

11 ENVIRONMENT

11.1 Overview

Environment is the sole foundation for the city's sustainable development, especially since Hanoi is endowed with diverse and distinct natural assets as well as a rich cultural heritage that spans over a thousand years. The resulting fusion of natural, cultural, and social environment form the core of Hanoi and must therefore be preserved and enhanced for present and future generations.

However, under rapid urbanization and strong economic development pressure, environmental degradation has become an unfortunate consequence. The coverage of greeneries and open space has decreased. Prime agriculture lands have been encroached upon, air quality has worsened, groundwater contamination has spread, biodiversity has been put at risk, and lakes and ponds have been reclaimed. Social conflicts have likewise increased due to forced resettlement and in-migration, while traditional/cultural values have become lost in the process. The impacts of urbanization and industrialization have been so huge that the government and all stakeholders should take appropriate measures at the regional, city, and local levels.

The environment must therefore be more effectively considered in urban planning and development and must encompass all aspects of life, because environment is not an isolated issue but rather an integral part of the development activities.

11.2 Current Conditions of Environmental Resources

1) Green and Water Network

Greenery resources in Hanoi City include various water and green spaces of different sizes and functions distributed all over the city. These environmental resources must be properly identified, conserved, and optimized to enrich the city and its people.

(1) Surface Water

Hanoi is located in the Red River delta and has a quite dense river system at about 0.5 km/km². The two main river systems are the Red River and the Thai Binh River. The Red River, which originates from China, runs through Hanoi City, branching off with Duong River in the middle of the city and flowing eastward into the Gulf of Tonkin. A high dyke system is developed along both sides of the Red River protecting Hanoi City from flooding.

The main rivers within the city are Kim Nguu, To Lich, Set, and Lu. The length of these rivers and channels is about 40km and 30km, respectively. They receive storm water and wastewater as part of the city's drainage system, with some of them narrowed and covered to serve as underground culverts.

There are about 900 lakes and ponds of different sizes scattered all over the city.¹ Those in the urban areas are usually used as parks and recreational areas, bestowing on Hanoi its unique beauty and identity. These lakes and ponds also work as drainage systems and storm water retention ponds, protecting the city from river overflows. Some lakes in the suburban and rural areas are also used as fishponds. However, even as these lakes have played an important role in Hanoi City, many have been filled up or become narrow due to recent urban development activities and illegal encroachments.

¹ Based on the GIS information.

(2) Greeneries

Hanoi has abundant resources of greeneries, which cover 540km²² or 60% of the city's total area. It comprises 37 km² of forest areas, 501 km² of agricultural land, and 3 km² of parks and recreational areas. Paddy fields and other agricultural lands occupy large tracts of land in the suburban and rural areas. While agricultural land has decreased and converted into urban land in the process of urbanization, the prime agricultural area is identified

In urban center, there are number of parks with water bodies, such as Hoan Kiam and Hai Ba Trung district, of which streets are well covered with street trees. However, in the residential areas particularly in the peripheries of the urban core, which have experienced rapid urbanization, there is limited greeneries as well as city and community parks. HIS results have shown the people's strong demand for parks within walking distances from their residences, where they can exercise, walk, or simply gather.

(3) Green and Water Network

These environmental resources must be connected as a network that will not only cover Hanoi's entire urban area but also connect agriculture land and greeneries in the rural areas. The network must be developed in hierarchy. The Red River - Duong River system and the Thang Long - Co Loa zone comprising the city's backbone should be connected with the green belt surrounding Hanoi. The Nhue River, including its regulating reservoir and large parks, and the Van Tri water space will form part of this primary water-greenery-culture network. Meanwhile, other lakes and ponds must be provided with trees and other greeneries and connected to each other through streets with strips planted to trees and plants as well. In and along the green network, historical and cultural heritage sites, valuable architectural buildings, tourism destinations, and other recreational facilities must likewise be connected to the overall network.

2) Air Quality and Noise

(1) Current Status of Air Quality and Noise

Currently there is no serious air pollution observed in Hanoi except for the levels of total suspended particulate materials (TSP). Generally major pollutant sources include industrial activities, transportation activities, construction, and, to some extent, household cooking. According to DONRE, 17 factories out of 400 in Hanoi generate air pollutants, the major ones of which are TSP and carbon monoxide (CO). Higher levels of air pollution were observed particularly around industrial areas.

Emissions from transportation vehicles are becoming a major source of air pollution in Hanoi's urban areas. The heavy pollution of dust at traffic intersections was indicated in some environmental surveys. In 2005 HAIDEP conducted an air quality survey³ at the five intersections of Chuong Duong, Nga Tu So, Nga Tu Vong, Cau Giay, and Cau Chai on air pollutants including nitrogen dioxide (NO₂), sulphur dioxide (SO₂), CO, TSPs, ozone (O₃), lead (Pb), particular matter (PM), volatile organic compounds (VOCs), and polycyclic aromatic hydrocarbons (PAHs). Compared to the results of previous studies, those of the HAIDEP survey indicated that Hanoi's air quality has significantly improved as a whole. However, levels of TSPs and CO still exceed Vietnamese standards. For PAHs and VOCs

² Calculated based on land-use data of GIS.

³ Conducted in March 2005.

which are considered mutagens and carcinogens, much lower levels than WHO standards were observed. Lower concentrations of lead have been observed, due to the phase out of leaded gasoline in 2001.

At the intersections mentioned above, noise levels were also surveyed. Results showed that noise levels throughout the day were greater than those of the Vietnamese standard. In addition to the usual vehicular noise from engines, exhaust pipes, and tires, the frequent use of horns by all types of vehicles aggravate the situation. Meanwhile, observations show that noise pollution levels have improved around major industrial areas. .

(2) Air Monitoring Activities and Infrastructure

Since 1999 MONRE invested five fixed and one mobile automatic air quality monitoring units in Hanoi, which measure parameters including TSP/PM10, CO, O₃, SO₂, NO₂/NO_x, and basic meteorological conditions. The location of these five fixed automatic air quality monitoring stations in Hanoi was selected to assess the contribution of various pollutant sources including industries, transportation, and domestic activities. One unit was installed in an urban site, two in industrial areas, one in a transportation site, and another in a residential area. These monitoring stations are operated by the Center of Environmental Engineering of Towns and Industrial Areas (CEETIA) and the Center for Environmental Technology Treatment (CIET).

Since 1996, passive sampling is conducted in Hanoi at several locations four times a year within the framework of the national environmental monitoring network. Some selected institutions have conducted specific passive sampling surveys under assignment/ contract with MONRE, HPC, or foreign-funded projects. While such projects have provided data on TSP/PM10, CO, O₃, SO₂, and NO₂/NO_x, no systematic data sources have been established.

3) Water Quality

(1) Groundwater Quality

In Hanoi groundwater is extracted through deep wells and shallow wells, which number more than 170, covering rehabilitated and new deep wells, which supply 10 main water plants on the left bank of the Red River and 2 on the right bank. These plants are under the management of the Hanoi Water Business Company (HWBC) and HWBC No.2. The total volume extracted by these two companies is 609,000 m²/day. In addition, there are many small water stations for factories and institutions and private wells for domestic use. The total amount of water extracted from these small-scale wells are estimated at 160,000-200,000 m³/day for industries and institutions and 100,000 m³/day for private use.

Groundwater quality is monitored by the Northern Hydrogeology Department. There are 14 monitoring points under the National Observation Network and 41 points under the Hanoi Observation Network. HWBC monitors groundwater level 5 times a month, while its quality is monitored twice a year in the dry and rainy season.

While the quality of groundwater is generally good, deterioration has been observed both for quality and quantity due to uncontrolled exploitation and contamination from wastewater and solid waste. The hygienic contamination of ammonium has been a serious problem. The data from HWBC showed that the average ammonium concentration in raw groundwater ranges from 10 to 20 mg/L during the period of 1990-1999. It is more serious in the southern area of the city. The highest value was found in Phap Van water plant. Such

high contamination of ammonium cannot be removed with the current water treatment technology.

High contamination of iron is also observed in the southern part of Hanoi at around 10 mg/L, which can be reduced below the permitted standard for drinking water with treatment. On the other hand, high concentrations of manganese are observed in the northern part of the urban center and Gia Lam area, which are not effectively removed in the treatment process. Alarming signs of arsenic contamination of groundwater have shown in some areas of Hanoi City, which originates from the geological formation and fluctuates by season and area.

(2) Surface Water Quality

Most of the domestic wastewater is treated by septic tanks before being released into drainage systems or water bodies. However, ineffective septic tanks and the lack of regular suction have deteriorated the water quality of surface water. Only 6% of the total volume wastewater from industries and hospitals is treated; the bulk is discharged without treatment, contributing to water pollution.

Four main rivers which flow through the urban area of Hanoi City, namely Kim Nguu, To Lich, Set and Lu rivers, receive wastewater. The ammonia concentration in these rivers ranges from 28.9 mg/l to 10.0 mg/l, which is almost the same as the groundwater in the southern part of Hanoi City. Kim Nguu River receives the highest load of pollutants from 14 main outlets with a daily total volume of 120 m³ to 125m³.. Several factories, such as those involved in chemicals and weaving, located at the end of the Kim Nguu River, discharge untreated wastewater directly into it, resulting in a rising content of heavy metals. To Lich, Lu, and Set river also observe the increasing level of pollutants due to the untreated wastewater discharged to those rivers.

In general, water running the Red River is not polluted, where most of quality parameters pass the Vietnamese Standard. Due to high content of suspended solid and turbidity, however, the Red River cannot be used for water supply in Hanoi. Another major river system in Hanoi City is the Nhue river, which is originated from the Red River and run through Hanoi, Ha Tay and Ha Nam provinces. Untreated industrial and domestic wastewater in Cau Dien and Ha Dong areas are discharged to Nhue River, resulting in higher content of COD and BODs compared to the Red River.

Water quality in the lakes and ponds are also heavily polluted. Wastewater from urban area is being discharged into the lakes without prior treatment, thereby deteriorating water quality. A wastewater interceptor system has been introduced in some of the lakes, which have helped improvement of that water quality. Some lakes at the upstream of wastewater drainage system are heavily polluted such as Van Chuong, Giam, Linh Quang, and Truc Bach. The water quality survey was conducted on 50 lakes, based on which lakes were classified into four levels depending on the level of water quality. The results showed that 23 lakes were classified as level 3 or 4, out of standard. There are no lakes classified as level 1 with comfortable quality.

4) Solid Waste Management

(1) Generation of Solid Waste

The total amount of non-hazardous solid waste in Hanoi was approximately 2,100 ton per day, of which 70% come from municipal waste. 13% and 16% of them are from industries

and construction. Hazardous waste from industries and hospitals amount 19,500 tons per year. These wastes are not properly disposed of, resulting in the risk for human health and urban environment.

- (a) **Municipal Waste:** Hanoi produce total amount of 490,000 tons of municipal solid waste per year or 1,300-1,500 tons per day. It contributes 6% of total municipal waste generations, while urban areas in Vietnam 50%. It is estimated that an average per-capita generated municipal waste is 1.0 kg per day at present, and will increase to 1.18 kg per day in 2010 and to 1.29 kg per day in 2020. The share of degradable organic waste has decreased to only 50%, as non-degradable waste increase such as plastic, metal, and glass along with the change of lifestyle.
- (b) **Industrial Waste and Hospital Waste:** The total amount of waste from industrial and construction sector has increased at an annual growth rate of 5%. Hazardous waste accounts for 38% of those industrial and hospital waste.
- (c) **Agricultural Waste:** The major agriculture wastes are originated from animal manure of farmers' houses, crop residues as well as agro-chemical residues. This agricultural waste has caused unhygienic situation in suburban area and danger for surface water and groundwater in surrounding areas.

(2) Collection and Transportation

Solid wastes are collected without being segregated and transported to treatment sites. There are 3,000 handcarts, 185 collection vehicles and 55 excavators operated in Hanoi City as of 2002. The collection efficiency is about 80% and the recycle and reuse rate, mostly by scavengers, is estimated at 20%.

(3) Treatment

Most of collected solid waste is disposed at land fill site. There are one sanitary landfill and three simple ones. The first solid waste treatment complex constructed in 1998 locate in Nam Son and cover the total area of 83.3ha with the total capacity of 13.8 million tons. Serious issues are observed not only for the capacity but also for the quality of the leachate discharged from landfills.

Hazardous healthcare wastes have been burned in incinerators installed at several hospitals and in the centralized incinerator at Cau Dien. Since the Cau Dien incinerator started operation in 2000, the rate of hazardous healthcare waste treatment has improved from 33% in 2003 to more than 90% in 2004.

11.3 Assessment of Environmental Network

1) Mapping of Hazard Areas and Land Development Suitability

Environmental conditions of Hanoi were categorically analyzed. A hazard map was prepared and land conditions for development suitability were evaluated.⁴ Results of evaluation were used not only for planning but also for selection for engineering after overlapped other environmental components such as water surfaces and greenery resources, as described in Chapter 5.

(1) Assessment on Land Conditions

(a) Topography

Most of the area of Hanoi has the average elevation of 5-20m above sea level. The rest covering only the northern and northwestern parts of Soc Son district is mountainous with elevation of 20 - 400m, maximum 462m (the Chan Chim mountain peak). The topography of Hanoi lowers from north to south and from west to east. This is reflected clearly through the flow direction of the main river flowing across Hanoi.

(b) Geological Formation and Hydrogeology

During the Quaternary period, the land of Hanoi has been created through transgressions and regressions of the sea in 5 depositional cycles⁵ except for the Soc Son area. Regarding Hydrogeology, Hanoi City mainly consists of Holocene aquifer and Pleistocene aquifer.

(c) Engineering Geology

Hanoi City is divided into 4 zones by physical-mechanical characteristics of soil, with special attention to the depth of occurrence, thickness of the soft soil layers and hydrogeological conditions.

- (i) **Zone I:** Very good for construction; covers the whole of Dong Anh and Tu Liem districts.
- (ii) **Zone II:** Good for construction; distributed in the urban area of Hanoi area, along the To Lich River, most of Gia Lam district, in the strip along the Red river, Duong river of Dong Anh district.
- (iii) **Zone III:** Fair; distributed in the whole Thanh Tri district, part of Gia Lam district, some small patches in Duong Anh and Tu Liem districts.
- (iv) **Zone IV:** Unsuitable for construction; consists of areas confined between the dykes of the Red River and the Duong River.

(d) Geological Hazards

In the course of rapid urbanization, agricultural and forest land has decreased in its quality as well as in its quantity. Since a large land area of the city has been paved with

⁴ Thirteen factors were selected for the analysis namely: topography (slope, elevation), geodynamics (heave/subsidence, density of fault or distance to fault), engineering geology (surficial geology), groundwater (depth to groundwater level, corrosiveness of groundwater, distance to intensive groundwater extraction area), geological hazard (earthquake, distance to riverbank erosion, distance to weak river dyke segment), and man-induced hazard (land subsidence, inundation).

⁵ It includes early Pleistocene-Le Chi formation; Middle - Late Pleistocene-Hanoi formation ; Late Pleistocene-Vinhphuc formation ; the end of Pleistocene and beginning of Holocene- Haihung formation , Late Holocene-Thaibinh formation

concrete, terrestrial organisms are annihilated due to the use of insecticides, the soil has become sterile and polluted by heavy metals. The natural watershed has been diminished, resulting in decreased biodiversity and intensification of flood.

- (a) **River Bank Erosion and Sedimentation:** After Hoa Binh hydropower plant was put into operation, the natural flow of the rivers have changed and affected the erosion and sedimentation. Local erosion just behind the hydropower structure and river bed erosion in the down stream section was observed due to decrease of discharge into the river from 10,250 m³/s to 9,000 m³/s. It has changed channels and topography of the river bed, thus affecting water way transportation.
- (b) **Land Subsidence:** The most intensive subsidence in Hanoi is observed at 35mm to 40mm per year in Thanh Cong, Tuong Mai, etc. Subsidence rate in the remaining area such as Phap Van, Da Dinh, and Luong Yen ranges between 20mm to 25mm per year. In the northern part of the city, the subsidence rate is usually only 10mm per year. Such land subsidence is directly related to the decline of the groundwater level, the thickness of the soft layer underground, and the status of the construction activities on the ground.
- (c) **Earthquake:** Hanoi City has experienced many earthquakes, where three reached more than magnitude of 5.1 in Richter scale in 1277, 1278, and 1285 and one reached the magnitude of 5.3 in Vinh Phuc in 1958 and one with the magnitude of 5.6 in Bac Giang in 1961. Young tectonic activities, which were the cause of earthquake, concentrated along faults such as Song Hong, Song Lo, Song Chay, Dong Trieu, etc. It shows a great potential of earthquake in Hanoi City.

(2) Zoning of Land Development Suitability

- (a) **Very High Suitability:** It is very popular in the north part of the Red River, covering most areas of Dong Anh and Tu Liem districts. The relief is flat, slightly inclined in the north-to- south direction, enabling good drainage. The surface layers are composed of clay, sandy clay, clayey sand aged Pleistocene, which are suitable for construction both physically and mechanically. The groundwater are below the depth of over 5m and there is no severe hazards.
- (b) **High Suitability:** This zone is distributed in most area of Tu Liem district, some strips at the north of the Red and Duong rivers, and some parts of Dong Anh, Gia Lam and Thanh Tri district. The land surface is flat, with elevation of 6-8m. The soil is composed of recent clay, sandy clay, clayey sand aged Holocene, with moderate suitability for construction. The groundwater level is 2-5m and there are no severe hazards.
- (c) **Moderate Suitability:** This zone is distributed in the form of lenses. It appears at all districts, even in downtown of Hanoi. It is widely located in the further north of Soc Son, parts of Thanh Tri and Tu Liem district. The soil is mainly of special group, containing organic matter, aged Middle Holocene, with strongly varying thickness and distribution area. Hydrogeologically, the ground has low capacity to bear ground water with low permeability. The groundwater is of very low discharge and, in some places, corrosive to concrete.
- (d) **Low Suitability:** It consists of areas confined between the dikes of the Red river and the Duong river, alternately flooded during the flood season, not favorable for the construction of long term and perennial structures. Some areas are covered by artificial soils. Most of urban areas belong to this type with strong influence of man-induced

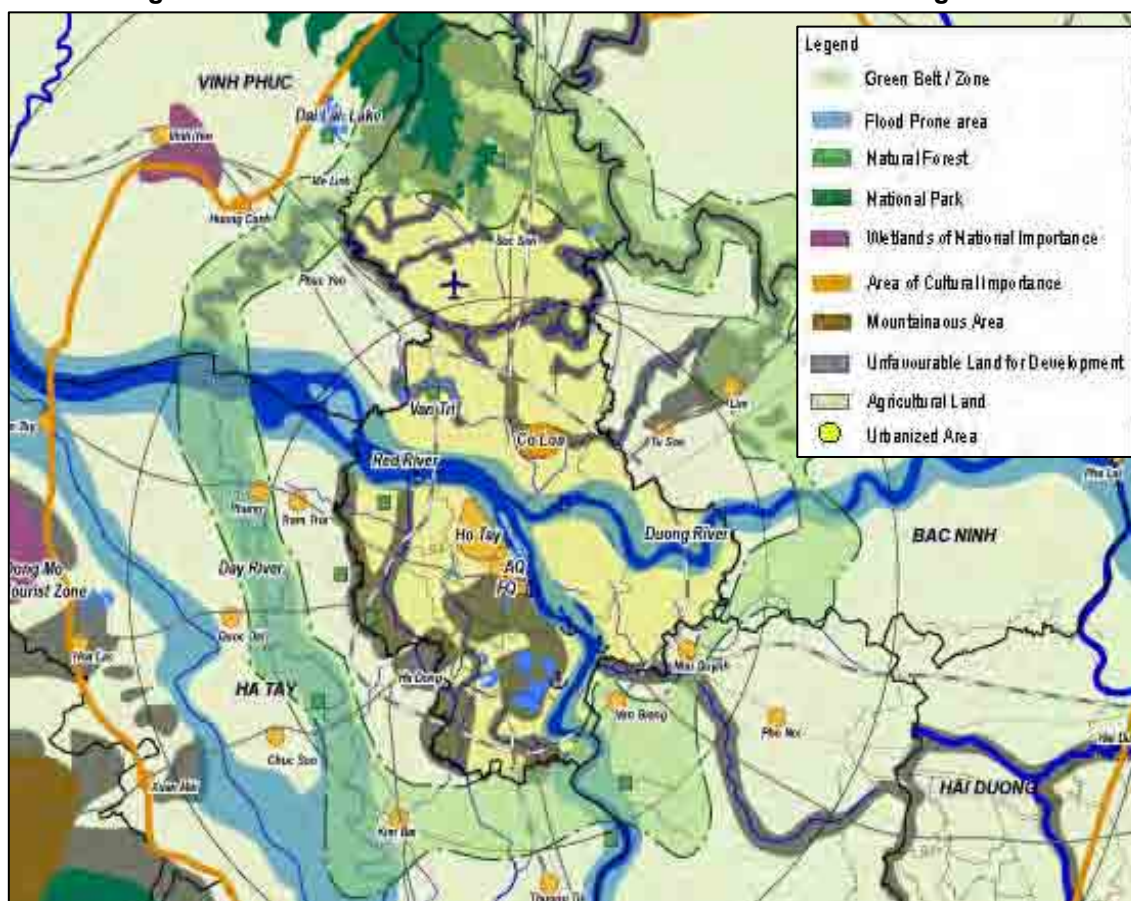
hazards such as land subsidence and inundation.

