects on the environment of those States.*

7.3. International collaboration

Principle 7 – *States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth’s ecosystem.*

Principle 12 – *States should cooperate to promote a supportive and open international economic system that would lead to economic growth and sustainable development in all countries, to better address the problems of environmental degradation... Environmental measures addressing transboundary or global environmental problems should, as far as possible, be based on an international consensus.*

Principle 13 – *States shall develop national law... shall also cooperate in an expeditious and more determined manner to develop further international law regarding liability and compensation for adverse effects of environmental damage caused by activities within their jurisdiction or control to areas beyond their jurisdiction.*

A2. Definitions of the term ‘open space’

1. In Europe

1.1. Open space is land laid out as a public garden, or used for the purposes of public recreation, or land which is a disused burial ground (United Kingdom Parliament, 1990, p.26).

The revised Planning Policy Guidance 17 (PPG 17) expands on this definition in its Annex, stating that in applying the Guidance, open space should be taken to mean all open space of public value, including not just land, but also areas of water such as rivers, canals, lakes and reservoirs, which offer important opportunities for sport and recreation and which can also act as a visual amenity (Office of the Deputy Prime Minister (UK), 2002).

1.2. Open space is a term used by landscape planners and landscape architects for land areas that are intentionally left undeveloped as fields and forests while the land around them is developed into buildings and pavement (Ahern, 1991, p.1).

2. In the United States

2.1. Open space is an area of natural landscape essentially undeveloped, such as ridge streams, natural shorelines, scenic buffer areas, and agricultural lands (The US Department of Energy, 1985).

2.2. Open space is land, which is not intensively developed for residential, commercial, industrial or institutional use. Open space can be publicly or privately owned. It includes agricultural and forest land, undeveloped shorelines, undeveloped scenic lands, public parks and preserves as well as water bodies. Internationally, land that is defined as open space is dependant, in part, on its surroundings. For example, a vacant lot or a

small marsh can be an open space in a big city, or a narrow corridor or pathway for walking or bicycling is open space even though developed areas surround it (Pataki et al., 2006, p.9).

2.3. Open space is any undeveloped or predominantly undeveloped land, including waterways, in and around an urban area. There are both public and private open spaces. For examples, meadows, hill tops, orchards, farms, and marshes are all open spaces. Parks, too, may be open spaces in some cases, where they include one or more of these features (Parks and Recreation Department (City of Corvallis - Oregon), 2002).

3. In Australia

3.1. Open space is any area of land and/or water on which no, or very few, built structures are present, and consequently, which has its surface open to the sky. The surface may be modified from its natural condition but is usually substantially unpaved. Open space could include forests, farming land, beaches, lakes, dams, deserts and urban parks on which no, or few, built structures are present (Outdoor Council of Australia, 2002, p.4).

3.2. Communal open space means common outdoor open space for recreation and relaxation of residents of a housing development (Australian Capital Territory (ACT) Government, 1999, p.26).

3.3. Private open space means an outdoor area within a block useable for outdoor living activities and may include balconies, terraces or decks but does not include any area required to be provided for the parking of motor vehicles and any common driveways and common vehicle manoeuvring areas. Up to 25% of any part of private open space

may be roofed over, except that a balcony may be entirely roofed over (Australian Capital Territory (ACT) Government, 1999, p.28).

3.4. Open space is a general term referring to a wide variety of open areas (both land and water) that have a value for park, recreation or sporting purposes, conservation of natural resources, historic, aesthetic or scenic purposes. In simplistic terms, open spaces are areas in which visitors and residents recreate and appreciate for their intrinsic or scenic beauty or conservation value (Gray and Associates, 2002, p.29).

3.5. Open space is land and/or water of any size or type, which are characterised by having no or very few built structures, which have nature conservation, environmental, scientific, social, recreational, cultural, spiritual, scenic, health or economic benefit to wetlands, steep slopes, bushland, wildlife habitat, beaches, lakes, dams, agricultural land, forests, scenic views, culturally significant places, outdoor recreation areas, buffers and linkages (South East Queensland (SEQ) Landscape and Open Space Advisory Committee (RLOSAC), 2004, p.9).

3.6. Open space is a spatial concept that typically includes parks, gardens, trails, habitat corridors, foreshore area, waterways, utility reserves, sport grounds, and conservation areas (Moran, 2001, cited in North Sydney Council, 2005, p.5).

4. In Vietnam

There is no official definition of open space in Vietnam. There is no clear understanding of the wider concept of the term ‘open space’ and often a narrower understanding is reflected in the use of terms such as ‘green space’, ‘green open space’ or ‘public space’. This is illustrated by the following uses of the term:

4.1. *Public space, which is also called open space, is space for public use including streets, squares, public green trees, water areas and spaces between buildings (Nguyen and Phan, 2004, p.15).*

4.2. *Public space is place where people make contact with society, friends and neighbours; stages where people are not only the actors but also the audiences (Pham, 2005, p.3).*

4.3. *Public space, also called open space, is space used publicly by the community. Public space includes streets, squares, public green trees, rivers and spaces between architectural works (Le, 2005, p.2).*

4.4. *Public space is place which has obviously defined boundaries. It is place where people can participate in different activities such as relaxing, entertainment, sightseeing, taking a walk, cultural exchange and performance, freely and legally (Vietnam National Institute for Urban and Rural Planning, 2005).*

4.5. *Urban open space includes parks, squares, parking areas, squares and landscaping adjacent to intersection areas, sports grounds and water areas. It is where urban public activities take place (Vietnam National Institute for Urban and Rural Planning, 2005).*

A3. Open space classification systems

A3.1. Classification system provided by the Urban Redevelopment Authority of Singapore, 1991

Open spaces include

1. Natural open spaces: mangrove swamps, wooded areas, nature reserves;
2. Major parks and gardens: regional and district parks;
3. Sports and recreation grounds: stadiums, golf-courses, adventure parks, and camping sites;
4. Boundary separators: serving as green linkages connecting major parks and recreation areas and greenbelts between urbanised districts;
5. Internal greenways and connectors: defining neighbourhoods and precincts within a local community of 200,000 to 300,000 people; more specifically, greenways can be natural landscaped or informally landscaped; while connectors are proposed pedestrian malls that link neighbourhoods and town centres within new towns;
6. Cycle ways will also be developed in line with walkways through a network of connectors, underpasses or overpasses for people to move freely and leisurely, away from busy roads;
7. Greenery around people's homes will be integrated with new town greenery and high-rise density environment;
8. City parks, neighbourhood parks and precinct gardens;
9. Green buffer zones will be developed between housing and other land uses, such as expressways;
10. Other open spaces: including military training areas and agricultural land.