- (e) **Very Low Suitability:** The land surface is strongly dissected and depressed, with accumulating water during the rainy season. Its geological conditions for engineering are unfavorable for the development of construction. This area is concentrated mostly in the urban area and in Thanh Tri district between big river and also appears in Soc Son district where the relief is very steep.

2) Establishment of Environmental Zones and Green Belts

Environmental and green zones form the foundation for urban development in Hanoi and its adjoining areas. These zones are composed of important resources, namely: (i) greeneries including forests, nature parks, parks, agricultural lands, etc.; (ii) water formations including rivers, lakes, and ponds; (iii) cultural heritage assets including Thang Long and Co Loa citadels and other assets spread all over the city and region; and (iv) critical hazard areas. The identification of environmental and green zone does not necessarily mean that developments within these areas will be restricted. It is merely desired that such areas will be adequately planned and developed in a way that the environment is preserved and sustained and the negative impacts of potential hazards are reduced (see Figure 11.3.1).

Figure 11.3.1 Environmental Zones and Green Belts in Hanoi Region



Source: HAIDEP Study Team

11.4 Parks and Green Space Planning

1) Overview

Parks and green spaces at the city level are composed of agricultural lands, rivers, lakes, and green spaces. Agricultural lands include rice fields and forests. Rivers include the Red River, Duong River, and smaller rivers such as the Nhue and To Lich rivers. Lakes and green spaces include the Thong Nhat, Yen So, and Ho Tay parks. Most of the greeneries are agricultural lands, which account for 54% of the city area. Due to the existence of many lakes and rivers, water surfaces total an exceptionally high percentage of 9% of the city area, which is a unique characteristic of Hanoi. Green spaces are also provided in various heritage sites such as Co Loa and pagodas. While the per capita green space increase from 2.5 m² in 1991 to 4.7m² in 2003, it is still low compared to the target of 18m² by 2020.

Park areas are still insufficient. Even in the urban core comprising of districts of Ba Dinh, Hoan Kiem, Hai Ba Trung, and Dong Da, where parks are relatively well provided, the average per capita park area is only 1.28m². The level of availability in the entire nine (9) urban districts is 0.9 m²/capita, which is far below the 1998 Master Plan target, which is 7m²/capita.

According to the HIS, about a half of the residents are not provided with a park within walking distance or with easy access. 90% of the residents consider good access to a park is important. Main functions expected of parks include play area for children, as well as area for relaxation and exercise. The need for small parks at the community level is particularly wanted by the people.

Main issues on park and green space are (i) insufficient park and green space and uneven distribution in the city (ii) need to meet diverse demands, and (iii) need for provision of appropriate development standards.

2) Current Conditions of Parks and Green Spaces

(1) Existing Parks

Green spaces account for 67.6% of the total city area according to GIS 2003. It includes: (i) rice fields and other agricultural lands, (ii) water surfaces, (iii) forests, and (iv) parks and recreational areas. Rice fields and other agricultural lands are the major green spaces, which account for 54.4% of the city area. Forested areas can be found only in Soc Son District, which accounts for 4.0% of the city area. Water surface, a major feature of Hanoi's land use, is 8.8%. The respective areas and shares of various green spaces are shown in Table 11.4.1.

Table 11.4.1 Areas and Shares of Green Spaces in Hanoi City

	Area (ha)	% to City Area
Rice field and Other Agricultural Land	50,123	54.4
Water Surface	8,072	8.8
Forests	3,749	4.0
Parks and Recreational Areas	284	0.3
Total	62,227	67.6

Source: HAIDEP Study Team.

In nine urban districts, green areas have been developed continuously in the last decades. The total green area and the per capita green area increased from 1985 to 2003. During this period, the former increased from 93ha to 237ha, while the latter from 2.5 m²/person to

4.7 m²/person. However, it is still far below the green area target specified in the *Hanoi Urban Development Master Plan up to 2020* which is 16% of urban land or 4,000ha or 16 m²/person.

In 2004 the average per capita park area in the nine urban districts was 0.9m². Comparisons with other cities show the quite low standard of the current park provision in Hanoi City (e.g. per capita park area: average Japanese cities at 8.1 m²/person, Tokyo at 3.0 m²/person, London at 26.9 m²/person, Berlin at 27.4 m²/person, and New York at 29.3 m²/person) (see Figure 11.4.1).

In the old developed areas, such as Hoan Kiem and Hai Ba Trung districts, per capita park area is relatively high at 1.2m² and 1.7m², respectively. In the urban core districts (Hoan Kiem, Ba Dinh, Dong Da, and Hai Ba Trung), total park area is currently 135ha, and the average park area is 1.3 m²/person. The targets for the park area in urban core districts by 2020 in the *Hanoi Urban Development Master Plan up to 2020* are shown in Table 11.4.2. The average park area in the urban core (1.3m²/person) is still low compared with the target figures of 5.2 - 5.5m²/person.

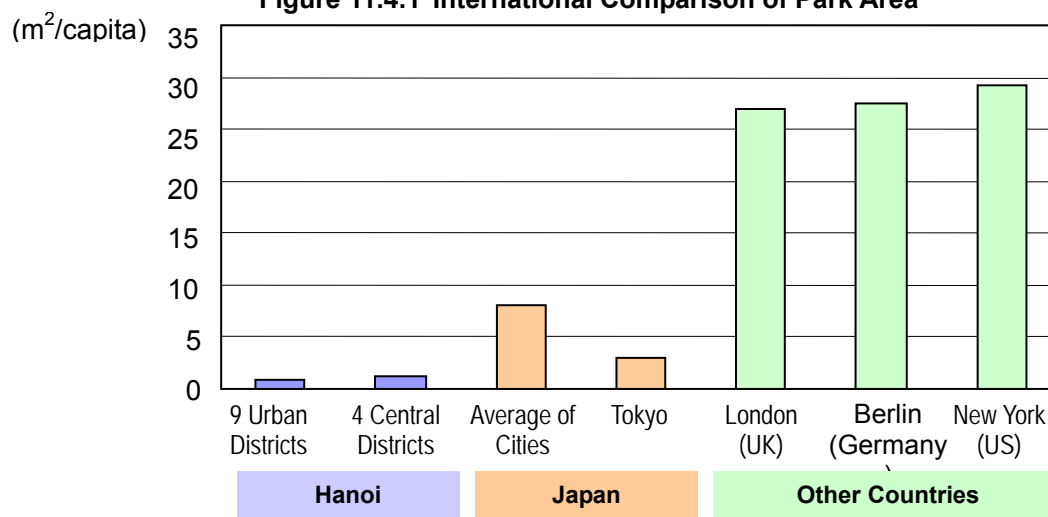
On the other hand, in rapidly urbanizing districts, such as Dong Da, Gia Lam and Thanh Xuan, the average per capita park area is only 0.05m². In rapidly urbanizing areas city authorities cannot properly regulate urban and residential development project in a way that would allow the creation of parks and green spaces as mandated in the Building Code of Vietnam.

Table 11.4.2 Park Areas in Nine Urban Districts, 2004

	Park Area (ha)	Population 2003 (000)	Park Area per Capita (m ²)
Total of 9 Districts	175.5	1,957	0.90
Urban Core	135.3	1,060	1.28
Ba Dinh	53.1	201	0.65
Hoan Kiem	20.7	171	1.21
Hai Ba Trung	59.9	355	1.69
Dong Da	1.6	333	0.05
Tay Ho, Cau Giay, and Tu Liem	37.5	409	0.92
Thanh Xuan	1.1	151	0.07
Gia Lam	1.6	337	0.05

Source: TUPWS.

Figure 11.4.1 International Comparison of Park Area



Source: HAIDEP Study Team.

As a whole, existing park area is quite smaller than the target in the *Hanoi Urban Development Master Plan up to 2020* at 7m²/person of parks and public gardens in seven urban districts. The comparison between targets in the *Hanoi Urban Development Master Plan up to 2020* and the current situation is summarized in Table 11.4.3.

Table 11.4.3 Park Areas in Nine Urban Districts Planned in the *Hanoi Urban Development Master Plan up to 2020*

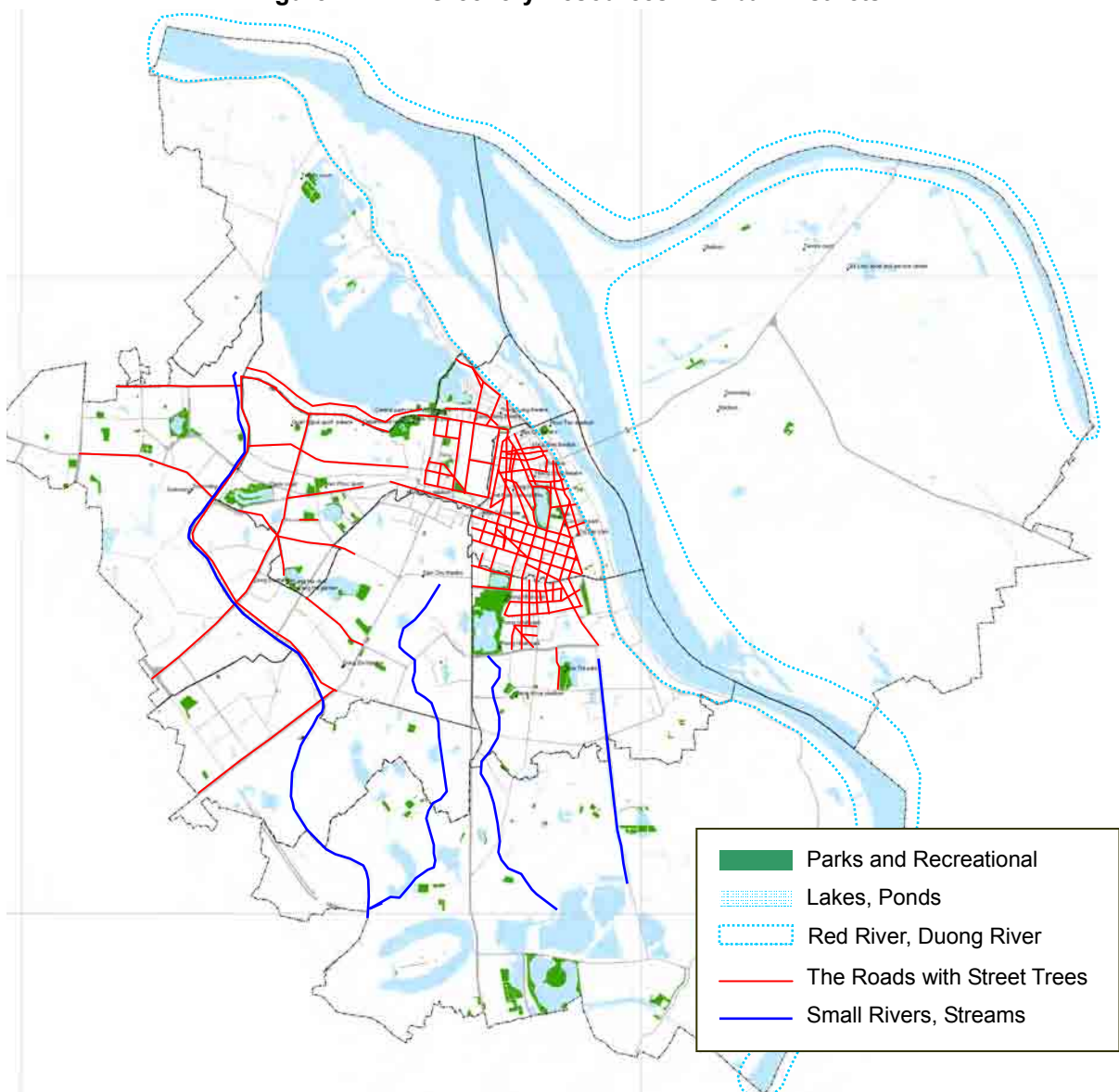
	Hanoi Urban Development MP		Current Conditions
	No. of Park	Park Area (ha)	Park Area per Capita (m ²)
Urban Core	46	420 -450	5.2 - 5.5
Ba Dinh		65	3.2
Hoan Kiem		100	6.7
Hai Ba Trung		190	9.0 - 10.0
Dong Da		55	2.5

Source: HAIDEP Study Team.

(2) Street Trees and Other Resources

Hanoi has approximately 28,000 street trees, most of which are over 50 years old and with large green canopies. Streets with trees are illustrated in Figure 11.4.2.

Figure 11.4.2 Greenery Resources in Urban Districts



3) Review of Existing Regulations and Its Application

(1) Existing Regulations

The most fundamental regulation for green areas are specified in the Building Code of Vietnam (MOC, 1997). It stipulates requirements on green area per capita by type, minimum land area for parks, and minimum green coverage ratio by building type (see tables 11.4.4 to 11.4.6). In accordance with these planning standards, Hanoi's construction plan indicates land-use standards on per capita green area for urban area as part of the city's development targets. Construction permits shall be issued if the requirement on a minimum green coverage ratio per building type is satisfied.

Green urban areas are categorized in the Building Code as follows:

- (i) Green areas for public use (parks, gardens, and promenades).
- (ii) Green areas for restricted use (in areas with urban functions, such as residential areas, industrial areas, storage, schools, etc.).
- (iii) Specialized green areas (buffer zones, protection areas, science research areas, etc.).

Table 11.4.4 Required Per Capita Green Urban Area

	Green Area per Capita (m ²)
Green areas for the city level	10 – 15
Green areas at urban area (Civil Area)	5 – 8
Green areas as residential areas	3 – 4 ¹⁾

Source: Building Code of Vietnam, Article 5.11 (Criteria for Class I or II Cities).

1) It is included in the 25-28 m² of residential area.

Table 11.4.5 Minimum Land Area for Required Parks

Type of Park	Minimum Land Area
Urban Central Park	15ha
Zone Park	10ha
Residential Park	3ha
Promenade	0.5ha
Public Garden in a Town	2ha
Urban Forest Park	50ha
Tree Nursery	1 m ² /person
Flower Nursery	0.2 m ² /person

Source: Building Code of Vietnam, Article 5.11 (Criteria for Class I or II Cities).

Table 11.4.6 Maximum Building Coverage Ratios and Minimum Green Coverage Ratios by Building Type

Building Type	Maximum Building Coverage Ratio	Minimum Green Coverage Ratio
Individual House	30	40
Apartment	50	20
School / Preschool	35	40
Hospital	30	40
Cultural Center	30	30
Religious Facilities	25	40
Factory	50	20
Industrial Estate	70	20

Source: Building Code of Vietnam, Article 7.6.

(2) Application to the Planning

Based on those requirements for urban green areas under the Building Code, the Hanoi Urban Development Master Plan up to 2020 stipulates land-use target for green areas within urban area. It includes 16 m² per capita of green areas in civil land and 3-4 m² per capita of parks and gardens within residential area, or 19-20 m² per capita as a total.

The criteria on the minimum land area for required parks have not been effectively applied in the detailed planning stage. Competent authorities do not appropriately check the conditions on minimum criteria for parks and green spaces and penalties are not imposed on developers. Planning standards that shall ensure green spaces does not work effectively.. There are no standard layouts for parks at the neighborhood level, which has resulted in lack of small parks in Hanoi's neighborhoods. As a result it is hard to achieve the target of 2020 master plan, due to the lack of mechanism to develop new green spaces and improve the existing urban areas.

4) Development and Maintenance Systems for Parks and Green Spaces

(1) Institutional Arrangement

HAUPA has a overall responsibility for park planning at the city level and for basic park design, while TUPWS is responsible for detailed design, construction, and maintenance of the parks in urban area. Public companies were established under TUPWS, such as the Hanoi Parks and Green Tree Company, which is in charge of maintenance work of parks and street trees.

On large private development projects, HAUPA takes responsibility for the issuance of planning permits. The development of parks is one of the conditions for giving out a permit. However, there are no clear planning criteria for each project, such as share of parks in development areas⁶. It allows HAUPA to issue planning permits at the discretion of employees. After the planning permit is provided, the investor shoulders the responsibility of constructing a park. The maintenance of the parks can be carried out under two cases: (i) parks are turned over to TUPWS after completion and a public company under TUPWS maintains it, or (ii) a homeowners' or residents' association is organized or tasked to maintain the park under the responsibility of the investor. In this way, the role of the investor is integral and important for the construction and maintenance of parks.

As for conservation and development of agricultural lands, the responsible agencies include DONRE, HAUPA, and DARD. DONRE has responsibility over land use for the whole city area. In urban development areas, HPC and HAUPA take responsibility over the approval of development projects which shall convert agricultural lands into urban land use. DARD has the responsibility and control over the conversion of agricultural lands into tourism or other agricultural land. Farmers have no right to convert the agricultural lands they cultivate, even if conversion is for their own business.

(2) Ongoing and Proposed Projects

Sixty (60) green areas were planned in the Hanoi Urban Development Master Plan up to 2020. Seven parks are already fully opened, while five are partly opened. Four are under construction, while the remaining 44 parks are still in the planning stage. Such a slow implementation of development , the per capita green area in 2003 was 4.7m² in urban construction lands or in urban districts, which is still very lower than the target per capita

⁶ In Japan, the planning criteria for minimum park area is 3% of total project site.

green area indicated in the *Hanoi Urban Development Master Plan up to 2020* (16 m²/person).

(3) Maintenance System

(a) Maintenance of Street Trees

Hanoi has approximately 28,000 street trees, most of which are over 50 years old. The trees form a large green coverage and help create a typical Hanoi streetscape.

The Green Park Company manages all of the street trees. Maintenance works include trimming, new planting, and substitution planting for decayed trees. Newly planted trees are provided with a two-year maintenance to ensure that they grow into standard-sized street trees. However, over the past years the destruction of trees mostly due to construction activities has continued despite the concerted efforts of relevant authorities.

The annual number of newly planted trees and those substituted for decayed trees ranges from 3,000 to 5,000 (see Table 11.4.7).

Table 11.4.7 Number of Street Trees Planted by Year

Year	2001	2002	2003	2004
Number of Planted Trees	5,369	2,670	2,652	3,318

Source: TUPWS.



Grand street trees in Hanoi.

(b) Budget for Parks and Green Spaces

TUPWS allocates a budget for the construction of some parks (i.e. the budget assigned by HPC for TUPWS) and for the maintenance of parks and street trees. Annual budget for tree maintenance is VND 2.5 billion. Entrance fees from visitors to large parks are pooled as a fund for park maintenance. The number of visitors to two large parks in Hanoi is shown in Table 11.4.8. Both of them are managed by TUWPS, city authorities provide an additional maintenance budget to cover the insufficiency of its fund.

There are three budget sources for the construction of parks:

- (i) Budget from a city authority only.
- (ii) Fund from an investor only.
- (iii) Both the budget from a city authority and funding from an investor.

TUWPS also annually assigns funds for the maintenance of parks, flower gardens, and medians in the city's arterial roads, as well as for street decoration projects during festivals. Table 11.4.9 shows TUPWS' annual maintenance funds from 2001 to 2005.

Table 11.4.8 Number of Visitors to Two Large Parks in Hanoi

Unit: 000 persons

Year	2002	2003	2004	2005
Hanoi Zoo	1,589	1,497	1,724	1,800
Thong Nhat Park	355	403	420	500

Source: TUPWS.

Figure 11.4.3 Photos of Parks in Hanoi



Table 11.4.9 TUPWS Maintenance Funds by Year

Unit: million VND

Year	2001	2002	2003	2004	2005
Fund	29,630	28,009	32,570	39,550	35,730

Source: TUPWS.

5) People's Perception of Parks and Green Spaces

(1) People's Responses Through HIS

(a) Access to Parks and Green Spaces

Fifty percent (50%) of the respondents in Hanoi can access to parks easily, among of which 31% have access within a walking distance. The remaining 50% have no park or green spaces within easy access. Accessibility to parks are well provided in urban districts. In 4 urban core districts, more than half of residents can walk to the parks. In urban fringe area, only 25% residents can walk to the parks, while 57% of residents

have no access to neighborhood parks. In the suburban and rural area, accessibility to the neighborhood parks are quite low, where only about 11% of residents have neighborhood parks within a walking distance (see Table 11.4.10).

Table 11.4.10 Existence of Neighborhood Parks¹⁾

(%)

	Within walking distance	Within an area which can easily be reached	No
Hanoi City Total	31	19	50
Urban Core	55	26	19
Urban Fringe	25	18	57
Suburban	11	12	78
Rural	11	14	75

Source: HAIDEP HIS.

1) Answers to the question of “Do you have a park or green space that you can use in your neighborhood?”