A3.2. Classification system provided by the Planning Policy Guidance 17(PPG 17) of UK

	PPG 17 Typology	Primary purpose
Green spaces	Parks and gardens	Accessible, high quality opportunities for informal recreation and community events
	Natural and semi-natural green spaces, including urban woodland	Wildlife conservation, biodiversity and environmental education and awareness
	Green corridors	Walking, cycling or horse riding, whether for leisure purposes or travel
	Outdoor sport facilities	Participation in outdoor sports, such as pitch sports, tennis, bowls, athletics or countryside and water sports
	Amenity green space	Opportunities for informal activities close to home or work or enhancement of the appearance of residential or other areas
	Provision for children and young people	Areas designed primarily for play and social interaction involving children and young people such as equipped play areas, ball courts, skateboard areas and children's shelters

Appendix A3.2. continued

	Allotments, community gardens and urban farms	Opportunities for those people who wish to do so to grow their own produce as part of the long term promotion of sustainability, health and social inclusion
	Cemeteries, disused church yards and other burial grounds	Quiet contemplation and burial of the dead, often linked to the promotion of wildlife conservation and biodiversity
Civic spaces	Civic and market squares and other hard surfaced areas designed for pedestrians	Providing a setting for civic buildings, public demonstrations and community events

Source: Office of the Deputy Prime Minister (UK) (2002)

A3.3. Classification system provided by Kit Campbell Associates, Edinburgh (2001)

In Scotland, the Scottish Executive Planning Services, national agencies, local authorities and others have adopted and promoted the use of the following open space typology:

1. Green spaces, i.e. parks and gardens, amenity green spaces, children's play areas, sports facilities, green corridors, natural/semi-natural green spaces, other functional green spaces;
2. Civic or grey space, i.e. civic squares, market places, pedestrian streets, promenades and sea fronts.

A3.4. Classification system published by the National Recreation and Park Association (NRPA) of the United States

Classification	General Description	Local Criteria	Size Criteria	Application of LOS*
Mini-Park	Used to address limited, isolated, or unique recreational needs.	Less than a 1/4-mile distance in residential setting.	Between 2,500 sq.ft. and 1 acre.	Yes
Neighborhood Park	Neighborhood park remains the basic unit of the park system and serves as the recreational and social focus of the neighborhood. Focus is on informal active and passive recreation	1/4- to 1/2-mile distance and uninterrupted by nonresidential roads or other physical barriers.	5 acres is considered minimum size. 5 to 10 acres is optimal.	Yes
School Park	Depending on circumstances, combining parks with school sites can fulfill the space requirements for other classes of parks, such as neighborhood, community, sports complex, and special use.	Determined by location of school district property.	Variable, depends on function.	Yes, but should not count school-only uses.
Community Park	Serves broader purpose than neighborhood park. Focus is on meeting community-based recreation needs, as well as preserving unique landscapes and open spaces.	Determined by the quality and suitability of the site. Usually serves two or more neighborhoods and 1/2 – to 3-mile distance.	As needed to accommodate desired uses. Usually between 30 to 50 acres.	Yes

Appendix A3.4. continued

Large Urban Park	Large urban parks serve a broader purpose than community parks and are used when community and neighborhood parks are not adequate to serve the needs of the community. Focus is on meeting community-based recreational needs, as well as preserving unique landscapes and open spaces.	Determined by the quality and suitability of the site. Usually serves the entire community.	As needed to accommodate desired uses. Usually a minimum of 50 acres, 75 or more acres being optimal.	Yes
National Resource Areas	Lands set aside for preservation of significant natural resources, remnant landscapes, open space, and visual aesthetics and buffering.	Resource availability and opportunity.	Variable	No
Greenways	Effectively tie park system components together to form a continuous park environment.	Resource availability and opportunity.	Variable	No
Sports Complex	Consolidates heavily programmed athletic fields and associated facilities to larger and fewer sites strategically located throughout the community.	Strategically located community-wide facilities.	Determined by projected demand. Usually a minimum of 25 acres, 40 to 80 acres being optimal.	Yes

Appendix A3.4. continued

Special Use	Covers a broad range of parks and recreation facilities oriented toward single-purpose use.	Variable, depends on specific use.	Variable	Depends on type of use.
Private Park / Recreation Facility	Parks and recreation facilities that are privately owned yet contribute to the public park and recreation system.	Variable, depends on specific use.	Variable	Depends on type of use.

* LOS = level of service

Source: Mertes and Hall (1995)

A4. Definitions of the term ‘planning’

1. One school of thought emphasises that planning is concerned with decisions of future action:

1.1. Speaking generally, planning is deciding in advance what is to be done; that is, a plan in a projected course of action (Newman, 1958).

1.2. Planning...is the working out in broad outline the things that need to be done and the methods for doing them to accomplish the purpose set for the enterprise (Gulick, 1937).

2. Another school of thought concerns that feature of planning relates to rationality and the utilisation of knowledge:

2.1. Planning is an organized effort to utilize social intelligence in the determination of national policies. It is based upon fundamental facts regarding resources, carefully assembled and thoroughly analyzed; upon a look around at the various factors which must be brought together in order to avoid clashing of policies or lack of unity in general direction; upon a look forward and a look backward. Considering our resources and trends as carefully as possible, planners look forward to the determination of the long-time policies (Merriam, 1941).

2.2. Planning consists in the systematic, continuous, forward-looking application of the best intelligence available to programmes of common affairs in the public field... Planning is a continuous process, and necessitates the constant reexamination of trends, tendencies, policies, in order to adapt and adjust governmental policies with the least possible friction and loss... Planning is not an end, but a means, a means for better use

for what we have, a means for emancipation of millions of personalities now fettered, for enrichment of human life... (National Resources Planning Board, 1934).

2.3. Planning is one of the functions of the manager, and, as such, involves the selection, from among alternatives, of enterprise objectives, policies, procedures, and programmes. It is thus decisionmaking affecting the future course of an enterprise...

Planning is thus an intellectual process, the conscious determination of courses of action, the basing of decisions on purpose, facts, and considered estimates (Koontz and O'Donnel, 1964).

2.4....Planning is more and more regarded as equivalent to rational social action, that is, as a social process for reaching a rational decision (Dahl, 1959).

2.5. By "Planning" we mean the fullest and most rational utilization of all work and of all the material resources of the community, in the light of a scientific forecast of the trends of economic development and with strict observance of the laws of social development (Touretzki, 1959).

3. Some definitions see planning progress is directed to the "social good":

3.1. Planning is the means by which the discipline of Science applied to human affairs will enable man to incarnate his purposes. It is the inevitable link between means and ends. Moreover, it is in itself an inspiring ideal. For once it is realized that there is no natural harmony of nature, no Divine or other purpose hidden beneath the flux and chaos of present planlessness, it becomes immoral to let poverty, ignorance, pestilence, and war continue if they can be obliterated a plan. Although there is some disagreement as to the nature and desirable limits of planning, students of administration are all "planners" (Waldo, 1948).

3.2. *Planning is an activity by which man in society endeavours to gain mastery over himself and to shape his collective future by power of his reason... Planning is nothing more than a certain manner of arriving at decisions and action, the intention of which is to promote the social good of a society undergoing rapid changes (Friedman, 1964).*

4. Other definitions are more complicated and compose various elements:

4.1. *Planning... is that activity that concerns itself with proposals for the future, with the evaluation of alternative proposals, and with the methods by which these processes may be achieved. Planning is rational, adaptive thought applied to the future and to matters over which the planners or the administrative organizations with which they are associated have some degree of control (Simon et al., 1950).*

4.2. *Planning is essentially a means of improving decisions and is therefore a prerequisite to action. It seeks to answer two vital questions: What is the purpose of an agency or a program, and what are the best means of achieving that purpose? However, policy, organization, and the social environment are in a constant state of flux. This means that planning must be continuous and dynamic; it must anticipate change. Very broadly, administrative planning must consider political ends and the appropriate ways of achieving them. It must design effective operating procedures and provide supervisory techniques which will ensure that what has been planned is in fact being achieved. In the process, planning touches upon every aspect of management, including decisionmaking, budgeting, coordination, communications, and problems of structure. Planning, in a word, is management (Pfiffner and Presthus, 1953).*

4.3. *Planning is a word of many meanings. To some it means a blueprint for the future; to others it means only foresight, and action with the forward policies of the government*

for regulation of the economy as a whole. To some it means government responsibility to take whatever action is necessary to ensure that the economic system operates efficiently, to others it means only that the government should correlate whatever functions it undertakes toward desired overall objectives (Redford, 1952).

4.4. Planning as a general activity is the making of an orderly sequence of action that will lead to the achievement of a stated goal or goals. Its main techniques will be written statements, supplemented as appropriate by statistical projections, mathematical representations, quantified evaluations and diagrams illustrating relationships between different parts of the plan. It may, but need not necessary, include exact physical blueprints of objects (Hall, 2002).

A5. Structured-questions for interviews

1. Is there any official concept or definition of ‘open space’, or ‘urban open space’ used in Hanoi?
2. In your opinion, what are major values that the open space system provides for Hanoi?
3. In your opinion what are the main types of open space in Hanoi?
4. According to you what are the main functions of the open space system in Hanoi?
5. Can you point out five priorities in sustainable planning for Hanoi? Please arrange according to priority.
6. What do you think about the contribution of open space in achieving a sustainable and liveable city in Hanoi?
7. Please list authorities which have responsibilities in managing and planning for urban open space of Hanoi?
8. What do you think about the effectiveness of the relevant authorities in the field of city planning in general and open space planning in particular?
9. In your opinion has the existing open space system of Hanoi satisfied community demand?
10. Is there any policy on open space management and planning?
11. In your opinion which factors may effect the current open space management and planning of Hanoi?
12. What are the specific characteristics of open space in Hanoi which differ from open space in other cities of Vietnam?

13. What are the specific characteristics of open space in Hanoi which differ from open space in other capital cities of developed and developing countries as you know?

14. According to the Master Plan for Hanoi to 2020, how has open space planning been oriented? What about your opinion about this issue?

15. What are the future plans for open space in Hanoi? And your opinion regarding those plans.

16. What are your opinions and suggestions for Hanoi's city and open space management and planning? What do you think city government should do in order to satisfy community demand of quality and quantity of open space?

Note: *Ethical clearance was granted and the research was conducted in accordance with the approved protocol.*

A6. Functions of agencies related to open space planning and management in Hanoi

<p>National level</p>	<p style="text-align: center;">MINISTRY OF CONSTRUCTION (MOC)</p> <p>MOC performs the function of: construction; construction materials; housing and government offices; urban construction planning; rural construction planning; urban infrastructure; state management of public services, etc.</p>
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	<p style="text-align: center;">Department of Planning and Architecture (DPA)</p> <p>Hanoi DPA performing function of: planning and architecture (construction planning, urban architecture, urban landscape architecture, etc.) according to approved master plan.</p>
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<p>City level</p>	<p style="text-align: center;">Department of Natural Resources, Environment and Housing (DoNREH)</p> <p>Hanoi DoNREH performs the function of: land, water, and mineral resources; environment, hydrometeorology, survey, cartography, house and government office management.</p>
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	<p style="text-align: center;">Department of Transportation and Urban Public Works Services (DTUPWS)</p> <p>Hanoi DTUPWS performs the function of: transportation and urban public works services.</p>
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<p>Local (Park) level</p>	<p style="text-align: center;">Park Company Ltd.</p> <p>Park companies have responsibilities for managing parks and lakes within parks. In the past, management of parks was the responsible of Hanoi DTUPWS.</p>
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A7. Analysis of semi-structured interviews