90% of respondents noted the importance of having good access to parks and green spaces. The closer to urban center, the higher demands for park and green spaces people have (see Table 11.4.11).

Table 11.4.11 Importance of Good Access to Parks and Green Spaces¹⁾

(%)

	Yes, very much	Yes	No	Not at all	Not sure
Hanoi City Total	51	39	5	1	4
Urban Core	56	38	3	1	3
Urban Fringe	53	37	6	1	3
Suburban	49	39	7	2	4
Rural	40	45	7	2	7

Source: HAIDEP HIS.

1) Answers to the question of “Do you think it is important for you to have good access to parks and green spaces?”

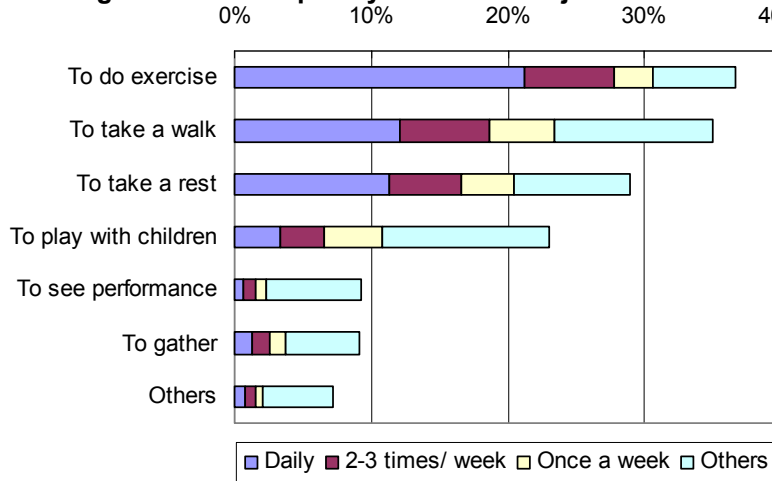
(b) Activities in Parks and Green Spaces

The most popular activities in the park is “to do exercise”. 37% of respondents enjoy exercise in the park, of which about 60% do everyday. Followings are “to take a walk” and “to take a rest”, which are also daily activities. 35-37% and 18% of respondents who enjoy these activities do daily or 2-3 times per week. “To play with children” is also popular in Hanoi, while frequency is fewer than the top three activities. The other activities such as “to see performance” and “to gather”, which are eventual activity rather than daily one.

Seeing by area, the more close to urban center, the larger and the more frequent use of parks is observed. For example, more than 55% of people enjoy exercise in urban core, while only 15-17% of people can enjoy in suburban and rural area. The share of daily users is over 60% in urban core, while it is only 40% in rural and suburban area.

In general, daily users account the majority among the users for major activities. It showed that residents who had easy access to parks and green spaces use them very frequently for daily activities like walking, exercising, and resting. On the other hand, people without easy access to parks and green spaces rarely enjoy those activities.

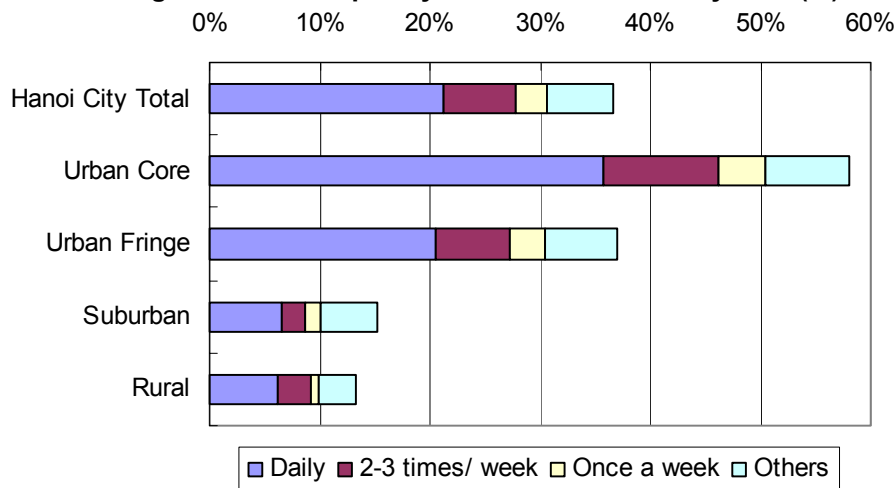
Figure 11.4.4 Frequency of Current Major Activities in the Parks¹⁾



Source: HAIDEP HIS, 2005.

1) Multiple choice to the questions: "What do you do in parks and green spaces?" and "How often do you use them?"

Figure 11.4.5 Frequency of "to Do Exercise" by Area (%)



Source: HAIDEP HIS, 2005.

(c) Requested Functions and Facilities

The demands for improvements in the parks areas, in terms of those functions and facilities are shown in tables 11.4.12 and 11.4.13. The result shows that there is a large request of people for the areas for children to play in their neighborhood, which are currently not well provided in Hanoi. The top requirement for functions and facilities are "play area for children" and "playgrounds and play equipment for children". The other required facilities in parks include public toilet, footpath, bench, and lighting facilities.

Table 11.4.12 Expected Functions of Parks and Gardens

Function	Share (%)
Play Area for Children	22
Strolling	20
Exercise/ Sports Yard	18
Rest Area	18
Greenery (trees, plants, flowers)	14

Source: HAIDEP HIS.

Note: Answer to the question "What functions of parks/gardens in your neighborhood must be provided?" Minor functions with less than 10% share are: (1) shelter against disasters, and (2) gathering place.

Table 11.4.13 Required Facilities in Parks and Gardens

Facilities	Share (%)
Playground / Children's Play Equipment	21
Public Toilet	20
Footpath	18
Bench	15
Lighting	14

Source: HAIDEP HIS.

Note: Answer to the question "What facilities in parks/gardens in your neighborhood must be provided?" Facilities with less than 10% share are kiosks, space for gathering, and bulletin boards.

(2) People's Responses Through the Park User Survey

According to the park user survey results, small and medium-sized parks are used very frequently (around half of the respondents go to the parks almost everyday). Parks are important facilities for citizens in Hanoi. As also shown in the HIS results, there is not enough neighborhood parks within a walking distance and with diverse functions and facilities, such as playgrounds and equipment for children.

6) Main Issues

(1) Insufficient Parks and Green Spaces

In 2003, the average per capita green space in nine urban districts was 4.7m². In 2004, the average park area per person in urban districts was 0.9 m². This ratio of park area is still low compared with the average ratios in other countries. In Dong Da and Gia Lam districts, and the areas near the urban center that rapidly urbanized through the Doi Moi, the average park area per person is only 0.05 m². Compared with the city's urban center that was developed during the French colonial period, the development of parks in newly developed areas is not enough to fully cater to residents' needs. Therefore, city authorities have to establish a system to develop parks and green spaces in newly developing urban and residential areas.

(2) Gaps between Existing Parks' Functions and the People's Needs

Hanoi's parks and green spaces were planned uniformly with limited variety of facilities and geometric layout, which were patterned after French gardens. On the other hand, HIS results showed that residents desire for neighborhood parks with diverse functions, including parks with playgrounds and play equipment for children rather than big-scale and well designed park. It means that there are large gaps between existing parks and green spaces and people's desires for them. Therefore, there should be more diverse planning and design concepts that sufficiently take into account actual residents' needs.

(3) Lack of Appropriate Development Standards

There are two planning standards for parks and green spaces currently applied in urban area in Vietnam: (i) standard for green spaces per person for three types of parks and green spaces, which include parks for residential areas, and (ii) minimum green coverage ratio by building type. Both are stipulated in Vietnam's Building Code. Those standards shall theoretically enable residents to enjoy these spaces within walking distances. However, due to the lack of proper guidance for urban development activities, such parks and green spaces do not exist. HIS results showed a high degree of dissatisfaction among

respondents with the lack of neighborhood parks and green spaces.

More systematic and hierarchical park standard are required so that it can cater to the diverse needs of residents and users. The implementation capacities of relevant government authorities should be enhanced.

(4) Integration and Networking

Parks and green spaces must provide a continuously connected space to benefit the people and enhance the landscape. To achieve this, all potential resources including parks, lakes and ponds, water surfaces, tree-lined streets and sidewalks, recreational facilities, cultural heritage sites, agricultural lands, other greeneries, and open space must all be integrated.

(5) Conservation of Greeneries in Suburban Areas

Forests and agricultural lands in the suburbs are important resources for creating large green spaces. However, a clear institutional system to preserve green field in urbanization trend has yet to be set up. Although land management of forest and agricultural use are under DONRE's control, urban development is under the jurisdiction of HAUPA through its mandate over urban construction plans. Therefore, the utilization or conservation of forests and agricultural lands should be properly coordinated between land use master plans and urban construction plans.

7) Basic Development Direction

Targets for development of parks and green spaces are set specifically in the 1998 Master Plan, i.e. per capita green space of 18m² and per capita park area of 7m² and 5.2-5.5m² for urban districts and urban core, respectively. Development of green belts surrounding Hanoi's urban areas is also intended. For this, all possible resources must be mobilized and networked (see Figure 11.4.6).

In order to meet the targets, which require a lot of efforts of the government, consideration must be given to the basic development direction comprising the following:

(a) Basic Principles

- (i) Expansion of park areas with diverse types and functions
- (ii) Integration of water bodies and greeneries
- (iii) Creation of park network connected by footpaths
- (iv) Provision of small-scale parks at neighborhood level
- (v) Use of urban rivers and retention ponds for parks (see Figure 11.4.7).

(b) Development of Parks and Green Space in Urban Core

- (i) Creation of open space through redevelopment of the existing urban areas where environment and infrastructure need to be upgraded, polluting factories are to be relocated, etc.
- (ii) Development of park within existing pond areas
- (iii) Preservation and maintenance of street trees

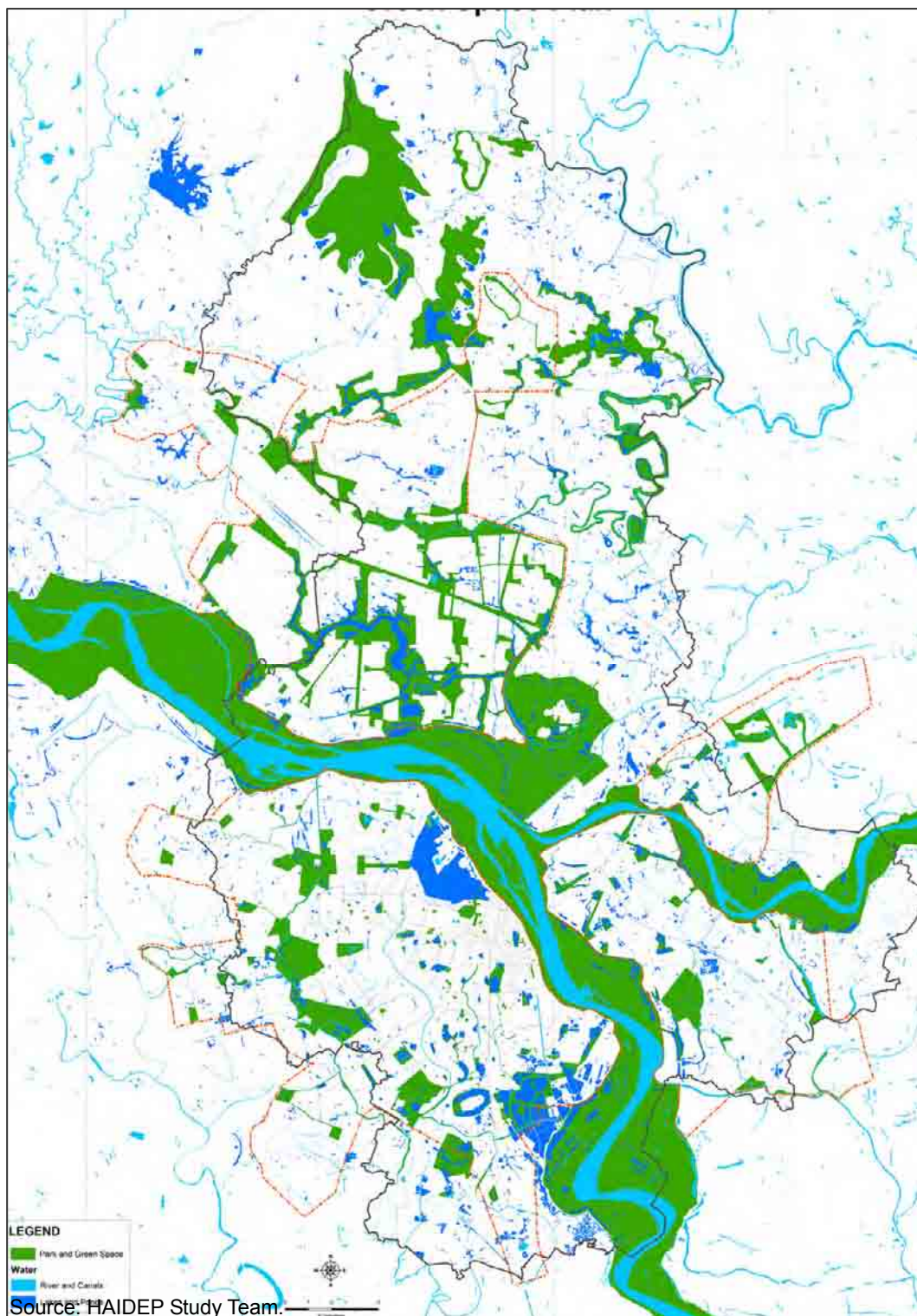
(c) Development and Conservation of Park and Green Space in Suburbs

- (i) Provision of adequate green spaces in new development area
- (ii) Integration of park system in newly development residential areas with those in adjoining urban areas.

- (iii) Conservation of green areas in suburbs and rural areas including agricultural lands.

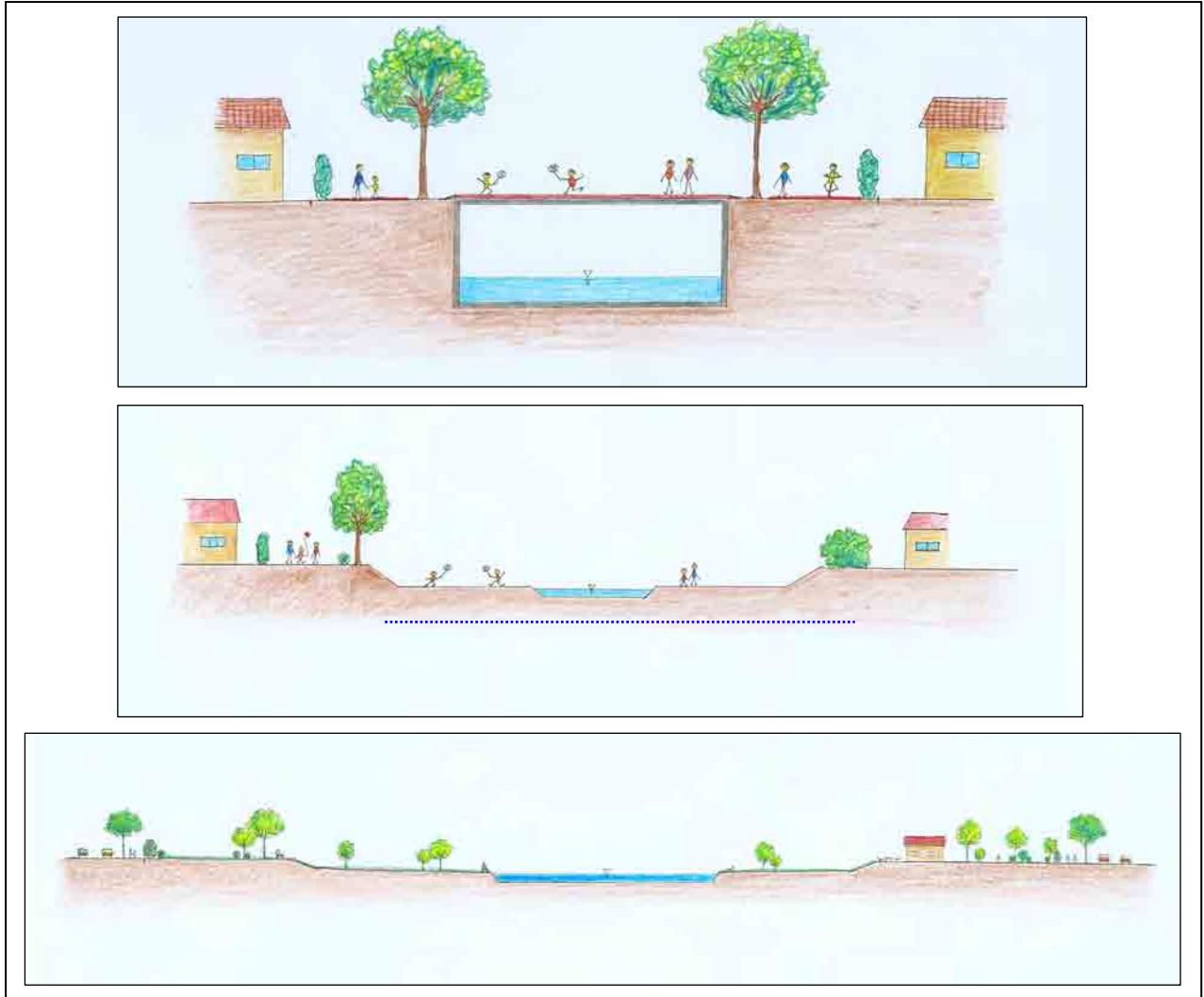
In order to manage the planning, development and maintenance process for park and green space effectively, the current park and green space administration need to be improved and strengthened.

Figure 11.4.6 Green Area Plan



Note: Green areas were based on the General Plan.

Figure 11.4.7 Use of Rivers and Retention Ponds for Parks



11.5 Environmental and Social Considerations

1) Strategic Environmental Assessment

Vietnam as well as JICA practices strategic environmental assessment not only for projects but also during the process of planning. In HAIDEP, environmental and social considerations were undertaken in accordance with the JICA environmental guidelines.

Strategic Environmental Assessment was defined in the JICA Guidelines for Environmental and Social Consideration issued in 2004 as an assessment to be implemented at the policy, planning, and program level, while environmental impact assessment (EIA) is defined at the project-level. The SEA shall be applied to address a wide range of environmental and social factors and an analysis of alternatives from the first development stage.

Vietnam has no environmental policy and legislations that require the consideration of environmental aspects at the stage of master plan for urban development. However, the National Strategy for Environmental Protection until year 2010 and Vision toward 2020 clearly mentioned the introduction of SEC into national, sectoral, and local socio-economic development strategies. In addition, the revised Law on Environmental Protection (LEP), which has not yet approved, introduces the concept of SEA.

In the preparation of the Master Plan preparation of HAIDEP, the consideration of environmental and social aspects was incorporated in the process to formulate vision and goals, development strategies, development methods, alternative analysis, project components, and implementation schedule. The followings were taken into consideration in the planning process as much as possible.

- (i) To facilitate the inclusion of the concept of sustainability into policy decisions.
- (ii) To identify the potentials for large-scale and significant environmental impacts in the earlier stage of the planning.
- (iii) To reinforce the conduct of project-level EIAs.
- (iv) To promote public participation and stakeholder involvement in the planning process and ensure accountability in the decision making.

2) Land Acquisition and Resettlement

Development of infrastructures, especially roads, in built-up urban areas requires involuntary resettlement. Hanoi has experienced many such cases involving large numbers of families (see Table 11.5.1)⁷. Resettlement often requires lengthy durations and large compensation costs that often sets back project completion, create more difficulties for affected families, and delays the benefits that are expected from the projects. Although further development of urban infrastructure including road development is indispensable for the growth of Hanoi City, resettlement caused by land acquisition always needs careful actions. The current issues related to land acquisition and resettlement are summarized below.

⁷ For example, Ring Road (Mai Dich-Phan Van section) involved 1600 PAF (Project affected families who are resettled), Vin Thuy Bridge 1.100, Overpass at So Intersection 1.100, etc

Table 11.5.1 Examples of Resettlement in Recent Road Projects

Project Name	Resettlement Site	No. of PAF ¹⁾	Budget (VND bil.)	Budget Source
1. Overpass at Nga Tu So	Den Tu / Dihn Cong Thang Long International Dich Vong Trung Hoa-Nhan Chinh South of Trung Yen	1,100	1,150	HPC/JBIC
2. Kim Lien-O Cho Du	South of Trung Yen Other new urban zones	1,200	750	HPC/JBIC
3. Doi Can-Ho Tay Road	Dich Vong / Trung Hoa Nhan Chinh New Urban Zone	396	n.a.	HPC
4. Vinh Tuy Bridge	Hai Ba Trung	1,100	3,500	HPC
5. Ring road (Mai Dich -Phan Van Section)	Urban Commune Quarter Than Xuan, Nhan Chinh Mai Dich (Cau Giay District)	1,600	n.a.	MOT
6. Thanh Tri Bridge (South Section)	On-site relocation	1,200	n.a.	MOT/JBIC

Source: HAIDEP Study Team.