No.	Question	Answer	National level				City level		Park level
			R1	R2	R3	R4	R5	R6	R7
1	Any official concept or definition of ‘open space’ or ‘urban open space’ used in Hanoi?	Yes							
		No (similar concepts) <i>(100%)</i>	X (green space, water space) (green space, water space)	X (green space, water space)	X (green space, water space)	X (green space, public space)	X (green space, public space)	X (green space, water space)	X (green space, water space)
2	Major values of open space in Hanoi	Improved environmental quality <i>(100%)</i>	X (improved air quality)	X (reduce dust)	X (increase the clearness, improved the micro climate)	X	X (improved air quality)	X (reduce noise, dust and air temperature)	X (increase the clearness of urban areas)
		Enhance the city’s appearance <i>(71%)</i>	X	X (enhance the beauty of architecture of buildings)	X (enhancing urban aesthetics through appearance, color and ratio)	X	X (create a nice urban landscape)		

Appendix A7. continued

		Amusement, sightseeing and relaxation places <i>(100%)</i>	X	X	X	X	X	X	X
		Places for community activities <i>(85%)</i>	X (community information exchange)	X (outdoor exercise, meeting)	X (community meeting, cultural exchange, playing, outdoor exercise)		X (outdoor exercise, camping, meeting)	X (community communication, cultural activities, information exchange, dancing, outdoor exercise)	X
		Contribute to local economic development <i>(71%)</i>	X (profits gained from commercial services in open space areas)	X	X (collecting of parking fees and other services)		X (profits gained from services in open space areas)	X (profits gained from services in open space areas)	
		Attract domestic and foreign tourists <i>(28%)</i>			X (open space is a mark in the 'memorial map' of people about the city)		X		

Appendix A7. continued

		Education (71%)	X (outdoor education eg. environmental or historical lessons for students)		X (open spaces can be seen as visual teaching aids)		X (natural and environmental education in open space areas, but is limited)	X (open spaces can be seen as outdoor class rooms)	X (open spaces are places for students get in touch with nature)
		Reserved for infrastructure planning (14%)	X (open spaces can help to create protection corridors reserved for infrastructure)						
		Connection (14%)						X (connect different works and create harmonious unique space)	
		Improved attractiveness and create identity of the city (14%)						X	

Appendix A7. continued

		Improve social cohesion (14%)				X (community and outdoor activities can help to increase social cohesion)			
3	Main types of open space in Hanoi	Parks (100%)	X	X	X	X	X	X	X
		Gardens (100%)	X	X	X	X	X	X	X
		Promenades (71%)		X	X	X	X	X	
		Water areas (rivers, lakes, ponds) (100%)	X	X	X	X	X	X	X
		Squares (100%)	X	X	X	X	X	X	X
		Agricultural land (85%)	X	X	X	X	X	X	
		Tourism and eco-services areas (28%)						X	

Appendix A7. continued

		Private orchards (14%)	X						
		Infrastructure open space (eg., parking, vacant space between construction works) (42%)	X			X		X	
		Specialised green trees areas (e.g., forest land, division range of green trees) (28%)		X	X				
4	Main functions of the open space system in Hanoi	Production (57%)		X (agricultural plants)	X (in the case if open space is an urban agricultural ecosystem or agricultural greenbelt)	X (this function often occurs in suburban areas and is minor function)	X (supply vegetable and aquatic products for urban residents)		

Appendix A7. continued

	Improve environmental quality and quality of life <i>(100%)</i>	X	X	X	X	X	X	X
	Place for community's amusement and relaxation <i>(85%)</i>		X	X	X	X	X	X
	Lakes regulate rain water, reduce pressure on water drainage infrastructure and reduce flooding <i>(14%)</i>					X		
	Create diversity of urban space and identity of the city <i>(28%)</i>	X					X	

Appendix A7. continued

		Connect functional areas and architectural objects in urban areas <i>(14%)</i>			X				
		Protection and preservation <i>(42%)</i>		X	X				X
5	Five priorities in sustainable planning for Hanoi (put in order)	Urban transportation development <i>(28%)</i>				2	1		
		Developing urban green space <i>(14%)</i>					2		
		Improving urban drainage infrastructure <i>(14%)</i>						3	

Appendix A7. continued

		Domestic waste water treatment <i>(14%)</i>					4		
		Domestic solid waste management <i>(14%)</i>					5		
		Preserving green trees and water space <i>(14%)</i>	1						
		Cultural preservation <i>(14%)</i>	2						
		Socio-Economic development <i>(57%)</i>	3	1	4				1
		Urban development based on community development <i>(14%)</i>	4						

Appendix A7. continued

		Detailed planning for urban development <i>(14%)</i>	5						
		Regional and international integration but preserving national character <i>(14%)</i>		2					
		Urban and regional environmental protection <i>(28%)</i>		3					4
		Ensure social equity and development, improved welfare <i>(28%)</i>		4					2

Appendix A7. continued

		Pay sufficient and effective attention to very vulnerable areas <i>(14%)</i>		5					
		A full work out legislation system and management mechanism <i>(14%)</i>							3
		Enhance community awareness and understanding of sustainable development <i>(28%)</i>						4	5
		Wise exploitation and use of earth resources <i>(14%)</i>			1				

Appendix A7. continued

		Protect natural framework: terrain, water space, green trees <i>(28%)</i>			2	1			
		Population corresponding to the capacity of the environment <i>(14%)</i>			3				
		Ensure urban-suburban connection within Hanoi City; and the connection between Hanoi and other provinces and cities within the Hanoi region <i>(14%)</i>			5				

Appendix A7. continued

		Planning for open space system and connection with other construction planning <i>(14%)</i>						1	
		Assess impacts of the urban development process on the environment and sustainable development <i>(14%)</i>						2	
		Set up system for development control <i>(14%)</i>						3	
		Conduct pilot projects for polluted areas <i>(14%)</i>						5	

Appendix A7. continued

		Upgrade and improve the inner areas, ancient and old quarters <i>(14%)</i>				3			
		Develop new modern urban areas with a full range of affordable services <i>(14%)</i>				4			
		Develop infrastructure and services and improve the quality of urban services <i>(14%)</i>				5			

Appendix A7. continued

6	Contribution of open space in achieving sustainable and liveable city in Hanoi	Very important <i>(100%)</i>	X (open spaces are specific spaces help to create urban balance)	X	X (target of planning for Hanoi is to achieve a Green-Clean-Beauty City and improve urban quality)	X (open space helps to protect the environment and improve the quality of life)	X	X (the quality of open space demonstrate the 'health' of a developing urban organism – a city)	X (open space issues are major issues of construction planning of the capital city)
7	Authorities which have responsibilities in managing and planning for urban open space of Hanoi	Ministry of Construction <i>(14%)</i>	X						
		Hanoi Department of Planning and Architecture <i>(100%)</i>	X	X	X	X	X	X	X

Appendix A7. continued

	Hanoi Department of Natural Resources, Environment and Housing <i>(85%)</i>	X	X	X	X	X	X	
	Hanoi Department of Urban Transportation and Public Work Services <i>(100%)</i>	X	X	X	X	X	X	X
	Hanoi Department of Culture and Information <i>(14%)</i>						X	
	Local government (city, district, suburban district people committee) <i>(42%)</i>			X	X	X		

Appendix A7. continued

		Other organisations who contribute human and material resources in improvement and upgrading the quality of urban open space <i>(14%)</i>				X			
8	Effectiveness of the relevant authorities in the field of city planning/open space planning	Effective <i>(0%)</i>							
		Less effective <i>(57%)</i>		X (practical)		X	X (practical)		X (relatively reasonable)
		Not effective/Not sure <i>(42%)</i>	X		X			X	

Appendix A7. continued

9	Has the existing open space system of Hanoi satisfied community demand?	Yes <i>(0%)</i>							
		No <i>(100%)</i>	X (Lacks a large number of parks used for the amusement demand of residents. The number of green trees areas per head is low and not equal in different areas)	X	X (The existing open space system has not been made full and comprehensive. Open space issues have not been paid much attention in both planning and investment)	X (Open space is being narrowed or encroached upon)	X (Proportions of open space, especially of green areas is low. The quality of open space is not high)	X (Existing open space areas have not been improved and upgraded. New open space areas have not reached the requirements of scale and quality in comparison to the demand)	X
10	Is there any policy on open space management and planning	Yes. Calling for public contribution in management and operating of open space <i>(14%)</i>					X		

Appendix A7. continued

	Yes. Projects of preservation and upgrade of parks and lakes (but not effective) <i>(28%)</i>	X						X
	Yes. Campaign 'Green-Clean-Beauty' <i>(14%)</i>			X				
	Yes. Management of parks, green trees and sidewalks <i>(14%)</i>						X	

Appendix A7. continued

		No (28%)		X (There are some policies related to this issue such as preservation of existing vacant space and water space, but their implementation is limited)		X (suggest Hanoi should has a guidance on open space planning)			
11	Factors effect the current management and planning for Hanoi's open space	Economic factor (57%)	X	X			X	X	
		Cultural factor (85%)	X	X		X	X	X	X
		Social factor (57%)		X		X	X	X	
		Budget (57%)		X		X	X	X	
		Human resource (57%)		X		X	X	X	
		Community (85%)	X	X		X	X	X	X

Appendix A7. continued

		Previous planning (57%)		X		X	X	X	
		Policy makers (14%)			X				
		Publicity public media (14%)						X	
12	Specific characteristics of open space in Hanoi (differ from open space in other cities of Vietnam)	Green trees (85%)	X	X		X	X	X	X
		Water space (100%)	X	X	X	X	X	X	X
		Squares (cultural and historical significance) (14%)				X			

Appendix A7. continued

13	Specific characteristics of open space in Hanoi (differ from open space in other capital cities)	Green trees (71%)		X	X	X	X		X
		Water space (85%)	X	X	X	X	X		X
		Agricultural land (14%)					X		
		Culture and tradition (28%)		X	X				
14	How have open space issues been addressed in the Master plan for Hanoi to 2020	<p>R1: Tasks of increasing areas of parks and green trees and improving water quality of lakes and rivers have been put forward. However these issues have been mentioned only theoretically without any action plans therefore it is too difficult to carry out those plans in practice.</p> <p>R2: Hanoi is carrying out adjustment to city planning to 2020 in which open space planning and management is recognised as important.</p> <p>R3: According to that plan, the issues of paying attention to and highlighting the natural framework in the urban structure of Hanoi have been put forward. That framework is always coupled with open system of Hanoi.</p>							

Appendix A7. continued

		<p>R4: Hanoi is carrying out adjustment to city planning to 2020 in which open space planning and management is one issue included in urban space orientation. Green trees and water space are important features in the open space arrangement of Hanoi.</p> <p>R5: According to the Master Plan for Hanoi to 2020, there is a strategy to set up spatial framework of ‘water space’, ‘green trees’ and ‘culture’ factors.</p> <p>R6: According to the Hanoi Master Plan to 2020, new open space areas have been highlighted; supplementing and improving open space in certain limited development areas has not been clearly defined; and it lacks systematic connection between different open space areas and other factor such as culture, in order to establish the specific characteristics of Hanoi ‘Green trees-Water space-Culture’.</p> <p>R7: According to that plan, open space issues have been paid much attention by managers and planners. However their attentions are only ideas and it lacks essential solutions in order to make it feasible.</p>
15	Future plans for open space in Hanoi	<p>R1: Hanoi is setting up and implementing construction planning for establishing more parks and green trees in urban and living unit areas. However, besides difficulties in limits of budget and human resources, those plans are not detailed thus there is a lot of trouble in applying those plans in practice.</p> <p>R2: Hanoi is drawing up some projects related to open space management and planning. However, they have not been seen as important as other priorities.</p> <p>R3: Build new parks, renovate and upgrade old parks. Nevertheless, it is needed to define and make clear the importance of open space system in a city’s structure. Hanoi also needs to establish strategy for effective preservation, development and employment of open space values in urban areas.</p>