1) PAF: Project-affected families to be resettled.

(1) Insufficient Policy on Land Acquisition and Compensation

While the efforts of the government to improve the compensation policy have been commendable, there are still limitations pertaining to eligibility, entitlement, and restoration of livelihoods.

Firstly, none of the policies in Vietnam and Hanoi describe the need to minimize involuntary resettlement. It is not also required to prepare a Resettlement Action Plan to minimize the negative impacts of involuntary resettlement together with the initial social impact analysis.

Consultation and participation process with project-affected persons is also not well ensured. In the case of District Council for Site Clearance and Compensation, only 1 or 2 representatives are invited to be members, which are even appointed by the local authorities. Public information for project period, compensation rates, and eligibility have been not conducted.

Another conflict is seen in eligibility criteria. In Vietnam, eligibility date for compensation is commonly set on 15th October 1993, when the former Land Law was prescribed, while international donors usually specify the concept of “cut-off date⁸⁾” for each project. This Vietnamese policy excludes encroachers from being fully compensated, which resulted in the delay of site clearance due to protest from those excluded people.

(2) Limited Options on Resettlement Site

While there are resettlement options, including: (i) resettlement in government housing, (ii) land exchange, and (iii) cash compensation, these do not meet the demands of the affected families. They cannot choose the sites to which they want to resettle, since each resettlement site is usually reserved for a particular project and the types of resettlement house are limited to multistory apartments. Although Hanoi’s strategy for relocation states

⁸ The cut-off date is the date the census of the PAPs starts or may be the date the project area was delineated prior to the census.

that the resettlement site be generally located within the vicinity of 10km radius to avoid dislocation, it is difficult to secure land for resettlement site near the project site if in densely populated areas. Some of resettlement sites are shown in Figure 11.4.1.

Figure 11.5.1 Resettlement Sites of Recent Projects in Hanoi City



Source: HAIDEP Study Team.

(3) Lack of Sustainable Mechanism to Restore Resettles' Livelihoods

Another serious concern is to sustain and restore the quality of life of resettled families. So far there is no support mechanism to restore livelihoods. According to the result of HAIDEP study on resettlement, almost all interviewed resettlers stated that they did not receive any help from any institution to restore their livelihoods. The displacement has made their lives worse than before, due to the changes in occupations and extra expenses for relocation.

So far, there is no systematic support for vocational re-training and job creation. No micro credit program is launched. The only assistance that project implementation body provides is the payment of bonus compensation for on-time relocation to speed up land clearance. Appropriate intervention programs to enhance livelihoods must be established

11.6 Proposed Environmental Management Orientation

1) Goals and Objectives

Hanoi shall improve its environment to enhance urban amenity and people's healthiness, to preserve its prime natural environment, and to enhance the city's image through the prevention of hazards/disasters, conservation of biodiversity and prime agricultural lands, practice of rational land use, development of parks and green space, and implementation of adequate countermeasures to mitigate pollution and negative impacts due to various urban activities. Hanoi must likewise attend to environmental issues both at the city and metropolitan levels as well as in relation to global concerns in close coordination with other provinces and stakeholders. In addition, Hanoi must declare itself as an environmentally friendly city by complying with international environmental conservation treaties.

2) Proposed Strategies, Actions, and Strategic Projects

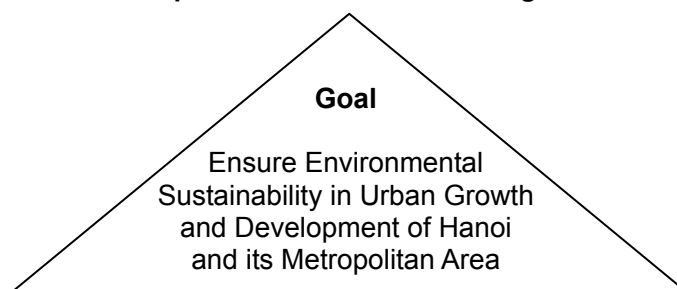
In order to ensure sustainable environmental management, three strategies are set for which more concrete actions and strategic projects are proposed (see Figure 11.6.1).

- (i) Establishment of a comprehensive environmental planning and management system
- (ii) Establishment of green belts in coordination with adjoining provinces
- (iii) Development of a park and green space network

Strategic projects for priority action are the following:

- (i) Development of comprehensive environmental mapping and information system using GIS
- (ii) Development of regional green belts
- (iii) Strengthening of urban environmental monitoring system
- (iv) Development of parks at community level

Figure 11.6.1 Proposed Environmental Management Orientation



Objectives	<ul style="list-style-type: none"> • Ensure environmental sustainability and effective land use for Hanoi as well as its metropolitan area • Ensure the people's healthiness and safety by reducing pollution and improving disaster preparedness
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Strategy	Action	Monitoring Indicator
G21 Establish comprehensive environmental planning and management system	PG1 Develop through effective interagency coordination comprehensive environmental mapping and information systems using GIS for easy access by all stakeholders PG2 Establish a practical environmental impact assessment system by selecting a set of indicators agreed upon by all stakeholders PG3 Strengthen interagency coordination among environmental organizations on indicators and environmental issues PG4 Establish an effective environmental monitoring system	<ul style="list-style-type: none"> • Developed GIS-based comprehensive environmental information system and access mechanism • Established inter-agency coordination mechanism
G22 Establish green belts in coordination with adjoining provinces	G11 Identify and designate green belts based on a comprehensive study G12 Establish a green belt management council involving Hanoi and adjoining provinces G13 Formulate an effective green belt development and management system	<ul style="list-style-type: none"> • Formulated greenbelt plan • Established management organization
G23 Develop a park and green space network	Establish a network of parks, water bodies, streets lined with trees, etc. to cover the entire city including districts and communes Provide parks at community level Integrate parks and green space with overall land use, infrastructure, cultural sites, and socio-economic activities	<ul style="list-style-type: none"> • Formulated green network plan • No. of community parks developed

Strategic Projects	PG5 Development of comprehensive environmental mapping and information system using GIS PG6 Development of regional green belts PG7 Strengthening of urban environmental monitoring system PG8 Development of parks at community level
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Source: HAIDEP Study Team.

12 URBAN DESIGN AND LANDSCAPE

12.1 Overview

Urban design must be a more integral part of urban planning and development. However, this issue has been interpreted in a rather narrow sense, largely in the physical appearance of urban areas and facilities as seen in the design of buildings, facilities, and street furniture or in the look of townscapes and streetscapes. Although landscape, as well as parks and green space, are important aspects of urban design, they must also be dealt with by taking account of the socio-economic aspects.

Establishing a clear concept of urban design is particularly important because of the nature of urban areas with precious cultural value which still function as the most vital socio-economic activities in the city. Simple preservation of the area is not a solution. Areas, such as the Ancient Quarter and the French Quarter, are alive and changing. Development pressure is so large that many violations of regulations are apparent. In order to promote sustainable development and conservation of these areas, urban design must play a central role in balancing the economic, social, cultural, and physical needs of the people in a way that all the aspects can benefit.

It is the view of the HAIDEP Study Team that urban design is a tool to provide balance among the economic, social, cultural, and physical values of urban development. This is to say that urban design does not only enhance the physical appearance of buildings, facilities, streets, or blocks, all tangible assets; it also protects intangible cultural values, enhances social activities, and promotes economic development. To seek a model urban design then, a pilot project was implemented in a block and street in the Ancient Quarter (see Chapter 13).

12.2 Approach to Urban Landscape Management in Hanoi

1) Basic Principles

It is not an easy task for the city to reach a shared vision and concept of the desired urban landscape that must be preserved and developed across the city, particularly in rapidly growing urban areas such as Hanoi which has come under strong development pressure in the wave of modernization and globalization. Nevertheless, it is high time to start discussing the future image of the city for which the following basic principles are suggested:

- (a) **Continuity:** Urban development is a continuous process, with the blend of the past, the present and the future. The next generation of Hanoians will inherit and build on the achievements of the preceding generations with full respect and care toward traditional cultural values, at the same time supplementing new contemporary values. The continuity made Hanoi as compact as a unified entity with characteristics for each area and in each historical time period. Human being has produced hallmarks, also human being has transformed them, modernized them when passing through from one period to the other. The continuity of time has blurred all distances and differences, bringing to life a breath of the contemporaries, making Hanoi especially attractive to even veteran residents, and to tourists at a multiple scale.
- (b) **Harmony:** The human being is the center of movement and transformation. The adaptation to the natural environment, the community life, the cultural tradition, the

essence of occupation by Hanoians is stable factors that enable the harmony in the urban development of Hanoi. At the first glance, the next period seemed to be in contrast with the previous one. Based on the same culture, same adaptation, and same life, however, those differences quickly merged in styles of streets from different origins in a fadeless harmony. This harmony is grateful to Mother Nature who rewarded Hanoi with invaluable assets, i.e. glistening rivers and lakes, fertile strips of land full of alluvial soil and all-year-green carpets. They are time-linking chains for the closeness of development objects in a unified complexity.

- (c) **Sustainability:** Hanoians, like other southeast Asians, also take a great care for next generations to come. Making a living today, working hard days and nights is meant for their kids and grandkids. The urban development of Hanoi inherits the same concept, manifesting in ancient features, life style of Hanoians, small production and traditional culture preserved and promoted by the current generation. The sustainability today is further strengthened due to global need to confront big challenges, demanding each city to behave in a sustainable manner. The people are aware of the role of every individual like a drop in the vast ocean yet contributing to the calmness of the ocean or to the surge of the sea destroying everything. No one wishes short duration of its existence. That is also the wish of the whole generation, of many generations and of the whole city of Hanoi in its thousand years of history.
- (d) **Human Value:** Small but rather close, simple but rather much loved, needy but rather full of human senses. These are human values Hanoi has been heavily bearing in its heart for many centuries up and down of history. The wet rice economy has deeply engraved itself in the socio-economic characteristics of the country in general and of Hanoi in particular and clearly showing up in human settlements, guilds and associations, in which the community spirit has become a valuable character, e.g. helping each other in mutual affection and love Hanoi, in which we could not find any thing grandiose, splendid from the past, rather we find our shade in those long centuries continuing the cause of humanity development at a higher level.
- (e) **Contemporary Trend:** In the new context of the globalization of the world's economy, that all the nations are hands in hands the cooperation for development, and for dealing with trans-border challenges, Hanoi has to make great efforts for changes to reach a new contemporary stature. Viet Nam wishes to become friend with all countries; Hanoi wishes to become friend of all cities in the world. This is the message Hanoians would like to reveal in their streets and in their daily actions. The cause of Doi Moi had created opportunities for Hanoi to assert itself, to rise to new heights deserving the status as the capital of Viet Nam on the way of industrialization and modernization.

2) Methodology

- (a) **Review of Existing Data and Studies:** Existing laws and regulations related to landscape management were reviewed and assessed as a basis for landscape planning. There are existing studies that focus on specific areas and themes, including the Ancient Quarter and the French Quarter. However, an overall study on landscape that will cover the whole Hanoi City has yet to be conducted. Therefore, more comprehensive information is required to analyze landscape resources in the whole city area, which includes residents' perceptions and information based on objective data.

- (b) **Supplementary Surveys:** People's perceptions and desires are essential to formulate landscape management plan in Hanoi City. For this, following supplemental surveys were conducted.
- **Household Interview Survey (HIS):** HIS was conducted through directly interviews with 20,000 households in Hanoi city and its adjoining districts. The questionnaires also covered landscape, such as general assessment on landscape, favorite landscape resources in Hanoi, assessment on negative factors on landscape, and requirement for landscape improvement. Based on the HIS result, overall picture of people's assessment on landscape were identified.
 - **Public Image Mapping Survey (PIMS):** In order to examine city's landscape resources and people's perceptions more in detail, the Public Image Mapping Survey (PIMS) was conducted. The objective of PIMS is to identify public images on Hanoi City and to be utilized for communication with people and formulation of landscape regulations. The survey was conducted through interview and drawing of sketches with 60 interviewees including both specialists on urban planning and non-specialists with a variety of age and gender. The survey was composed of the six parts, namely (i) personal information of interviewee; (ii) overall image of Hanoi; (iii) imaginary trips; (iv) detailed images regarding the Ancient Quarter and French Quarter; (v) negative images; (vi) free opinions about the identity of Hanoi City. Through these questions, positive and negative landscape resources and their reasons were identified.
- (c) **Discussion with Stakeholders:** A series of stakeholder meetings were conducted through direct interview and workshop/seminars on aspects related to landscape, which involve selected experts, such as city authorities and university and research institute. Experiences on landscape control, in Japan and European countries were presented in the workshop and discussed how to be adopted in Hanoi City.

12.3 Review of Existing Landscape Regulations

1) Existing Regulations on Landscape Management

Currently, there is no integrated regulatory framework for landscape in Hanoi City, while there are several laws and decrees related to landscape. Landscape management includes two levels of control, namely preservation and development activities. Regulations for preservation include “Cultural Heritage Law”, while those for development follow “Construction Law”. The location-specific regulations are also reviewed. They are as follows:

(1) Regulations on Construction

The construction system is based on the Construction Law (16/2003/QH11) and its related decree on Construction Planning (08/2005/ND-CP) of the Ministry of Construction. “Urban designing” is stated in those two regulations, Article 27 on Urban Designing of Section 3 of Chapter II of Construction Law and Section 4 on Urban Designing of Chapter II of Government’s Decree. While urban design is prescribed in the Law, those articles have only the list with some individual elements for urban design, such as red-line, demarcation boundaries, road surfaces, and so on. There is no description on basic directions or principle for urban design management.

(2) Regulations on Preservation

The preservation system is based on the Cultural Heritage Law (28/2001/QH10) of the Ministry of Culture and Information (MoCI). It prescribes the historical heritages and landscape spots to be preserved together with those surroundings, in Section 1 “Historical-Cultural Relics, Famous Landscapes and Beauty Spots” in Chapter IV. Once defined in its preservation system, the landscape of those cultural heritages and landscape spots can be protected by the Cultural Heritage Law. Construction activity can be also managed under the Law or Ministry of Culture and Information. However, those which are not registered as a country’s tangible cultural heritage assets are under control of another ministry, Ministry of Construction, as specified in the Article 45 of implementation decree of the Cultural Heritage Law (92/2002/ND-CP). Close coordination among ministries is required to preserve landscape resources in the City.

(3) Regulation for the Ancient Quarter

The major landscape management system for the Ancient Quarter is a temporary regulation on Hanoi’s Ancient Quarter Construction, Conservation and Improvement Management (45/1999/QD-UB). It prescribes height limits at three floors or 12m for the front and four floors or 16m for the back, Article 5), maximum construction density (70% for each block, Article 5), and materials of walls (Article 15). The Ancient Quarter area is registered as a national relic by the “Cultural Heritage Law (Article 29)”, and is scheduled to apply for the registration in the UNESCO’s World Heritage List. As an effect for the World Heritage, people’s awareness on the townscape at community level has enhanced and preservation efforts have become active.

(4) Regulations for Hoan Kiem Lake Area

The major landscape management systems in the Hoan Kiem Lake area includes two decisions, namely Decision by Minister of Construction on the Approval of the Detailed Plan of Hoan Kiem Lake Area and Adjacent Areas of Hanoi City (448/1996/QD-KTBH) and Decision of Hanoi City People’s Committee on the Promulgation of the Regulation on

Construction Management in Accordance with the Master Plan for the Guom Lake Area and Its Adjacent Areas (45/1997/QD-UB). In the former decision, the Hoan Kiem Lake area is described as “one of the central areas of Hanoi Metropolitan Area” in Article 29. It regulates landscape in the Hoan Kiem area more strictly than the latter one. The building height around Hoan Kiem Lake is limited to two floors or 8m (Article 3.2), and some government buildings (Central Post Office, of HPC headquarters, etc.) on the east side of Hoan Kiem Lake are regulated to take proper measures as suggested in the Urgent Tasks (Article 6.2) of the Investment Priority (Article 6). Maximum construction density is limited to 43%, while building to land ratio is limited to 0.86 (Article 3.2). In the latter decision, the height limits are four floors, or 16m for the frontage, and six floors, or 24m for the back (Article 4.6).

(5) Advertisement Ordinances

There are three major regulations related to landscape management with advertisement, including Ordinance on Advertisement (39/2001/PL-UBTVQH10), Detailing the Implementation of the Ordinance on Advertisement (24/2003/ND-CP), and Decision on issuing Regulation of Advertising in Posters, Boards and Ribbons in Hanoi's Territory (10/2001/QD-UB). Almost all advertisements are regulated under the first ordinance (Article 16). Advertisements that deteriorate urban beauty or landscape shall be strictly prohibited (Article 5). Aesthetic value is likewise considered in advertising forms (Article 7). Advertisements affecting landscapes in urban centers are controlled (Article 12-3). All organizations and individuals are considered as mediators in its enforcement.

There are specific areas for advertisements in important zones. The maximum area for advertisements is 15m² in the Ancient Quarter and Hoan Kiem Lake area (Article 3), 40m² on the roofs or walls of buildings within RR2 (Article 4), 60m² on the piles within RR2 (Article 4), and 200m² outside RR2 (Article 5). This regulation covers almost all forms of advertisements such as posters, boards, ribbons, billboards, and panels.

2) Assessment of the Implementation of Existing Regulations

Currently, there is a large gap between regulation and enforcement. Stories of the buildings were surveyed in one sample block in Ancient Quarter in order to assess the enforcement of the regulations. According to the aforesaid landscape regulation in the Ancient Quarter (45/1999/QD-UB), roadside buildings that have more than three stories (12m) are prohibited. However, about half of the surveyed buildings facing the streets are more than 4 stories high.

In case of landscape regulation for Hoan Kiem Lake Area (448/1996/QD-KTBH), the height of buildings surrounding the lake shall be limited to two stories or 8m. However, many buildings including government facilities, such as Central Post Office and HPC headquarters, are apparently exceeds its height limit. In the articles, the redevelopment of the buildings with unregulated heights is suggested as an urgent task (see Figure 12.3.1).

In contrast, the advertisement ordinances are rather effectively enforced compared to other regulations for the Hoan Kiem Lake and the Ancient Quarter. Here, the issues are how to maintain a favorable environment for advertisement in the future.

Figure 12.3.1 Existing Situation of Surrounding of Hoan Kiem Lake Area (East Side)



Source: HAIDEP Study Team.

Note: The red line in the figure shows the height limit of the regulation.

At present, there is no integrated regulation that covers all landscape issues, yet each regulation shows their own initiative in preserving Hanoi City's landscapes. Therefore, relevant regulations on landscape should be well integrated to facilitate urban design as a whole, thus support formulation of Urban Landscape Guidelines specified in the Article 27 of the Construction Law.

12.4 Assessment of Landscape Resources

1) Current Condition of Landscape Resources

Landscape resources in Hanoi have not be categorically nor systematically identified and recorded, though it is difficult to determine landscape value exactly because it is a composite of different elements. Nevertheless, it is important to undertake such efforts to formulate adequate policy to preserve and enhance the landscape for the city. In Hanoi main components of urban landscape include natural landscape, preserved heritage, renovation and upgrading of urban areas, new urban development, advertisement and urban life style. These components assembled in different areas such as Ancient Quarter, French Quarter, expanded inner city area, outside-of-dyke areas of Red River, collective housing areas, rural villages and so on offer respective unique landscape.

(1) Natural Environmental Landscape

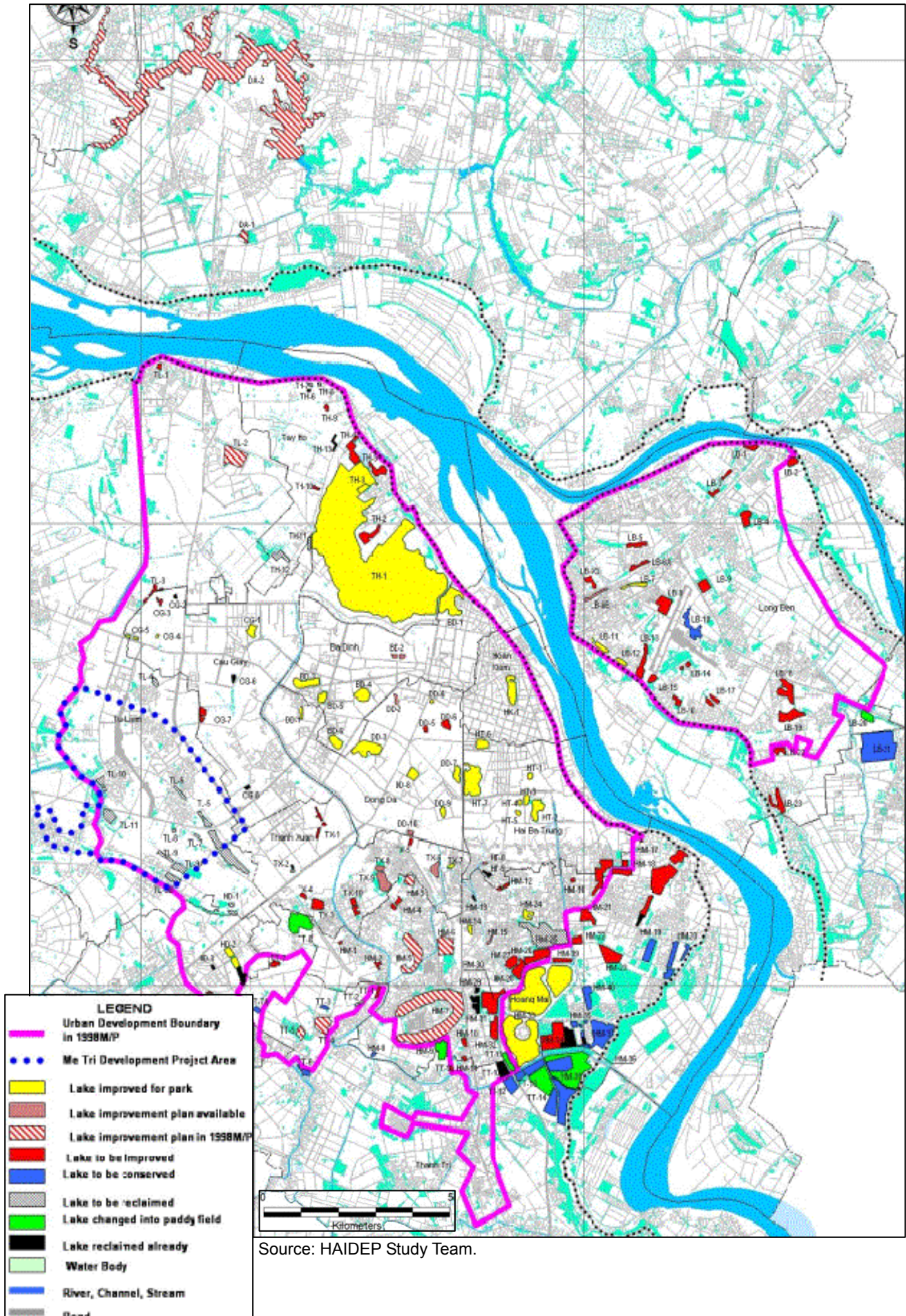
(a) Landscape with Water Bodies

Hanoi is famous for its abundant water bodies within the city. Those water bodies imply much significance on historical, cultural, and environmental landscape, as well as function as a part of drainage and aid conditioning. Hanoi City has a large number of lakes with a total area of about 850ha, including Hoan Kiem, West, Truc Bac, and Thu Le lakes. However, these lakes have been filled up and converted to urban development areas along with urbanization. Rivers and canals have been also narrowed. Furthermore, many sections of them have been covered and disappeared as underground culverts. Deterioration of water quality due to flow of industrial and domestic wastewater has also diminished those value for landscape resources. Thus, those water bodies, while recognized as identities of Hanoi for long time, have gradually disappeared even from the spiritual life of Hanoi.

The government has tackled considerable to upgrade those major lakes, through embankment and landscape improvement where people can enjoy walking and exercise. However, the embankment of the lakes with solid materials have influenced negatively on greenery development and quality of lake water. Particularly, the landscape values of lakes with alongside greenery have been seriously affected by those rigid and monotonous improvements.



Figure 12.4.1 Existing Lakes and Ponds



(b) Greenery Landscape

Together with water bodies, greenery resources make significant contribution for beauty of Hanoi City as well as healthy environment. According to the Green and Park Company of Hanoi City, there are 200,000 street trees of 67 different types. Such variety of street trees has been closely linked with people's life. People in Hanoi City know well about which streets have which types of trees, such as dracontonomelum along Phan Dinh Phung, Hai Ba Trung and Tran Hung Dao street, Khaya, Senegalensis along Hoang Dieu street , Flamboyant along Ly Thuong Kiet street, Alstonia Sholaris along Nguyen Du street, and so on. Besides the city has some of 50 parks and flower gardens, which also formulate typical landscape for Hanoi City. Another aspect of greenery landscape is rural landscape with stretch of paddy field. It provides peaceful landscape not only for residents but also for travelers. However, in the recent rapid urbanization expands outwards, which include new urban area, industrial parks, trade centers etc. Ribbon-type development and oversized billboards along the major corridors have hindered rural view spreading behind the roads.



(c) Cultural Heritage Resources

In the city center, there are many beautiful landmarks designated as national heritage assets to be protected. Most are used as public facilities such as government offices and museums. In villages, there are also a number of historical facilities, such as pagodas and community centers, which are usually located in front of the ponds. While these cultural facilities are retained under urbanization process, those in urban areas are hidden in the middle of dense residential areas. Such unique facilities and structures should be respected and preserved in order to retain the invaluable tradition and identity of the capital for the next generations along with economic development.



(2) Landscape in Urbanized Area

(a) Streetscape

In the development over centuries, the city has been structured with street network, which have been engraved in the mind of people in Hanoi City. The network is composed of main urban axis and nodes. Traffic along those routes with different types of vehicles formulates the flow of landscape. It comprises the changes in street spacing (such as street corners, cross roads, squares, flower gardens, and parks) landmarks, and natural planting.

(b) Townscape

As Hanoi City is developing rapidly, construction activity should be also carefully considered as a factor to formulate landscape of the city. It includes renovation and upgrading of the existing urban areas as well as new urban area development. The new urban development provides a good opportunity to create new and high-quality urban appearances. However, most of new urban development have not paid due attention to adjacent villages and neglected surrounding landscape conditions. It has resulted in conflict in not only architectural form and landscape quality but also inequality of quality of life. This is a big challenge for new development to be harmonized with overall urban landscape and not to cause conflicts.



(c) Advertisements in the City

Advertising service activity has increased together with economic development. Advertisement directly affects landscape in the city, since advertisement boards are installed aiming to draw people's attention. Advertisement shall have several functions other than promotion for owners themselves. For example advertisement in open spaces is expected to provide a beautiful view harmonized with surrounding buildings. There is a risk that advertisements shall mar the beauty of the city and thus deteriorate the landscape unless they are managed well. Advertisement is expected to reflect the current socio-economic conditions appropriately. Good quality and creative types of advertisement should be promoted to enhance the artistic value of the city.

(3) Urban Landscape in Special Areas

There are some special areas specialized with unique characteristics of urban structure in Hanoi City such as Ancient Quarter, French Quarter, collective apartment area and new urban area. While general conditions of those areas are described in Chapter 13 Special

Areas, some of the characteristics on landscape are described as follows:

(a) Ancient Quarter

The Ancient Quarter has a long history of the architecture and cultural tradition. The development of the Ancient Quarter over diversified historical periods has been visible through different architectural structures and street pattern. The value of the Ancient Quarter is that its history is maintained visible and respected in the current people's life.

The guild, originally established as a living place for people from northern delta villages, was organized as urban guilds for their life, traditional housing, and business activities, and separated from each other with big gates. Each street in the guilds produced a certain type of handicraft goods, which formulate unique landscape in each street.

Typical house in the Ancient Quarter is so-called tube house. One lot of tube houses in the Ancient Quarter have an area with up to 100 m², sometimes to 120 or 130m², while its width is only 3-4 m. Houses in the street were composed of a series of spaces in the depth and separated from each other through inner court yards. The space facing to the street was used as a shop, which link the house with the street, while the spaces behind are cut off the street spaces with piece and quiet. Next to those tube houses, there are many temples and pagoda, some of which reflect the hometowns of the residents.

(b) French Quarter

French Quarter was developed as the capital of the Indo-China peninsula during the French colonial period. The western planning schemes were introduced for planning and development of the French Quarter with the demolition of some important historical structure, such as those surrounding Hoan Kiem Lake.

The French Quarter was started with opening of the streets connecting Hoan Kiem Lake to some important places of French occupation, including Office of the Catholic Church and the ancient citadel. With these streets, a Europe-like city was gradually developed and expanded to the south of Hoan Kiam Lake, formulating an initial colonial city.

Administrative area was formulated on the east side of Hoan Kiem Lake, including the city hall, the post office, the treasury the governor office and so on. On the other hand, the western area of Hoan Kiem Lake was occupied with the Catholic Church. Located at the crossing points of important streets and connecting different types of centers, Hoan Kiem Lake harmonized two different concepts on urban entity and two different spiritual worlds with its peaceful scene and abundant tropical greeneries. French style architecture has made the Hoan Kiem Lake area attractive and valuable.

Currently, the French Quarter is classified into three areas by urban characteristics: (i) old citadel area with foreign embassy and military housing, (ii) south of Hoan Kiem Lake with many villa-style buildings used for government or other agencies: (iii) other area with many public buildings. A basic feature of the French Quarter is its wide and spacious streets and sidewalks and two lines of old street trees. Large plots of land and French-villa with gardens have created a harmonized landscape with natural environment and buildings.

(c) Old Collective Apartment Area

Models of collective apartments were introduced from the socialist countries, of which objectives are to provide the residents with basic living spaces and shared common spaces. Starting in 1960s, many collective apartments were constructed including Trung Tu, Thanh Cong, Giang Vo, and Thanh Xuan. These areas formulated very high-dense residential area with green areas and public facilities such as schools, kindergartens, and market. Although most of those apartments have been deformed due to illegal expansion activities and lack of maintenance, many collective apartment areas still have their essential neighborhood structure as the core of the local urban landscape.

(d) New Urban Area

New urban areas, which have been developed since the 90s, have a typical landscape with apartment buildings of 10 or more story with spacious land areas for community. Detached houses are located in between those apartments, which are provided as ready-made raw construction. Residents will further complete the houses including façade, which formulate diversified landscape in a uniformed structure. Such ready-made construction enables the control of land subdivision.

(e) Rural Villages

Like other Vietnamese villages, rural villages of suburban Hanoi are surrounded by green bamboos, paddy field and fertile fields of vegetable. Entering into villages through village gates, typical village landscape appear, including banyan trees, lines of bamboos, village roads, traditional farm houses and community house and temples for people to gather and ponds in front of those facilities.

Figure 12.4.2 Landscape Elements in Traditional Rural Villages



A communal house fronting a pond (above left) and a traditional gate (above right).

2) Overall Assessment on People's Opinions on Landscape

(1) General Analysis of HIS

People's opinion on landscape of Hanoi City at present and for the future were analyzed based on the HIS results. Further analysis was also made by district, age, and gender.

(a) Important factors affecting landscape

"What is the most important factor that affects landscape in Hanoi?" The top answer was "historical buildings and structures" where 20% of respondents selected, which

are followed by parks and green spaces (17%), water spaces (14%), modern buildings (13%), and street trees and plants (11%). This implied that, in general, the people of Hanoi City prefer history and greeneries over modernity.

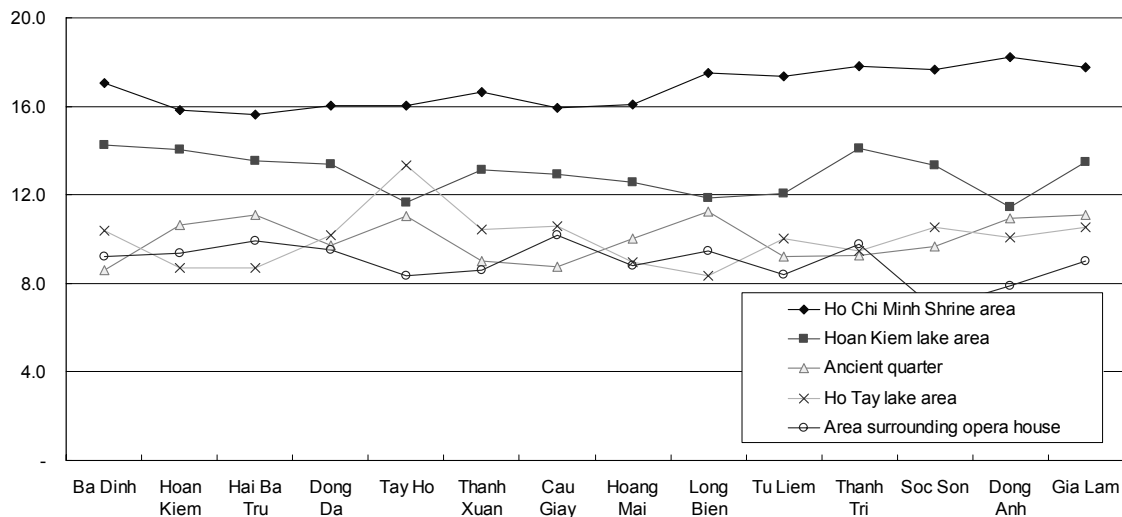
Seeing by area, both urban and rural residents select “historical buildings and structures,” as well as “parks and green spaces,” were the first and second factors affecting landscape. While urban residents ranked “water spaces” higher than “modern buildings”, while the rural residents ranked the opposite, showing higher concern of rural residents about development activities than the people in urban area.

(b) Favorite Landscape Spots in the City

“What is your favorite landscape spot in Hanoi City?” The 5 most popular landscape spots in Hanoi City are: (i) Ho Chi Minh Shrine area (16.8%), (ii) Hoan Kiem Lake area (13%), (iii) Ancient Quarter (36 streets) (10.1%), (iv) Ho Tay Lake area (9.9%), and (v) area surrounding the Hanoi Opera House (9.9%), in this order. As seen in the previous item, people prefer natural environments represented by water bodies and greeneries and those with historical importance rather than modern facilities.

Figure 12.4.3 shows the respondents’ most favorite landscapes in Hanoi by district. While there is some differences among districts, general preferences are the Ho Chi Minh Shrine area at the most and the Hoan Kiem Lake area ranking second, followed by the Ancient Quarter and the Ho Tay Lake area. Some unique tendency is observed in Tay Ho district with the higher preference on Ho Tay area. Seeing by age, younger generation has stronger preference for the Ho Tay Lake area over the Ancient Quarter (36 streets). The older respondents preferred the Ancient Quarter as well.

Figure 12.4.3 Most Favorite Landscapes in Hanoi by District



Source: HAIDEP HIS, 2005.

(c) Assessment on landscape

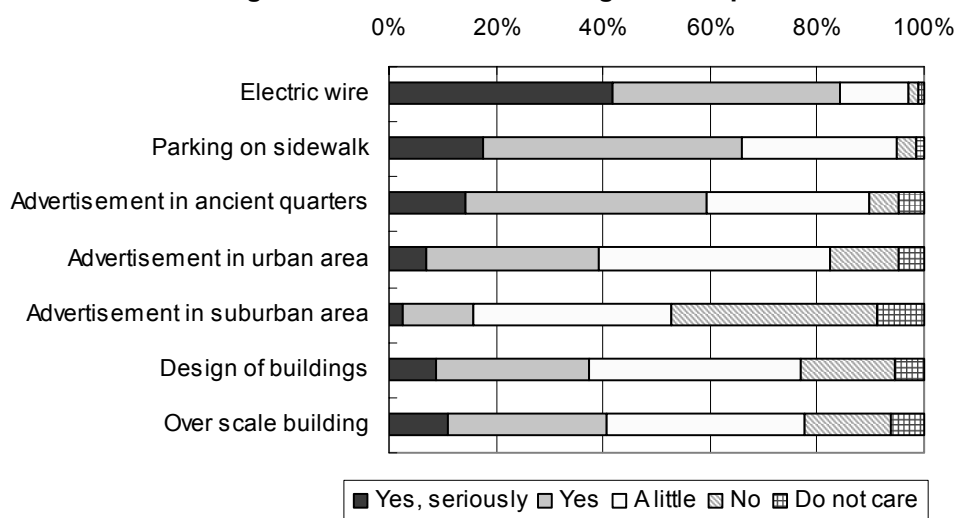
“How do you assess the changes of the landscape in the historical areas and the advertisement control system in those areas?” More than half of the people assess that such landscape have been improved compared with 5 years ago and 55% of people agreed and supported such advertisement controls. It showed the importance of maintaining this control in the future.

As for landscape in neighborhood, people’s assessment is quite diversified, where about half of residents answered “so-so”, 25 % “satisfied” and 25% “unsatisfied”. There is no large difference by area.

(d) Factors affecting Landscape

Some of the factors, which may affect landscape positively or negatively, were selected and assessed by people. As seen in Figure 12.4.4, the results revealed that more than 80% people recognized the impact on landscape from those factors in all the areas in Hanoi City, except for “advertisement in suburban area”. The most seriously recognized one is “electric wires,” followed by “parking on sidewalks,” and “advertisement in Ancient Quarter.” On the other hand, advertisements in suburban areas are not well recognized as a factor affecting landscape, showing a higher interest and concern in the urban center rather than in rural areas.

Figure 12.4.4 Factors Affecting Landscape



Source: HAIDEP HIS, 2005.

(e) Future Image of Hanoi City

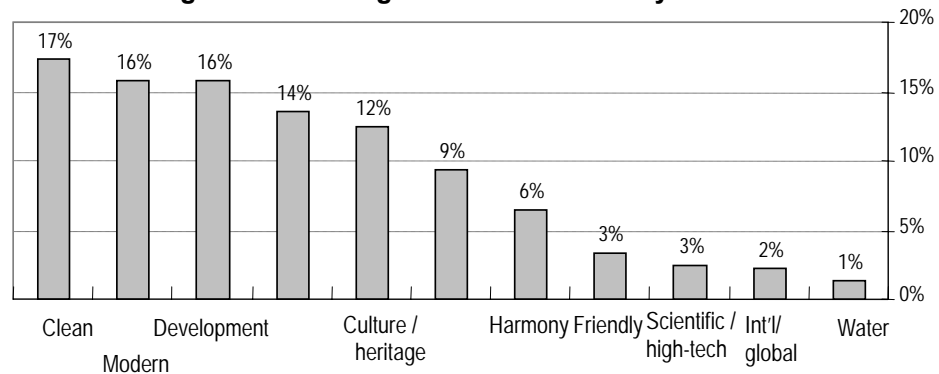
“What is your future image of Hanoi City?” The most popular image for people is “clean” for the future Hanoi City (see Figure 12.4.5). The fact that “modern” and “development” precede “culture/heritage” shows a contradiction between the city’s future and present images.

Figure 12.4.6 shows the responses by area classification, namely: urban core, urban fringe, suburban area, and rural area. Comparison of the responses from rural respondents with the total one gave a clear indication that they anticipated more development compared with urban residents. The future images of Hanoi City among rural residents are in the order of: (i) development (17.3%), (ii) modern (16.5%), and (iii) clean (15.6%), while the overall responses are in the following order: (i) clean (17.2%), (ii) modern (16.1%), and (iii) development (15.6%).

There are differences in the responses by the youth and their elders. Younger people strongly preferred images of modernity and development, while the older respondents tended to prefer images of cleanliness with modernity, followed by appropriate development. Some differences are also found among genders. Females preferred cleanliness over other factors.

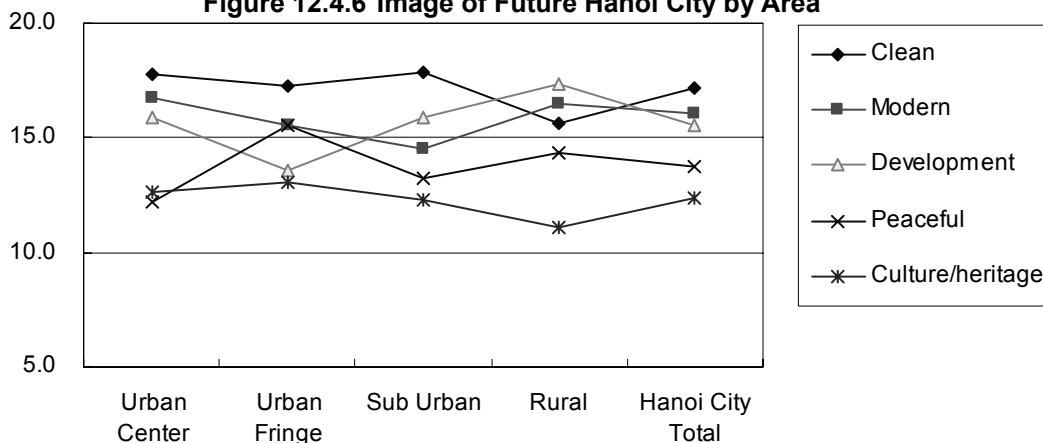
In summary, the overall image that the people of Hanoi City have shown that they recognize the importance of preserving the present image, and that they are positive about modernizing the city's future image.

Figure 12.4.5 Image of Future Hanoi City



Source: HAIDEP HIS, 2005.

Figure 12.4.6 Image of Future Hanoi City by Area



Source: HAIDEP HIS, 2005.