Appendix A7. continued

		<p>R4: The future plans related to open space in Hanoi are: planning for city along the two banks of the Red river, project of a new golf course in the North of the Red river, investment in upgrading some large parks, and improvement of water quality of the West lake and Hoan Kiem lake.</p>
		<p>R5: Hanoi is preparing projects of setting up a spatial framework of ‘water space’, ‘green tree’ and ‘culture’ factors in order to direct the development of rivers, lakes, bio-preservation areas, parks, green space and cultural preservation areas in the city.</p>
		<p>R6: At present the city government trusts relevant departments and authorities to set up plans and regulations for managing open space areas such as regulations for managing water areas. Furthermore, Hanoi needs to establish a strategy for development of open space areas. Hence implement detailed programs and project based on that strategy.</p>
		<p>R7: There are several big projects such as investment in high fee amusement area in Thong Nhat park, Yen So park and some other new parks. Among them, there are some unfeasible projects and have raised the community’s opposition, Thong Nhat park project for instance.</p>
<p>16</p>	<p>Opinions and suggestions for city and open space management and planning in Hanoi</p>	<p>R1: Hanoi needs to have: (a) classification of types of open space; (b) regulations on management of each types of open space; and (c) design for each typical type.</p>
		<p>R2: Hanoi needs to: (a) more involvement of society in open space management; (b) open space issues should be given the same attention as other urban issues; (c) give priority in construction investment; and (d) have more regulations on community participation in planning and management of open space.</p>
		<p>R3: Hanoi needs to: (a) specify the vision; (b) set up a development scenarios; (c) form strategies; (d) define the roles and responsibilities of relevant stakeholders; and (e) give prominence to public participation.</p>

Appendix A7. continued

		<p>R4: Hanoi should to: (a) manage existing open space effectively and invest to establish more new open space according to planning; (b) increase investment and budget allocation because open spaces are places which serve public demand; and (c) call for wider investment and indicate sites for construction.</p>
		<p>R5: The most important thing is management of planning in general and open space planning in particular. We need to legislate for this duty and introduce sanctions in order to manage open space planning effectively.</p>
		<p>R6: Hanoi needs to: (a) establish strategies, plans and regulations for development control; (b) have programs, targets and steps of implementation; and (c) have pilot projects.</p>
		<p>R7: The city government should issue legal and unique regulations of classification, function and types of urban open space. It would help to overcome several current issues related to open space management and planning.</p>

R (1-7): Interviewee (1-7)

X: Answer 'Yes'

A8. Chronology of Hanoi's History (Logan, 2000; Nguyen and Boudarel, 2002)

- 972: Vietnamese independence recognised by China
- 980: Foundation of Le dynasty (980-1009) by Le Hoan
- 1010: Foundation of Ly dynasty (1010-1225) by Ly Thai To in Thang Long
(now known as Hanoi), capital of the Dai Viet Kingdom
- 1225: Foundation of Tran dynasty by Tran Thu Do
- 1257: First Mongol attack on Vietnam
- 1400: Foundation of Ho dynasty (1400-1407) by Ho Quy Ly
- 1407: Conquest of Dai Viet Kingdom by Chinese Ming dynasty
- 1428: Foundation of Le dynasty (1428-1788) by Le Loi
- 1627: Civil war between the Trinh and the Nguyen (1627-72)

Alexandre de Rhodes, French Jesuit missionary, arrives in Hanoi
- 1771: Eruption of Tay Son Rebellion
- 1787: Treaty of Versailles between Nguyen Anh, Nguyen pretender to the
Vietnamese throne, and the Kingdom of France
- 1788: Defeat of the Trinh and foundation of Tay Son dynasty (1788-1802) by
Nguyen Hue
- 1802: Final defeat of the Tay Son and foundation of Nguyen dynasty (1802-
1945) by Nguyen Anh who acceded to throne as Gia Long. Unification of
the kingdom under the name of Vietnam and capital shifted to Hue
- 1858: First French attack on Vietnamese territory in Da Nang Harbour
- 1873: Francis Garnier attempts to capture Hanoi

- 1874: Franco-Vietnamese treaty (Philastre Agreement) opens up Tonkin and Red River trade to the French
- 1882: Captain Henri Rivière reoccupies the Hanoi citadel
- 1883-85: French conquest of Tonkin, including the establishment of the Treaty of the Protectorate (1884), confirming French control over all of Vietnam
- 1887: Indochinese Union formally established with Hanoi as capital
- 1893-1902: Organisation of French Indochina under Governor-General Paul Doumer
- 1927: Foundation of the Nationalist Party (Việt Nam Quốc Dân Đảng) by Nguyen Thai Hoc in Hanoi
- 1930: Foundation of Indochinese Communist Party by Nguyen Ai Quoc (Ho Chi Minh)
- 1940-45: Japanese occupation of Indochina
- 1945: End of World War 2 in Asia and the Pacific
Declaration of independence of Vietnam by Ho Chi Minh (2 September)
- 1946-54: First Indochina War (also known as French Indochina War)
- 1954: French suffer devastating loss in the battle of Dien Bien Phu
Geneva Conference decrees a cease-fire and the partitioning of Vietnam
Departure of French troops from Hanoi and Ho Chi Minh returns to power in the North Vietnam
- 1954-76: Democratic Republic of Vietnam, with Hanoi as capital
- 1955-75: Second Indochina War (against the United States and allies)
- 1975: Communist forces launch offensive in the South and occupy Saigon
- 1976: Creation of the Socialist Republic of Vietnam, uniting North and South

- Fourth Party Congress in Hanoi; the Indochinese Communist Party becomes the Vietnamese Communist Party
- 1978-79: Third Indochina War (against China)
- 1978: Treaty of Friendship and Cooperation between Vietnam and the USSR
- 1986: Sixth Party Congress: introduction of “đổi mới” policy
- 1987: Adoption of economic reforms
- 1990: USSR withdraws from Vietnam
- 1991: First step toward a normalisation of U.S.-Vietnamese relations
Collapse of the USSR
- 1992: Revised constitution reduces the role of Marxism-Leninism in Vietnamese society
- 1993: Influx of business people and foreign companies into Vietnam
Visit of President François Mitterrand of France to Vietnam
- 1994: End of US-led trade and investment embargo
Development of a market economy and influx of foreign investment
- 1995: United States and Vietnam establish diplomatic relations
Vietnam admitted to the Association of Southeast Asian Nations (ASEAN)
- 1999: Official visit to Vietnam by U.S. Secretary of State Madeleine Albright
- 2001: Vietnam admitted to the World Trade Organisation (WTO)
- 2010: Hanoi’s 1,000th birthday celebrations