(2) Results of Public Image Mapping Survey

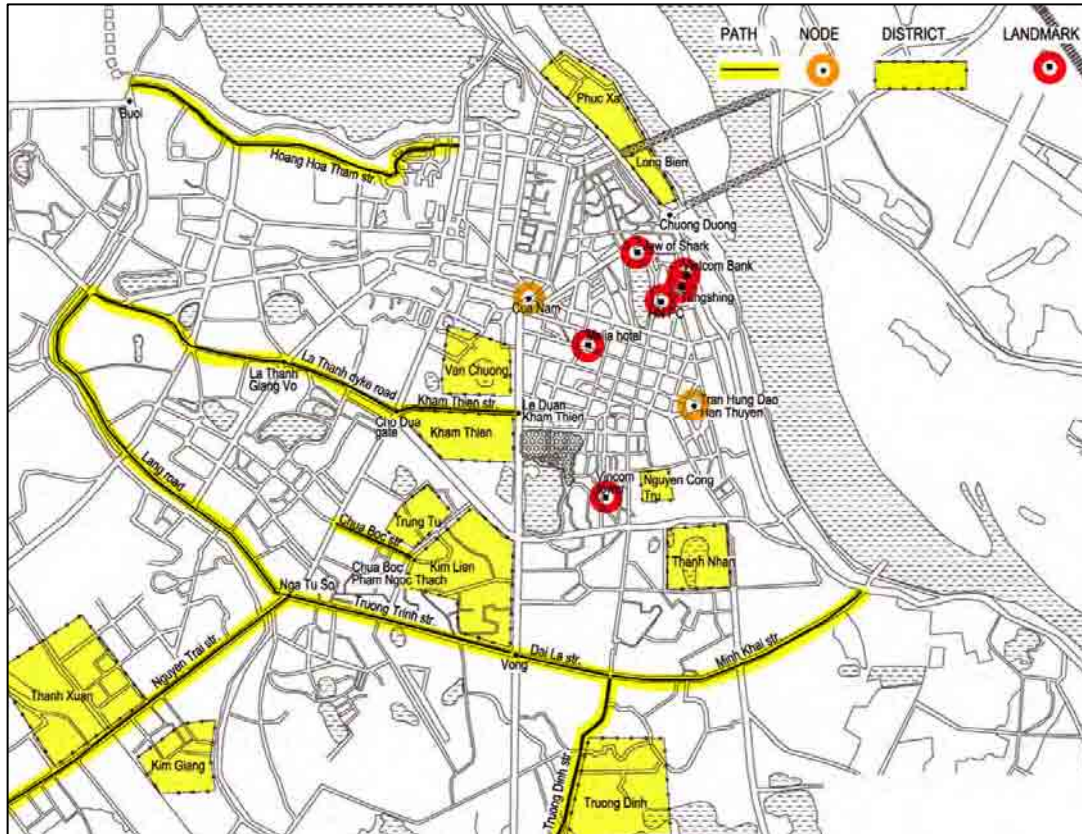
In the PIMS, positive elements and negative elements were analyzed based on five landscape elements: paths, edges, districts, nodes, and landmarks. The results showed a clear structure and characteristics of people's preference on landscape. Overall trend on people's preference are summarized in Table 12.4.1. People prefer cultural landmarks with open spaces, fronting water bodies, or with paths shaded by trees. Positive elements include from streetscape to cityscape and natural environment such as mountains and rice fields. The positive and negative landscape elements are shown in figure 12.4.7 and 12.4.8. Figure 12.4.9 shows the separate locations of negative and positive elements (paths). The assessment on each landscape element is as follows:

Table 12.4.1 Landscape Elements Favored by People in Hanoi

Element	Characteristic
Paths	Clean, wide, green.
Boundaries	Distinctive, impressive.
Districts	Planned, homogeneous, with historical value.
Nodes	Spacious, clear (not confusing).
Landmarks	Architectural value and design, at appropriate locations.

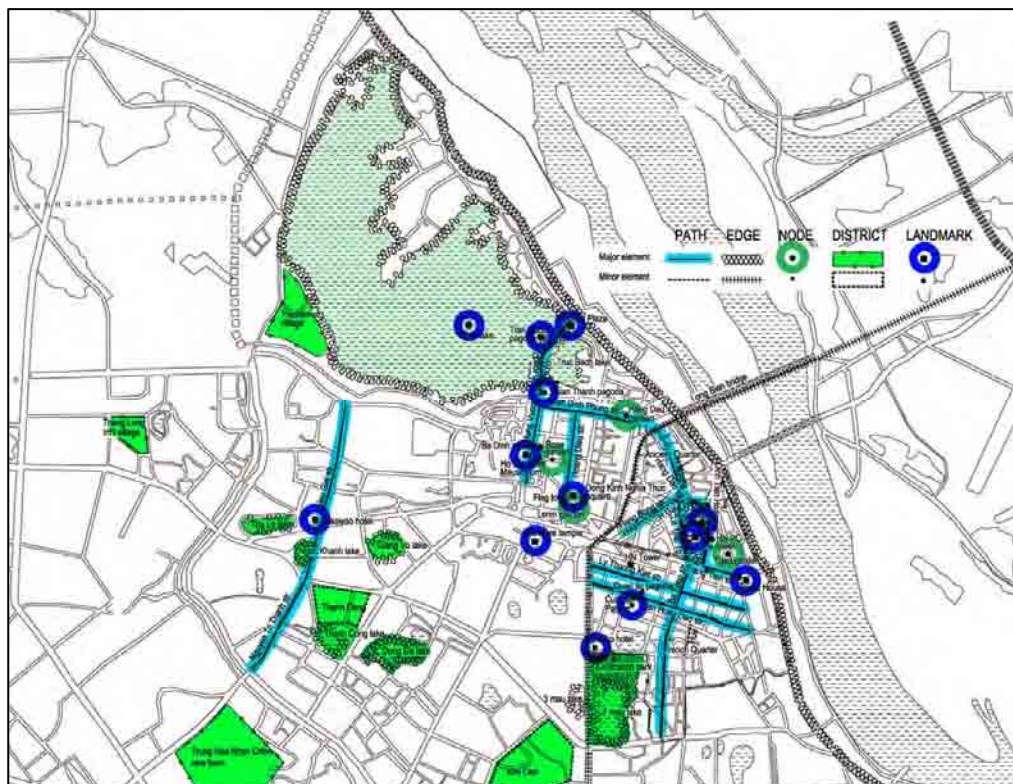
Source: HAIDEP Study Team.

Figure 12.4.7 Negative Elements in Hanoi City



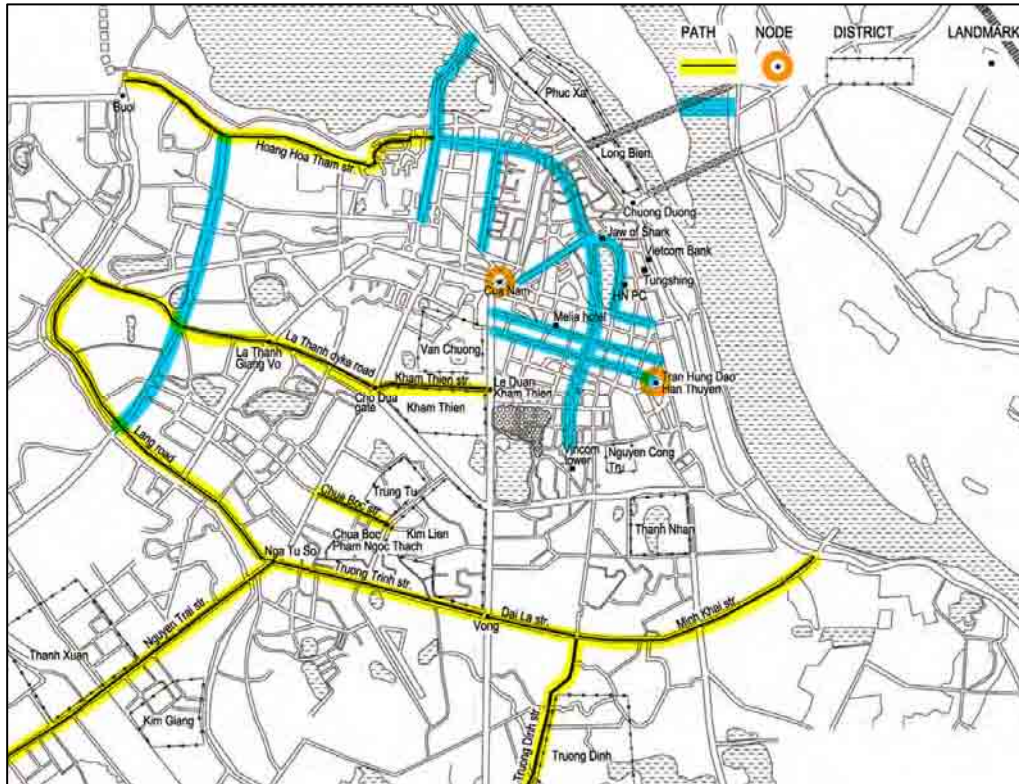
Source: HAIDEP Study Team.

Figure 12.4.8 Positive Elements in Hanoi City



Source: HAIDEP Study Team.

Figure 12.4.9 Positive and Negative Landscape Elements (Paths) in Hanoi City



Source: HAIDEP Study Team.

(a) Positive Elements

- (i) **Paths:** Respondents identified several streets as positive landscape resources, which are characterized with wide space, abundant street trees, attractive buildings- especially those with historical architecture- lining both sides, quiet, and without heavy traffic. On the other hand, they also showed empathy for bustling streets with active but orderly trading activities. The following table indicates the positive paths with the reasons selected, most of which are located in the historical areas of the city except Lieu Giai Street that runs in front of Daewoo Hotel.

Table 12.4.2 Positive Paths and Their Reasons (Street)

Street Name	No. of Samples	Reason
1. Thanh Nien Road (between West Lake and Truc Bach Lake)	22	Romantic, with many trees, lakes on both sides, airy, breezy
2. Phan Dinh Phung	21	Two lines of old-growing shading trees on a sidewalk, wide pavements, quiet, nice villas, ancient citadel
3. Hoang Dieu	20	Spacious, 3 lines of old tall trees, less traffic, ancient citadel
4. Lieu Giai	14	Spacious, decorative green in the central reservation, nice architecture (Daewoo hotel), effective traffic control
5. Ly Thuong Kiet	12	Spacious, French buildings, many trees, wide pavements, airy

Source: HAIDEP Study Team.

Location-specific interviews were conducted for Ancient Quarter and French Quarter. The result shows that most of respondents do not recognize street in Ancient Quarter due to its complicated network and just remember streets that they frequently using. On the other hand, street structure of French Quarter is well known, particularly southern area of Hoan Kiem lake.

- (ii) **Edges:** Due to the difficult interpretation of the term “edges” in the Vietnamese context, the responses were diverse. However, most of the respondents recognized three elements as positive edges: the dyke along the Red River, the lakes, and the railway running across the city. The dyke along the Red River was recognized as the strongest edge to confine development activities and formulate an organized urban structure of the French Quarter. The railway running across the city center was recognized as an administrative boundary of four inner districts to formulate an organized city structure.

Table 12.4.3 Positive Edges and Their Reasons

Name of Edge	No. of Samples	Reason
1. Dyke along the Red River	17	Separation line of two areas, long history, activities along the road, nice views
2. Lakes	14	Nice views, fresh air
3. Railway	4	Separation line of districts

Source: HAIDEP Study Team.

- (iii) **Area:** There are mainly two types of areas recognized as positive landscape elements, one is historical areas and the other is new urban areas. Ancient Quarter is ranked as the most favorable area with its historical importance, architectural value, and traditional trading activities. The French Quarter and Hanoi’s traditional villages are also preferred. Many respondents considered the new urban areas, such as Trung Hoa- Nhan Chinh and Linh Dam, positively as well, with their spaciousness, good infrastructure, and modern architecture.

Table 12.4.4 Positive Districts (Areas) and Their Reasons

Name of District	No. of Samples	Reason
1. Ancient Quarter	30	Historical values, human scale, shopping, walking, eating, nice street atmosphere, night market, ancient houses, temples, Dong Xuan market, intact Quan Chuong gate.
2. French Quarter	20	Grid style street system, spacious streets with trees, wide sidewalk, nice French-style architectures, many shops and restaurants, not heavy traffic volume.
3. Traditional villages	16	Traditional craftsman-shops (flower, paper, painting, copper works, carpentry, silver works), traditional architectures, village gates, wells, pagodas, temples, family working places, bamboo bridges, streams, ponds, tombs.
4. Trung Hoa Nhan Chinh new urban area	15	Spacious, apartments, good infrastructure, greens, network services, modern architectures.
5. Linh Dam new urban area	13	Spacious, apartments, good infrastructure, greens, network services, modern architectures.

Source: HAIDEP Study Team.

(iv) **Nodes:** Spacious squares, gardens, and parks with abundant greeneries are identified as positive nodes. Ba Dinh Square, in front of the Ho Chi Minh Mausoleum, is a typical place with such nice elements. Although the Opera House junction is not spacious, respondents considered it as a positive node, due to its well harmonized surrounding architecture. The Thong Nhat Flower Garden and the Chi Linh Garden were also identified as positive nodes, where many people gather and exercise in a relaxed atmosphere. Dong Kinh Nghia Thuc square was recognized as a positive node as well as entrance to a favorite place, the Ancient Quarter.

Table 12.4.5 Positive Nodes and Their Reasons

Name of Node	No. of Samples	Reason
1. Ba Dinh square	46	Large area, airy, place for walking/children's play/meeting, with nice views, watching guard changes.
2. Opera House junction	35	Easy orientation, having nice views, good architectures, held public events.
3. Thong Nhat flower garden (former Lenin Park)	16	Good proportion and scale, having many trees, yard for gathering and meeting.
4. Chi Linh flower garden (Ly Thai To statue)	15	Nice statue and layout, venue for public activities, view of Hoan Kiem Lake, fresh air, many trees, playground.
5. Dong Kinh Nghia Thuc square	10	Entrance to the Ancient Quarter, nice views, fountain, easy orientation.

Source: HAIDEP Study Team.

(v) **Landmarks:** Opera House was selected as the most favorite landmark, with its its historical and aesthetical value as well as its convenient location in the urban center. The Daewoo Hotel also got a positive evaluation from respondents, partly because of its strategic location in the midway between the airport and the city center. Other historical places and buildings include Hoan Kiem Lake, Ho Chi Minh Mausoleum, and Tran Quoc Pagoda near West Lake (see Table 12.4.6). Although people in Hanoi generally do not like tall buildings, they assess positively Hanoi Tower and Sofitel Plaza, with its appropriate location,

Table 12.4.6 Positive Landscapes and Reasons

Name of Landmark	No. of Samples	Reason
1. Opera House	26	Master piece of French architecture, well preserved, strategic location.
2. Deawoo Hotel	26	Modern, strategic location, nice landscaping, held many public events.
3. Hoan Kiem Lake	18	Legendary history (turtle stories), location in the city center, nice views, beautiful small objects.
4. Ho Chi Minh Mausoleum	15	Respected founder of the nation, spacious, airy, solemn, political center.
5. Tran Quoc Pagoda	14	Nice location, nice view to HoTay Lake, quiet, historical place.

Source: HAIDEP Study Team.

(b) Negative Elements

(i) **Paths:** The respondents identified several streets as negative landscape elements, of which characteristics are narrow and congested, dusty and bumpy, absence of

street trees, lined shabby buildings, and heavy truck traffic. These paths include La Thanh, Trung Chinh, and Nguyen Trai streets.

Table 12.4.7 Negative Paths (Streets) and Their Reasons

Name of Street	No. of Sample	Reasons
1. La Thanh dyke road	30	Narrow, no sidewalk, disordered and shabby houses, bumpy
2. Truong Chinh	23	Narrow, disordered and shabby houses, bumpy
3. Nguyen Trai road	17	Dusty, many truck traffic, congestion at cross roads, not sufficient trees
4. Truong Dinh street	14	Narrow, crowded, disordered and shabby houses, bumpy
5. Chua Boc	14	Congestion, not sufficient trees

Source: HAIDEP Study Team.

- (ii) **Areas:** There are two types of areas considered as negative landscape elements: one is unplanned urbanized area and the other is old collective apartment area. The former one are mainly located in the urban fringes which were developed without proper planning and without legal procedure, resulting in insufficient basic infrastructure and very high population density. It includes Thanh Nhan and Thuong Dinh areas.

Old KTTs were also identified as negative elements, which include Van Chung, Kim Lien, and Thanh Xuan KTT areas, because of overcrowded and degraded buildings and facilities, chaotic road networks, and encroachment on public lands.

Table 12.4.8 Negative Districts (Areas) and Their Reasons

Name of Area	No. of Sample	Reasons
1. Thanh Nhan	18	Mixture of villages and collective housing areas; overcrowded, degraded buildings and infrastructure, social evils, dusty, unsafe, chaotic road network.
2. Van Chuong	15	Mixture of villages and collective housing areas; overcrowded, high population density, degraded buildings and infrastructure, chaotic road network, no trees.
3. Kim Lien	13	Mixture of villages and collective housing areas; overcrowded, degraded buildings and infrastructure, chaotic road network, encroachment on public land, illegal extension.
4. Truong Dinh	12	Collective housing area, overcrowded, high population density, degraded buildings and infrastructure.
5. Thanh Xuan	11	Collective housing areas; overcrowded, degraded buildings and infrastructure, chaotic road network, encroachment on public land, illegal extension.

Source: HAIDEP Study Team.

- (iii) **Nodes:** The negatively identified nodes do not function properly and be always crowded, where motorists have to wait for long before they pass through and where they have to exert effort to avoid traffic accidents. It includes Nga Tu So, Chua Boc-Pham Ngoc Thach, and Cua Nam.

Table 12.4.9 Negative Nodes (Junctions) and Their Reasons

Name of Node	No. of Samples	Reason
1. Nga Tu So Junction	48	Frequent traffic jams
2. Chua Boc-Pham Ngoc Thach	17	Congestion, pollution
3. Cho Dua Gate Junction	14	Congestion, traffic jams
4. Chuong Duong Bridge	12	Confused, congestion
5. Cua Nam Junction	11	Confused

Source: HAIDEP Study Team.

(iv) **Landmarks:** People of Hanoi are sensitive to tall buildings particularly in the urban center. Several high-rise buildings were identified as negative landmarks, including the Melia Hotel, Vincom Tower, and the Vietcombank Tower. These buildings are considered as having color and design that don't fit their surroundings and that they stand too close to the streets. Besides these tall buildings, several buildings around Hoan Kiem Lake were also considered as having unsuitable design and height. In the past couples of years, there was a heated debate among the people in Hanoi and the media on a building located near Hoan Kiem Lake, called "jaws of a shark," due to its unsuitable color and design. The respondents also regarded it as one of the most unfavorable buildings in the city.

Table 12.4.10 Negative Landmarks and Reasons

Name of Landmark	No. of Samples	Reason
1. Jaw of Shark Building	22	"Jaw of Shark" shape of the building, heated debate on its architecture before.
2. Melia Hotel	14	Unsuitable color and architecture, too close to street, mismatched with the surrounding.
3. Vincom Tower	9	Disproportional, too close to street, mismatched with the surroundings.
4. Vietcombank Tower	7	Disproportional, too close to street, mismatched with the surroundings.
5. Hanoi People's Committee Building	6	Guillotine shape of the building.

Source: HAIDEP Study Team.

12.5 Main Problems and Issues

Based on the 2003 Construction Law, districts (special cities) can formulate regulations on landscape. As the capital, Hanoi City has the responsibility of leading this policy and in realizing its further development into a beautiful city. With this premise, there is a pressing need for a systematic regulation to preserve and develop landscapes as well as deal with the following problems and issues in Hanoi and Vietnam:

- (a) **Lack of Integrated Regulatory System with Common Vision and Concept to Cover Landscape Issues:** The landscape of Hanoi City involves two levels of planning: townscape for human-scale planning and landscape for city level planning. Relative to this, there are also two legal systems: the preservation system and the construction system. However, current regulations on landscape merely focus on specific issues and areas, which are managed by different government authorities in various levels. These regulations do not comprehensively cover landscape issues. Therefore, to construct and preserve landscape resources in Hanoi, an integrated regulatory system that will cover plural ministries and departments is necessary, especially one that is based on a common vision and concept wherein Hanoi is the capital city.
- (b) **Decrease and Lack of Landscape Resources:** Rapid urbanization has unfortunately caused either the disappearance or neglect of many important landscape resources such as historical streets, lakes, and rural areas. One reason for this is the lack of effective regulations and enforcement measures, another is development characterized by a lack of understanding on the importance of landscape. Additionally, Hanoi City does not have symbolic landmark elements as a capital city, such as picturesque main streets, stunning symbolic towers, and magnificent bridges.
- (c) **Non-uniformity in Compliance with Regulations on Landscape:** Regulations on advertisements are strictly obeyed, but structural regulations in the Ancient Quarter and the Hoan Kiem Lake area, which are very significant landscape resources for Hanoi City, are not properly followed. To cover the gaps in the compliance with regulations, effective legal methodologies and institutional systems are needed to cover both comprehensive and detailed controls.

12.6 Proposed Landscape Planning Orientation

1) Proposed Development Direction

The landscape in Hanoi has ample opportunities for improvement, something which is very much critical to establishing an identifiable image. An attractive landscape does not only soothe the senses and feeds the minds of the people, but is also a magnet for visitors and investments from outside, thereby contributing to the city's economic development. For this, the landscape must be dealt with not only from the aesthetic viewpoint but more specifically in the context of urban design which integrates the physical, socio-economic, and aesthetic aspects and translates them into feasible actions.

Urban design and landscape development strategies are formulated in order to enhance the image and identity of Hanoi appealing to the citizens and international society and to ensure traditional tangible and intangible cultural values are preserved and enhanced. The strategies are proposed with actions as following.

- (a) **Establish Comprehensive Landscape Policy and Workable Mechanism:** In order to ensure conservation & enhancement of desired landscape, comprehensive landscape policy and guidelines needs to be developed. A workable mechanism for effective management needs to be arranged including adequate rules and regulations and enforcement organizations, such as "Urban Design and Landscape Forum".
- (b) **Improvement of Landscape for Urban Space of Strategic Importance:** Urban areas of strategically important landscape include the Ancient Quarter, French Quarter, Thang Long, Co Loa, new urban areas and rural areas. Desired landscape for transportation corridors and gateways, and waterfront and green network will be also promoted.
- (c) **Concrete Mechanism to ensure cultural preservation:** Adequate mechanism to preserve and restore those assets is required in harmony with landscape in surrounding buffer areas, after tangible assets including sites and facilities with cultural value are identified.
- (d) **Develop New Opportunities to Improve Urban Design and Landscape:** New opportunities for improved urban design and landscape include underground space, new landmarks, and expanded green network. Underground space should be developed in harmony with urban design at ground level to create additional space for public service and businesses. New landmarks can be high-rise buildings, towers, bridges, and other facilities with distinctive designs. found in underground space in harmony with the urban design. Adequate mechanism to preserve and further expand green network of street trees and greeneries are required.

Landscape guidelines are preliminary formulated, in accordance with the above-set goals and strategies. It covers management of urban landscape at the city level and for functional areas. Institutional arrangement for urban landscape management and increase in people's awareness of urban landscape are also proposed.

2) Management of Urban Landscape in Hanoi at the City Level

Guidelines for urban landscape management at the City Level are formulated in order to preserve major landscape resources, such as natural landscape, urban heritage and urban life style. It also aims to guide or regulate urban development activities properly to form good landscape in general, which are classified into urban redevelopment, new urban

development, and urban advertisement.

(1) Preservation for the Natural and Man-made landscape

(a) Lakes

- Improve the quality of water and the surface of the lakes, both for natural aesthetics and environmental sanitation.
- Effectively arrange landscape of the lake in consideration of functions of each lake and provide suitable facilities such as sidewalk, open spaces, lighting, etc.
- Improve the urban design of surrounding architecture to enhance the value of the lake and formulate architectural complex.

(b) Parks

- Respond to the needs of the people for relaxation, exercise, and entertainment.
- Develop flower gardens attractive for tourists as well as residents.

(c) Street Trees

- Preserve and Expand existing street trees
- Regularly plant new trees and improve quality and quantity of street trees

(d) River and Bridges

- Integrate the Red River with overall development of the city to maximize advantage of river landscape
- Utilize the open spaces of small rivers in the city to enhance quality of landscape and people's life
- Ensure the design of the bridge with aesthetic design and suitable with the river

(e) Rural Landscape

- Prevent any obstacles against the view of rural landscape from main transportation corridor
- Avoid negative impact of new urban development on the rural villages and rural landscape
- Preserve the original of rural landscape

(2) Preservation of Urban Heritage in Urban Development

(a) City Center

- Preserve the urban structure in the city center in respect for the history and for improved awareness of next generations on traditions.
- Protect frontage of some specific building and prevent illegal construction
- Create typical silhouette of the city that can be viewed from the other side of the Red River and from bridge coming to the city
- Formulate a harmonized complex with newly constructed, renovated, and existing buildings.
- Promote nonmotorized transport and reduce vehicle transport in historical preservation area

(b) Traditions of the City

- Encourage the rehabilitation of traditional festivals in conformity to people's custom
- Encourage traditional product together with service and trade activity

(3) Urban Reconstruction and Upgrading

(a) Urban Corridor/Axis

- Develop urban routes formulating good urban landscape with open spaces, greeneries, and landmarks
- Develop pedestrian-friendly urban routes.
- Improve natural and cultural environment along the streets

(b) Transportation System

- Develop the system of transport nodes, square and flower gardens with good landscape and improved cultural environment
- Improve the beauty of buses and other facilities along the bus routes
- Establish a car parking systems to meet increased demands.
- Ensure the urban aesthetics of other transportation facilities, such as street light, medians, traffic sign, etc.

(c) Solid Waste Management

- Provide solid waste collection for improved urban sanitary conditions
- Avoid negative impact of solid waste treatment plants on landscape and residential areas

(4) New Urban Development

(a) Axis and Urban Landmarks

- Develop good quality landscape along the main axis of new urban areas
- Improve the architectural quality of buildings along the main axis of new urban areas.

(b) Residential Area

- Respond to people's requirement on residential areas, in terms of technical and social infrastructure
- Ensure the aesthetic quality of residential areas in response to people's preference

(c) Industrial Area

- Ensure the quality of industrial areas with good transport access and appropriate construction density.
- Ensure the aesthetic quality of industrial zones

(5) Urban Advertisement

(a) Advertisement in Public Spaces

- Ensure the aesthetic quality of advertisement in public spaces to avoid negative impact on and ensure harmony with surrounding architectural environment.

(b) Advertisement in front of Buildings

- Ensure the aesthetic quality of the advertisement and limit advertisement within the width of the buildings
- Decorate the city for festival days and holidays

(6) Urban Lifestyle

(a) Preservation of Traditional Culture

- Encourage preservation of traditional culture in life style, including language, mutual respect and help, and so on.
- Ensure the quality of services in cuisine culture for citizens
- Promote community spirit within commune

(b) Preservation of Good Urban Sanitation

- Minimize dust and noise pollution, particularly along the roads
- Enhance people's awareness on improved urban sanitation

(c) Promotion of Open-air Activities

- Encourage open-air activities to create vital atmosphere for the city, such as exercise, sports, cultural and musical activities.

(d) Street Vendors

- Minimize and prevent beggars and undesirable street vendors affecting urban landscape

3) Landscape Management Guidelines for Functional Areas

(1) Ancient Quarter

The Ancient Quarter has a long history of the architecture and cultural traditions. In the course of the rapid urbanization, it is required to balance between the ancient value and the future. At first, it is necessary to identify the ancient values and their structure. The basic principle is to identify ancient values of the buildings and to repair them. Any construction interference to the original façade should be restricted. Some innovative designs will be introduced with well-defined landmarks to enhance the value of the Ancient Quarter.

The space of the streets and sidewalks need to be organized to enhance outdoor activities as well as facilitate the traffic flow. Particularly pedestrian axis should be focused to improve urban landscape and to minimize motorized traffic to ensure safety for people and maintain peaceful atmosphere. One-way traffic is suitable for the small streets in the Ancient Quarter, where car parking facilities should be properly provided at the edge of the quarter.

Advertisement in the Ancient Quarter should be small in size, high quality in the expression and in correspondent with its traditional services thus to enhance landscape value of the Ancient Quarter.

Urban design guidelines are proposed to include sample façades, public facilities, street and spaces, as explained below. A design committee assesses the conformity of the buildings with the design codes and guidelines. Improvement measures for the existing urban design in the Ancient Quarter are examined in Figure 12.6.1.

(a) Façade of Streetfront Houses

- Ensure harmony of façade with business in the building and life in the street.
- Provide sample design to ensure the architecture quality of the streetfront houses (see Figure 12.6.2).

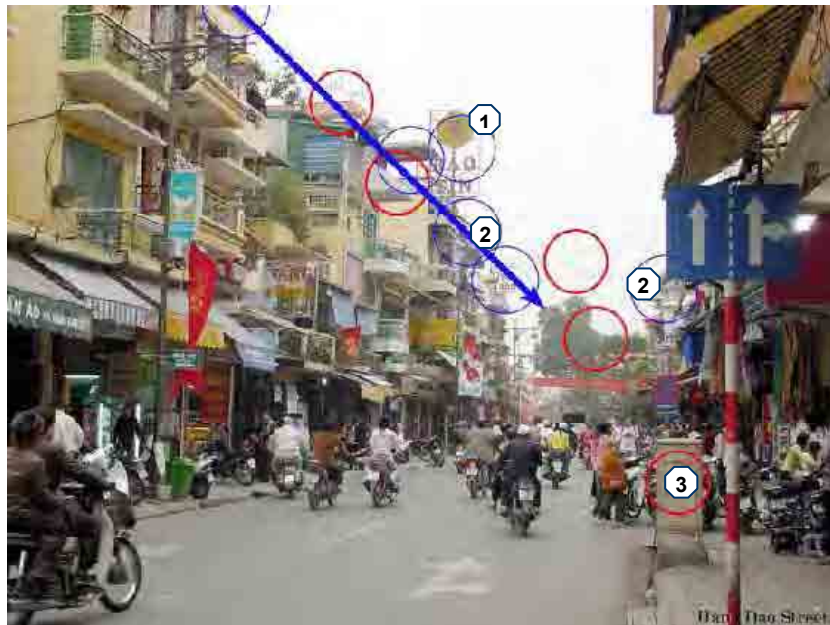
(b) Public Facilities

- Promote the use of historical heritage buildings with appropriate functions and good urban landscape and conduct periodical maintenance.
- Improve architectural appearances of other public facilities (market, theater, local administration offices) and conduct periodical maintenance.

(c) Street Spaces

- Ensure pedestrian-friendly environment by providing safety and amenity facilities along sidewalks.
- Restrict motorized vehicles and prevent encroachment such as parking, waste dumps, and street businesses.
- Provide good-looking street facilities to improve urban landscape in the Ancient Quarter.
- Promote undergrounding of electricity poles and remove unnecessary electricity poles and wires.
- Improve the existing open spaces into an impressive complex for residents and tourists.
- Promote open-air activities, under certain conditions, including café, restaurants, and pedestrian mall.

Figure 12.6.1 Existing Urban Landscape in the Ancient Quarter (Hang Dao Street)



Source: HAIDEP Study Team.

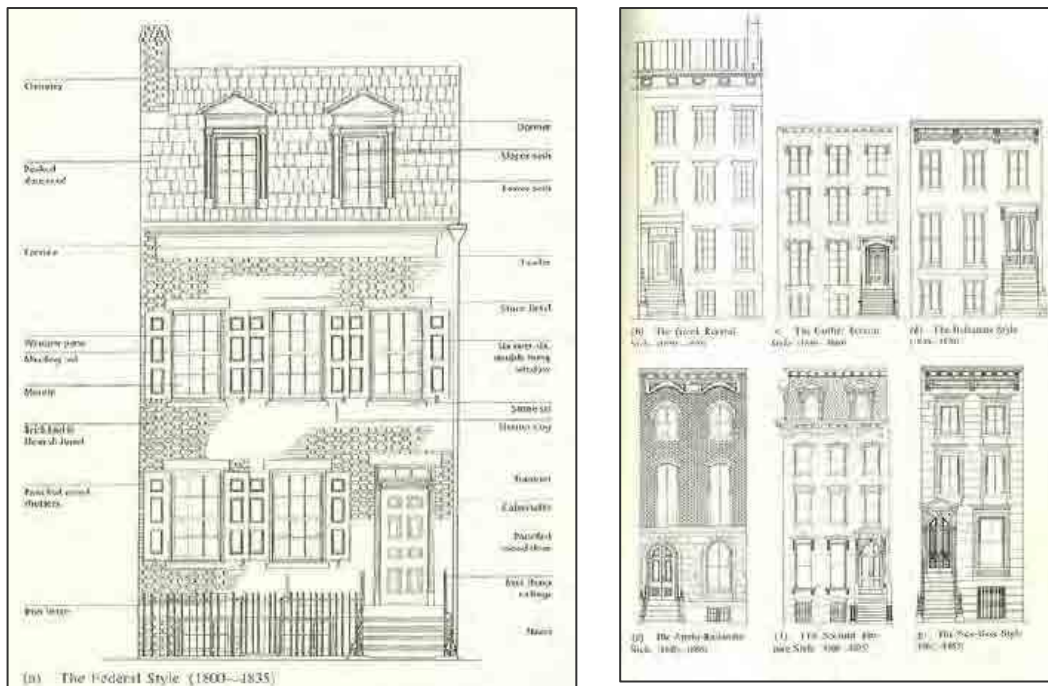
Note: The red circles identify the negative landscape elements based on existing regulations, while the blue ones identify other negative elements. These include: (1) overscale advertisement boards, (2) illegal building expansion, and (3) encroachment on the sidewalk.

Figure 12.6.2 Sample Improvement Image of the Ancient Quarter (Hang Dao Street)



Source: HAIDEP Study Team.

Figure 12.6.3 Example of Design Code in Other Countries (New York, USA)



Sources: Urban Landscape Plan (Nishimura Yukio, 2000).

(2) French Quarter

As in the case of the Ancient Quarter, there are many valuable historical structures in the French Quarter which has a unique identity and where the original French architecture harmonizes with the tropical climate in Hanoi. In order to protect and enhance the landscape in the French Quarter, the first action is to restore and repair those buildings. It is also useful to take advantage of its spacious area for infill construction, in consideration of architectural characteristics that harmonize with the surrounding environment.

Guidelines for urban landscape are proposed to cover houses along the street, public houses, and street spaces. In addition, special attention is required for the area around Hoan Kiem Lake and the Opera House, which are very important landmarks for the people of Hanoi. For the surrounding area of Hoan Kiem Lake, the development of design guidelines on height limits and building colors is recommended to improve the lake view. Figure 12.6.4 illustrates the example of design guideline in other country (Japan).

For the streets in front of the Opera House, the improvement of building façades and pavements as well as the removal of eaves, which cut into the symbolic vista of the Opera House, is recommended. Figures 12.6.5 and 12.6.6 show the existing situation and the sample improvement image of the street in front of the Opera House.

(a) Street Houses

- Ensure aesthetic and architectural quality of existing and new houses in harmony with surrounding landscape.
- Conduct periodical maintenance for those houses.

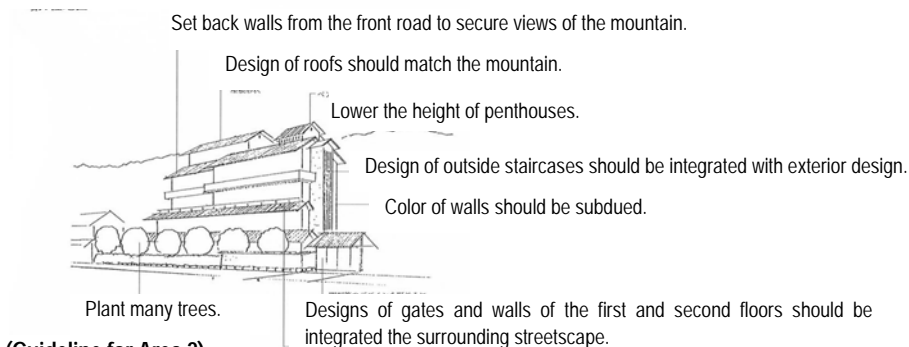
(b) Public Facilities

- Promote the use of heritage buildings with appropriate functions and good urban landscape and conduct periodical maintenance.
- Improve architectural appearances of other public facilities (market, theater, local administration offices) and conduct periodical maintenance.

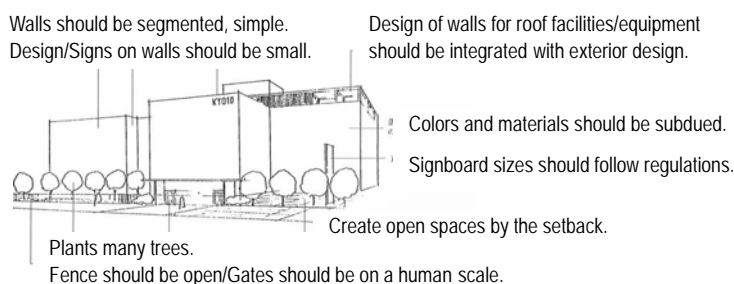
(c) Street Space

- Ensure pedestrian-friendly environment by providing safety and amenity facilities along sidewalks.
- Conduct regular cleaning.
- Restrict motorized vehicles from specific cross-sections.
- Improve appearance of urban infrastructures to improve the landscape in the French Quarter, including electricity poles and wires, sidewalks, and street lamps.

Figure 12.6.4 Example of Design Guideline in Other Countries (Kyoto, Japan)
 (Guideline for Area 1)

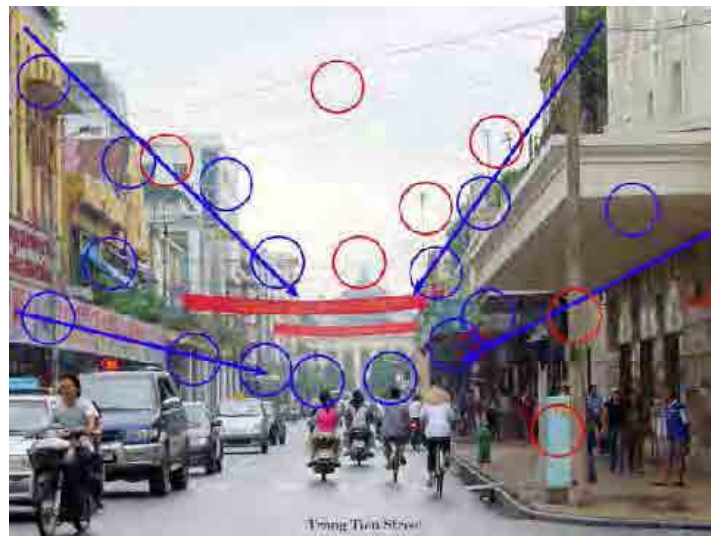


(Guideline for Area 2)



Source: Urban Landscape Plan (Nishimura Yukio, 2000).

Figure 12.6.5 Existing Situation of the French Quarter (Trang Tien Street)



Source: HAIDEP Study Team.

Note: Negative elements in terms of existing regulations (red circles) and other nonstipulated factors (blue circles).

Figure 12.6.6 Sample Improvement Image of the French Quarter (Trang Tien Street)



Source: HAIDEP Study Team.

(3) Urban Village Area

Those areas occupy most of the area and population of the inner city of Hanoi, including 4 inner districts and 5 urban fringe districts. They are originated from old villages, which have been urbanized without any proper planning and infrastructure development. These areas are characterized with its structure with small alley. Long-winding alleys, former village roads, connect all corners of the street blocks.

Some of these areas have been improved together with road expansion project, such as Ring Road No.1, 2, and 3. Renovation project has been done through infill development and subdivision projects at the cost of ponds and lakes. However, it is proposed to develop those urban villages with green and water.

In order to improve landscape together with living conditions in urban villages, there should be urban construction management mechanism for individual plots, rather than more radical urban development projects. Public spaces should be protected from encroachment to promote people's outdoor activities and ensure common spaces for community, which is well developed in urban villages. Improvement of urban landscape can be done with very simple measure to ensure tidiness, order, and clean environment.

(a) Street Houses

- Ensure harmonized urban architecture to formulate typical urban landscape in the area.
- Ensure the harmony of functions of buildings to provide good living conditions.

(b) Public Facilities

- Promote the use of historical heritage buildings with appropriate functions and good urban landscape and conduct periodical maintenance
- Improve architectural appearances of other public facilities (market, theater, local administration offices) and conduct periodical maintenance

(c) Street and Alleys

- Ensure safety along sidewalks and alleys for residents, restrict unauthorized use of alleys, and conduct regular cleaning works
- Improve appearance of urban infrastructure facilities, in order to improve landscape, including electricity poles and wires, sidewalks, street lamps
- Create open spaces for community activity.

(4) Outside of the Red River Dyke Area

The outside dyke of the Red River has a direct impact on the urban landscape of inner city of Hanoi. It stretches some 40km from the upper stream of Thang Long bridge to the down stream of Khuyen Luong port, of which width ranges from 1.2 km at Chuong Duong bridge area to 4km at Tam Xa area. The residential area was originally villages with temporary collective apartment and has been developed and expanded along with winding narrow villages roads. Recently some unique restaurant, hotels and commercial centre have been developed, formulating urban landscape unique to the outside of the dyke.

Urban landscape is managed as proposed for the urban village area, of which goal is to establish an orderly construction and protect public spaces. Its advantage with the view to the Red River and fresh winds should be fully utilized. Riverfronts should be explored and used as spaces for community activities.

(a) Street Houses

- Ensure a harmonious urban architecture to create a typical urban landscape in the area.
- Ensure harmony of building functions to provide good living conditions.

(b) Public Facilities

- Promote the use of heritage buildings with appropriate functions and good urban landscape and conduct periodical maintenance.
- Improve architectural appearances of other public facilities (market, theater, local

administration offices) and conduct periodical maintenance.