A9. Parks and gardens in Hanoi City

District	Park/Garden	Areas (ha)
<i>Urban Districts</i>	48	380.02
Hoan Kiem (Hoàn Kiếm)	1. Hoan Kiem (Hoàn Kiếm)	14.9
	2. Ly Thai To (Lý Thái Tổ)	1.2
	3. Dien Hong (Diên Hồng)	0.4
	4. Co Tan (Cổ Tân)	0.28
	5. Tao Dan (Tao Đàn)	0.15
	6. Tay Son (Tây Sơn)	0.1
	7. Me Linh (Mê Linh)	0.09
	8. Ba Kieu (Bà Kiệu)	0.22
	9. Phung Hung (Phùng Hưng)	0.15
	10. Bac Co (Bác Cổ)	0.16
	11. Huu Hong (Hữu Hồng)	2.82
	12. Pho Co (Phố Cổ)	0.06
	13. 19/8	0.01
Ba Dinh (Ba Đình)	1. Cua Nam (Cửa Nam)	0.03
	2. Thanh Nien (Thanh Niên)	9.7
	3. Ly Tu Trong (Lý Tự Trọng)	1.0
	4. Botanic Garden (Bách Thảo)	19.6
	5. Van Xuan (Vạn Xuân)	0.53

Appendix A9. *continued*

Ba Dinh (Ba Đình)	6. Truc Bach (Trúc Bạch)	0.34
	7. Lenin	1.71
	8. Giang Vo (Giảng Võ)	8.5
	9. Hoang Van Thu (Hoàng Văn Thụ)	0.06
	10. Tieu canh Voi Phuc (Tiểu cảnh Voi Phục)	0.02
	11. Ho Ngoc Khanh (Hồ Ngọc Khánh)	0.44
	12. Lieu Giai (Liễu Giai)	1.85
	13. Quang truong Lang (Quảng trường Lãng)	14
	14. Zoological Park (Vườn thú Hà Nội)	23
	15. Hoang Dieu (Hoàng Diệu)	0.4
	16. Phan Dinh Phung (Phan Đình Phùng)	0.11
Cau Giay (Cầu Giấy)	1. Mai Dich (Mai Dịch)	0.13
Dong Da (Đống Đa)	1. Vuon Cong Doan (Vườn Công Đoàn)	0.28
	2. Quoc Tu Giam (Quốc Tử Giám)	1.4
	3. Ba Mau (Ba Mẫu)	9.6
	4. I.Gandi	10.1
	5. Dong Da (Đống Đa)	7.1
Hai Ba Trung (Hai Bà Trưng)	1. Pasteur	0.77
	2. Thien Quang	7.12
	3. Ho Hai Ba (Hồ Hai Bà)	0.18

Appendix A9. *continued*

Hai Ba Trung (Hai Bà Trưng)	4. Dam Trau (Đầm Trấu)	0.06
	5. Den Lu (Đền Lù)	0.78
	6. Tuoi Tre (Tuổi Trẻ)	38
	7. Thong Nhat (Thông Nhất)	54
Hoang Mai (Hoàng Mai)	1. Yen So (Yên Sở)	122
	2. Linh Dam (Linh Đàm)	16
	3. Dinh Cong (Định Công)	1
Long Bien (Long Biên)	1. Vuon hoa Long Bien (Vườn hoa Long Biên)	0.5
Tay Ho (Tây Hồ)	1. Tay Ho (Tây Hồ)	8.89
Thanh Xuan (Thanh Xuân)	1. Thanh Xuan (Thanh Xuân)	0.28
<i>Suburban Districts</i>	<i>03</i>	<i>18.47</i>
Dong Anh (Đông Anh)	-	-
Soc Son (Sóc Sơn)	-	-
Thanh Tri (Thanh Trì)	-	-
Gia Lam (Gia Lâm)	1. Vuon hoa Gia Lam (Vườn hoa Gia Lâm)	1.05
Tu Liem (Từ Liêm)	1. My Dinh (Mỹ Đình)	10.18
	2. Me Tri (Mễ Trì)	7.24

Source: Hanoi Department of Transportation and Urban Public Works Services (2007)

A10. Urban Lakes in Hanoi City

District	Lake	Areas (ha)
<i>Urban Districts</i>	48	864.19
Hoan Kiem (Hoàn Kiếm)	1. Hoan Kiem Lake (Hồ Hoàn Kiếm)	10
Ba Dinh (Ba Đình)	1. Bach Thao Lake (Hồ Bách Thảo)	1.9
	2. Giang Vo Lake (Hồ Giảng Võ)	7.8
	3. Thu Le Lake (Hồ Thủ Lệ)	12
	4. Ngoc Khanh Lake (Hồ Ngọc Khánh)	4.5
	5. Thanh Cong Lake (Hồ Thành Công)	6.1
	6. Ngoc Ha Lake (Hồ Ngọc Hà)	1
	7. Bay Gian Lake (Hồ Bảy Gian)	0.9
	8. Ho Dam Lake (Hồ Đầm)	0.8
Cau Giay (Cầu Giấy)	1. Nghia Do Lake (Hồ Nghĩa Đô)	4.7
Dong Da (Đống Đa)	1. Trung Tu Lake (Hồ Trung Tự)	5
	2. Ba Mau Lake (Hồ Ba Mẫu)	4.5
	3. Dong Da Lake (Hồ Đống Đa)	13.6
	4. Van Chuong Lake (Hồ Văn Chương)	1.3
	5. Linh Quang Lake (Hồ Linh Quang)	3
	6. Giam Lake (Hồ Giám)	0.69
	7. Khuong Thuong Lake (Hồ Khương Thượng)	16.7
	8. Ho Me Lake (Hồ Hồ Mè)	1.3

Appendix A10. *continued*

Dong Da (Đồng Đa)	9. Kim Lien Lake (HỒ Kim Liên)	5
	10. Hao Nam Lake (HỒ Hào Nam)	1
	11. Nam Dong Lake (HỒ Nam Đồng)	4.3
Hai Ba Trung (Hai Bà Trưng)	1. Thien Quang Lake (HỒ Thiên Quang)	5.2
	2. Hai Ba Trung Lake (HỒ Hai Bà Trưng)	1.3
	3. Thanh Nhan Lake (HỒ Thanh Nhân)	10.3
	4. Bay Mau Lake (HỒ Bảy Mẫu)	18
	5. Tan Mai Lake (HỒ Tân Mai)	1.1
Hoang Mai (Hoàng Mai)	1. Linh Dam Lake (HỒ Linh Đàm)	52.3
	2. Dinh Cong Lake (HỒ Định Công)	20.3
	3. Yen So Lake (HỒ Yên Sở)	45.6
	4. Den Lu Lake (HỒ Đền Lừ)	3.52
	5. Giap Bat Lake (HỒ Giáp Bát)	1.8
	6. Rua Lake (HỒ Rùa)	4.5
	7. Ho Ca Yen Duyen (HỒ Cá Yên Duyên)	10
Long Bien (Long Biên)	1. Tai Trau Lake (HỒ Tai Trâu)	2.5
	2. Cong Vien Lake (HỒ Công Viên)	1.49
	3. Nam Di Lake (HỒ Năm Di)	0.45
	4. Cau Tinh Lake (HỒ Cầu Tình)	2.5
	5. Vuc Lake (HỒ Vực)	4.89

Appendix A10. *continued*

Long Bien (Long Biên)	6. Uy Ban Bo De Lake (HỒ ỦY BAN BỒ ĐỀ)	2.5
	7. Sinh Thái Lam Lake (HỒ SINH THÁI LÂM)	1.8
	8. Dau Bang Lake (HỒ ĐÀU BĂNG)	3.4
	9. Sai Dong Lake (HỒ SÀI ĐỒNG)	1.55
	10. Tan Thuy Lake (HỒ TÂN THỤY)	1.4
Tay Ho (Tây Hồ)	1. Truc Bach Lake (HỒ TRÚC BẠCH)	22
	2. West Lake (HỒ TÂY)	526
	3. Nghia Tan Lake (HỒ NGHĨA TÂN)	5
	4. Quang Ba Lake (HỒ QUẢNG BÁ)	6.8
Thanh Xuan (Thanh Xuân)	1. Re Quat Lake (HỒ RÊ QUẠT)	1.9
<i>Suburban Districts</i>	<i>02</i>	<i>115</i>
Dong Anh (Đông Anh)	1. Dam Van Tri (ĐÀM VÂN TRÌ)	35
Soc Son (Sóc Sơn)	1. Dong Quan Lake (HỒ ĐỒNG QUAN)	80
Thanh Tri (Thanh Trì)	-	-
Gia Lam (Gia Lâm)	-	-
Tu Liem (Từ Liêm)	-	-

Source: Center for Environmental Engineering of Towns and Industrial Areas (2002);

Hanoi Department of Transportation and Urban Public Works Services (2005)

Appendix A11. The Bellagio Principles – Guiding Principles for Planning Assessment (Hardi and Zdan, 1997)

(Within the context of this research, some of the principles marked with the asterisk are more relevant than the others)

<p>Principle 1: GUIDING VISION AND GOALS</p>
<p>Assessment of progress toward sustainable development should:</p> <ul style="list-style-type: none"> • be guided by a clear vision of sustainable development and goals that define that vision
<p>Principle 2: HOLISTIC PERSPECTIVE</p>
<p>Assessment of progress toward sustainable development should:</p> <ul style="list-style-type: none"> • include a review of the whole system as well as its parts • consider the well-being of social, ecological, and economic sub-systems, their state as well as the direction and rate of change of that state, of their constituents parts, and the interaction between parts • consider both positive and negative consequences for human and ecological systems, in monetary and non-monetary terms
<p>Principle 3: ESSENTIAL ELEMENTS</p>
<p>Assessment of progress toward sustainable development should:</p> <ul style="list-style-type: none"> • consider equity and disparity within the current population and between present and future generations, dealing with such concerns as resource use, over-consumption and poverty, human rights, and access to services, as appropriate • consider the ecological conditions on which life depends

- consider economic development and other, non-market activities that contribute to human/social well-being

Principle 4: ADEQUATE SCOPE

Assessment of progress toward sustainable development should:

- adopt a time horizon that spans both human and ecosystem time scales to ensure that the needs of future generations are addressed while responding to current short term decision-making requirements
- define the space of the study large enough to include not only local but also long distance impacts on people and ecosystems
- build on historic and current conditions to anticipate future conditions – where we want to go, where we could go

Principle 5: PRACTICAL FOCUS *

Assessment of progress toward sustainable development should be based on:

- an explicit set of categories or an organizing framework that links vision and goals to indicators and assessment criteria (*)
- a limited number of key issues for analysis (*)
- a limited number of indicators or indicator combinations to provide a clear signal of progress (*)
- standardizing measurement wherever possible to permit comparisons
- comparing indicator values to targets, reference values, ranges, thresholds, or direction of trends, as appropriate

Principle 6: OPENNESS

Assessment of progress toward sustainable development should:

- make the methods and data that are used accessible to all
- make explicit all judgements, assumptions, and uncertainties in data and interpretations

Principle 7: EFFECTIVE COMMUNICATION *

Assessment of progress toward sustainable development should:

- be designed to address the needs of the audience and the set of users
- draw from indicators and other tools that are stimulating and serve to engage decision-makers (*)
- aim, from the outset, for simplicity of structure and use of clear and plain language (*)

Principle 8: BROAD PARTICIPATION

Assessment of progress toward sustainable development should:

- obtain broad representation of key grass-roots, professional, technical and social groups, including youth, women, and indigenous people – to ensure recognition of diverse and changing values
- ensure the participation of decision-makers to secure a firm link to adopted policies and resulting action

Principle 9: ONGOING ASSESSMENT

Assessment of progress toward sustainable development should:

- develop a capacity for repeated measurement to determine trends
- be iterative, adaptive, and responsive to change and uncertainty because systems are complex and change frequently
- adjust goals, frameworks, and indicators as new insights are gained
- promote development of collective learning and feedback to decision-makers

Principle 10: INSTITUTIONAL CAPACITY

- Assessment of progress toward sustainable development should be assured by:
- clearly assigning responsibility and providing ongoing support in the decision-making process
 - providing institutional capacity for data collection, maintenance, and documentation
 - supporting development of local assessment capacity