(c) Street and Alleys

- Ensure safety along sidewalks and alleys for residents, restrict unauthorized use of alleys, and conduct regular cleaning works
- Improve appearance of urban infrastructure facilities, in order to improve landscape, including electricity poles and wires, sidewalks, street lamps
- Create open spaces for community activity open to the Red River

(5) Old Collective Apartment Area

The current status of these apartment should be recognized, that illegal expansion and weak management caused deterioration of apartments. The original architectures have been deformed. While original open spaces have been encroached, the remaining open spaces should be protected for residents. It can be gradually expanded to ensure new necessary functions, such as relaxation and recreation. While there are many plans to upgrade those apartment blocks, it is necessary to put more focus on open spaces, such as community parks and residential roads.

(a) Collective Housing Blocks

- Prohibit temporary expansions particularly at the façade and ensure architectural quality of apartments.

(b) Public Facilities

- Improve architectural appearances of other public facilities (market, theater, local administration offices) and conduct periodical maintenance

(c) Street Spaces

- Ensure pedestrian-friendly environment and provide amenity facilities
- Restrict unauthorized encroachment on the streets and conduct regular cleaning
- Improve appearance of urban infrastructure facilities, in order to improve landscape, including electricity poles and wires, sidewalks, street lamps

(d) Community Parks

- Renovate and develop the common spaces for resident's outdoor activities
- Promote community participation for improved community parks
- Ensure safety and convenience of urban infrastructure in the community parks

(6) New Urban Area

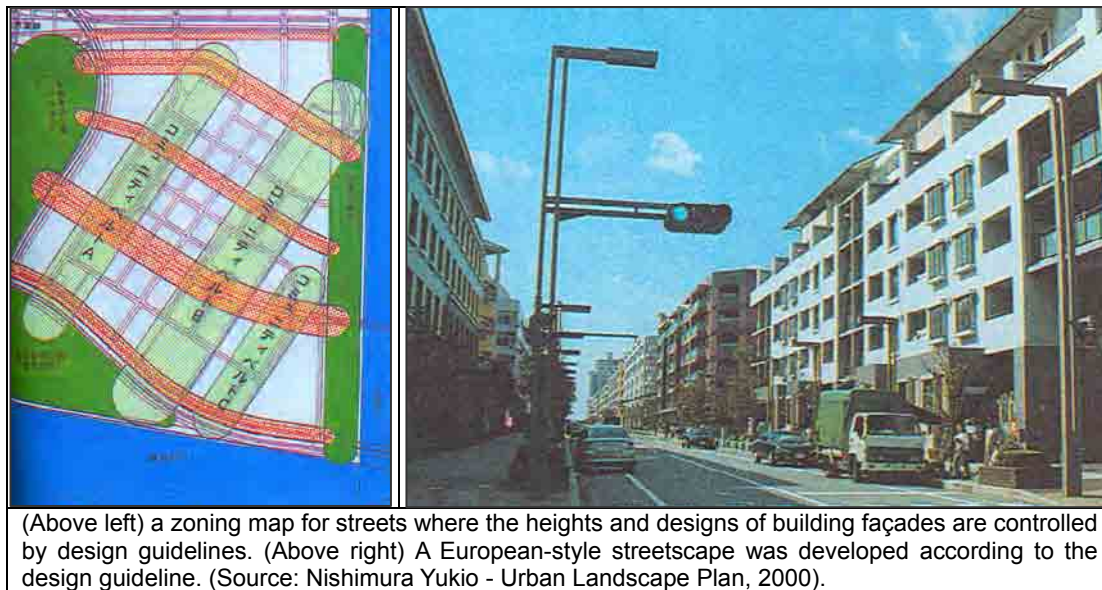
New urban areas in the outskirts of the city have developed new urban landscapes and provided Hanoi with a new face. They have also offered a new lifestyle for Hanoi. People are generally satisfied with urban landscape as well as living conditions and comfort in these areas. Landscape guidelines are proposed to further improve the landscape.

(a) Condominiums, Public Facilities

- Enhance the architectural aesthetics of the condominiums and detached houses, such as uniformed use of the façade of condominiums and the use of the ground floor for commercial and business areas.
- Create identity of each new urban area with community participation in order to

enhance the image of Hanoi City as a whole. Example of one regulation in specific urban center is shown in Figure 12.6.7.

Figure 12.6.7 Example of Design Guidelines for a New Urban Center in Japan



(b) Street Spaces

- Promote pedestrian friendly environment and provide amenity facilities for residents
- Restrict any encroachment into the streets and conduct regularly cleaning work
- Improve appearance of urban infrastructure facilities and put all electricity and communication cable underground in order to improve landscape

(c) Parks and Gardens

- Provide good quality parks and gardens for residents through community participation
- Ensure safety and convenience of urban infrastructure facilities in the parks and gardens

(7) Rural Villages

The priority objective of the urban landscape management in rural villages is to maintain typical landscape of villages, which are very fragile against rapid and huge trends of urbanization. It includes banyan trees, lines of bamboo groves, village roads, traditional farm houses, community houses, and temples. Rural village landscape and lifestyle are the origin of villages, or in a broader sense, the origin of the country, which should be protected. It is necessary to study traditional housing structure carefully in order to adapt with new life style and retain in the future. Another feature of rural villages to be protected are traditional occupations developed over many generations. Those occupations are usually based on the advantage of the villages.

(a) Rural Houses

- Preserve traditional buildings and develop new-style of structure to be applied in new life style

- Ensure a harmonized mixed land uses of housing components, environmental sanitation, and natural landscape in the villages.

(b) Public Facilities

- Promote the use of historical heritage buildings with appropriate functions and good urban landscape and conduct periodical maintenance
- Improve architectural appearances of other public facilities (market, theater, local administration offices) and conduct periodical maintenance

(c) Village Road

- Preserve the structure of village roads and ensure convenience and accessibility for villagers
- Restrict encroachment of villages and conduct regulatory repair works

4) Institutional Arrangement for Urban Landscape Management

(1) Roles and Functions of Stakeholders

Urban landscape is related with diverse sectors (including infrastructure and tourism development), different management levels (from central to commune government), and different scales (from overall urban structure, quarter landscape, and to landscape of each unit). Thus urban landscape management requires coordination among various stakeholders, including different levels of government administration, tourist citizens and so on. Overall landscape cannot be well formulated without comprehensive coordination among relevant stakeholders.

Different levels of local governments have the different focuses on urban landscape management. City level government shall conduct systematic management and ensure harmonization among various landscape systems. More specifically, city authority shall examine the overall landscape system, formulate urban landscape master plan in coordination with landscape guidelines, and manage and monitor its implementation. District level government shall manage important landscape areas among the overall system. It includes main streets, city square, parks, historical area, and so on. Compliance with overall master plan should be ensured for harmonious landscape development.

The commune governments, at the grass-root level, are in charge of landscape related with people's daily life. It includes streetscape, sidewalks, flower garden, and all the buildings. Commune-level management of urban landscape requires, in one hand, strict control, and on the other hand, flexibility and opportunities for residents to utilize advantages and develop good-quality landscape.

Since landscape is closely related with people's daily life. In other words, people's daily activities formulate urban landscape of Hanoi City. Therefore all of residents of Hanoi City are responsible for preservation and enhancement of landscape. Mass organization, Women's Association and Youth Union, is important to enhance community awareness and promote community participation for improvement of landscape.

(2) Implementation Mechanism

The process of landscape management should be incorporated in all the phases of urban development; planning formulation, plan appraisal and approval, plan implementation, monitoring and maintenance for urban landscape.

- (a) Planning Formulation:** Basic principle is to take advantage of natural resources of the planned area and integrate it with the functional structure of the city. In any sectoral planning, including transport, water supply, and park, planning standard should be complied properly as a basis for landscape design.
- (b) Project Approval:** The project is evaluated on the basis of the extent it can promote landscape factors and enhance urban landscape. Evaluation criteria can be flexible depending on the local conditions of the area.
- (c) Implementation and Monitoring:** It is commonly observed that important sub-structures for landscape are neglected, resulting in the gap between planning and actual implementation. Monitoring process is important to ensure the urban landscape as planned.
- (d) Maintenance:** Regular cleaning and repair are required to avoid deterioration of the landscape. It will also enhance people's awareness of value of the urban landscape.

Urban landscape should be considered compulsory components in any kinds of development activities. During the process of urban landscape management, the strict control measures are required including penalty on violations of conformity.

(3) Financing

Since urban landscape is an important part of overall urban management, the Government should allocate appropriate budget for development and management of urban landscape. There should be annual budget, particularly for maintenance of the urban landscape. Improvement of landscape of each building should be promoted by private sector, which benefits both public and private sector.

12.7 Proposed Urban Design and Landscape Orientation

1) Goals and Objectives

Landscape development and management for Hanoi is the most important area for policy intervention to further enhance the image and establish a firm identity of the city appealing to the citizens and international society, wherein traditional tangible and intangible values must be preserved and enhanced.

2) Strategies and Actions

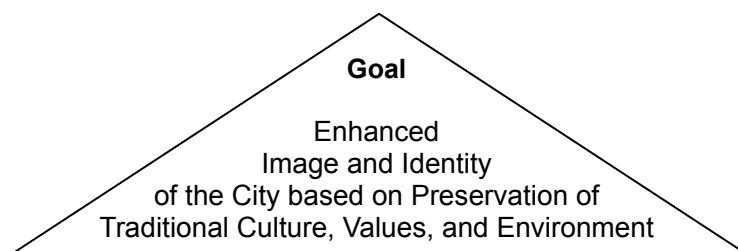
In order to promote the objectives of urban design and landscape development, four strategies are set for which more concrete actions and strategic project are proposed (see Table 12.7.1). The basic strategies are as follows:

- (i) Establish comprehensive landscape policy and workable mechanism to ensure conservation & enhancement of desired landscape
- (ii) Promote improvement of landscape for urban space of strategic importance
- (iii) Establish concrete mechanism to ensure cultural preservation
- (iv) Develop new opportunities to improve urban design and landscape

Strategic projects for priority action are the following:

- (i) Model project on selected landscape corridor (e.g. airport road)
- (ii) Model project on underground space development
- (iii) Improved tree planting in Hanoi
- (iv) Development of research/high-tech parks with the support of the higher education sector
- (v) Establishment of monitoring mechanism on community environment and activities
- (vi) Drafting of comprehensive landscape law and guidelines (see Box 12.7.1)
- (vii) Formulation of comprehensive landscape Master Plan

Table 12.7.1 Proposed Urban Design and Landscape Development Orientation



Objectives	<ul style="list-style-type: none"> • Enhance the image and identify of Hanoi appealing to the citizens and international society • Ensure traditional tangible and intangible cultural values are preserved and enhanced
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Strategy	Action	Monitoring Indicator
H1 Establish comprehensive landscape policy and workable mechanism to ensure conservation & enhancement of desired landscape	H11 Develop comprehensive landscape policy and guidelines H12 Organize "Urban Design and Landscape Forum" H13 Establish a mechanism for effective management including adequate rules and regulations and enforcement organizations	<ul style="list-style-type: none"> • Guidelines formulated • Number of forums organized
H2 Promote improvement of landscape for urban space of strategic importance	H21 Promote desired landscapes for different areas such as Ancient Quarter, French Quarter, Thang Long, Co Loa, new urban areas, rural areas, etc. H22 Promote desired landscape for transportation corridors and gateways H23 Promote desired landscape for waterfront and green network	<ul style="list-style-type: none"> • Progress of actions • Satisfaction of the people and visitors
H3 Establish concrete mechanism to ensure cultural preservation	H31 Complete inventory of tangible assets including sites and facilities with cultural value H32 Establish adequate mechanism to preserve and restore tangible assets in harmony with landscape in surrounding buffer areas H33 Establish adequate mechanism to preserve prime rural landscape	<ul style="list-style-type: none"> • Progress of actions
H4 Develop new opportunities to improve urban design and landscape	H41 Develop underground space in harmony with the urban design at ground level to create additional space for public services and businesses H42 Develop new landmarks with distinctive designs including high-rise buildings, towers, bridges, other facilities H43 Establish adequate mechanism to preserve and further expand network of street trees and greeneries	<ul style="list-style-type: none"> • Progress of actions • Number of positive elements

Strategic Projects	PH1 Model project on selected landscape corridor (e.g. airport road) PH2 Model project on underground space development PH3 Improved tree planting in Hanoi PH4 Development of research/high-tech parks with the support of the higher education sector PH5 Establishment of monitoring mechanism on community environment and activities PH6 Drafting of comprehensive landscape law and guidelines (see Box 12.7.1) PH7 Formulation of comprehensive landscape Master Plan
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Box 12.7.1 Preliminary Landscape Guidelines¹⁾

(1) Guidelines for the Management of Urban Landscape in Hanoi at the City Level

- (i) Preservation of the natural landscape including lakes, parks, flower gardens, street trees, rivers and bridges, suburban landscape.
- (ii) Preservation of urban heritage in the urban development covering city core area, silhouette of the city, height and volume of building, construction and renovation of buildings, rehabilitation of traditional profession and festivities, environment – friendly means of transport
- (iii) Urban reconstruction and upgrading covering urban routes and axes, streets and sidewalks (the remaining), transport nodes, squares and flower gardens, public transport system of the city, car parking, technical infrastructure facilities, collection of rubbish
- (iv) New urban development include axes and urban landmarks, quality of residential areas, development of industrial zones
- (v) Urban advertisement include advertisement in public spaces, advertisement at the frontage of buildings, urban decoration, technical and legal aspects of advertisement
- (vi) Urban lifestyle covering preservation of traditional culture in lifestyle, preservation of good urban sanitation, promotion of cuisine, promotion of open air activities, promotion of community spirit, beggars and street vendors.

(2) Urban Landscape Management Guidelines for Functional Areas of Hanoi

- (i) Ancient Quarter including street houses, public buildings, street spaces, traffic organization in the Ancient Quarter
- (ii) French Quarter covering street houses, public buildings, street spaces, traffic organization in the French Quarter
- (iii) Expanded inner city including street houses, public buildings, streets, alleys
- (iv) Outside Red River dyke area including street houses, public buildings, streets, alleys
- (v) Collective housing areas covering collective housing blocks, public buildings, street spaces, common yards
- (vi) New residential areas including street houses, condominiums, public buildings, street spaces, yards and gardens
- (vii) Rural villages including houses and compounds, public buildings, village roads

(3) Institutionalization of Urban Landscape Management Guidelines

- (i) Role, responsibilities covering at the city level, at the district level, at the ward, commune level, role of mass organizations
- (ii) Method of implementation including formulation of urban planning projects, urban plan project approval, implementation of urban plan and monitoring, maintenance, treatment sanction
- (iii) Participation of residents including process participation, detection by the people, initiatives by the people
- (iv) Sources of finance including state budget, private sources of finance, contribution by residents

(4) Increase in Comprehensive Awareness of Urban Landscape

- (i) Public education and Campaign including “green, clean, beautiful” movement, public media, mass organizations
- (ii) Public education including training of state civil servants, school education, undergraduate education
- (iii) Development research including formulation of project proposals, promotion of urban landscape initiatives, awards for good practices

Source: HAIDEP Study Team.

1) This indicates the guidelines' coverage. Contents are explained in a separately prepared technical paper.

13 SPECIAL AREAS

13.1 Introduction

1) Need for Designating Special Areas

While the vision and the basic urban development orientations for the future of Hanoi is provided in the general plan, translating these to a tangible form that can readily be understood and appreciated by both residents and visitors is entirely another matter. This task is necessary; otherwise, these concepts would remain as such or, if ever they are realized, they would have insignificant appeal to and impact on the people. This chapter thus explains the preliminary concepts on the development of selected key areas in Hanoi including their physical plans, development strategies, and necessary institutional arrangements. The following areas were selected because of their importance:

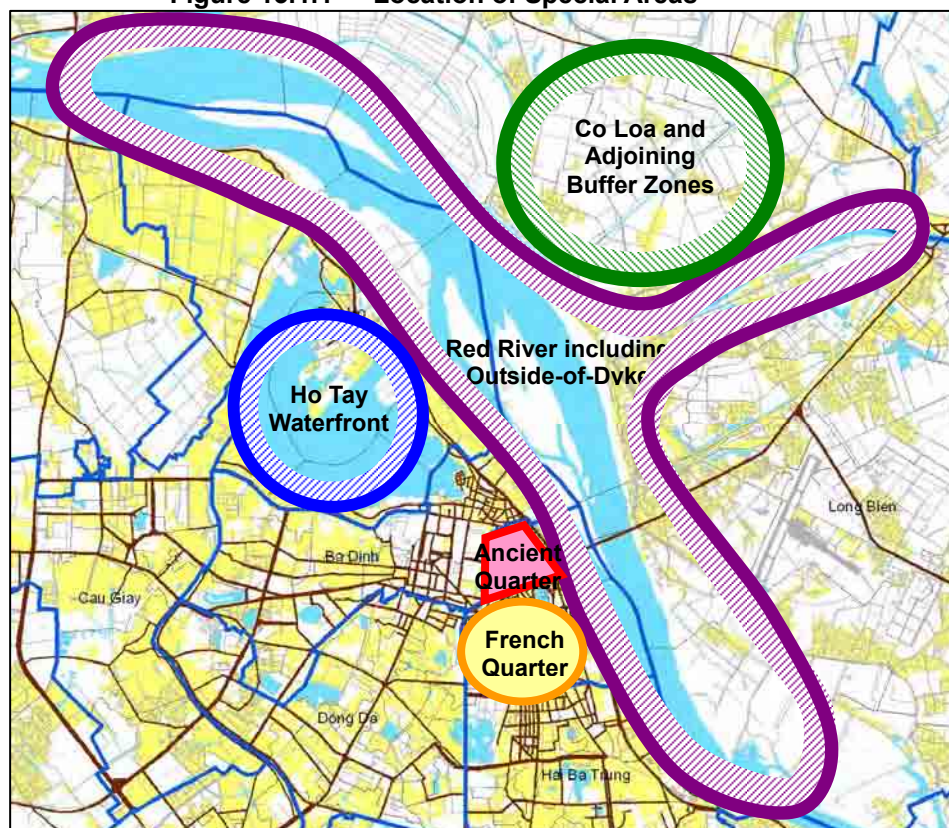
- (i) the Red River including the areas outside the dyke.
- (ii) Co Loa and its adjoining buffer zones.
- (iii) the Ancient Quarter.
- (iv) the French Quarter.
- (v) Ho Tay waterfront area.

2) Basic Objectives

The primary development objectives for these special areas are as follows:

- (i) Realize the concept of “water-greenery-culture” and regenerate traditional areas to enhance the charm and identity of Hanoi.
- (ii) Promote opportunities for new urban economic and social development.
- (iii) Establish effective mechanisms for sustainable development with the participation of city stakeholders.

Figure 13.1.1 Location of Special Areas



13.2 Red River Area

1) Location and Profile

Red River is primarily composed of the water surface, the outside-of-dyke areas, and the dykes. The special area along the Red River and the Duong River in Hanoi City (see Figure 13.2.1) covers 50 communes and 14 districts. Of these numbers, 30 communes in 6 districts are located on the left bank of the Red River and 20 communes in 8 districts are on right bank. The main features of the area are as follows (see Table 13.2.1):

- (a) **Out-of-dyke Population:** A total of 244,000 people or 46.5% of the population of the communes partly or entirely located in the Red River area reside in sections outside the dyke. Population density in out-of-dyke areas is 162 persons/ha, while that at the commune level is 136.
- (b) **Out-of-dyke Communes:** The 12 communes whose entire areas or populations are located or settled outside the dyke, are Bat Trang, Kim Lan, and Van Duc in Gia Lam District; Nhat Tan and Tu Lien in Tay Ho District; Phuc Xa in Ba Dinh District; Phuc Tan and Chuong Duong Do in Hoan Kiem District; Bach Dang and Thanh Luong in Hai Ba Trung District; and, Yen My and Duyen Ha in Thanh Tri District.
- (c) **Varying Land Uses:** Uses vary by location. While they are predominantly residential in the vicinity of the urban centers, those in the outer areas are mostly agricultural. Industrial and transportation uses of land are seen mainly on the right bank of the Red River. Located along the Red River are traditional villages such as Bat Trang, Dong Du, Kim Lan, and Van Duc, which are known for ceramic products, the food-processing villages of Thanh Tri and Duyen Ha, rattan/bamboo-product-making villages of Dong Nga and Van Phuc, as well as Nhat Tan and Phuc Xa where the flower market and the Long Bien market is located, respectively.

2) Community Structure

The communities along the Red River have complex structures. While some have been shaped by long histories of development and some developed due to the creation of the dyke, still others have developed fairly recently. Such interplay of changes have resulted in the current situation of these communities. Especially with the progress of urbanization, the inflow of migrants has become significant due to the lack of alternative opportunities in their home areas and the magnetic pull of new commercial and residential developments in high-development areas near the urban central districts of Ba Dinh, Hoan Kiem, Hai Ba Trung, and Tay Ho (see Table 13.2.2). In these areas the population increase has been very sharp and the density has likewise become as high as 300 to 500 persons/ha such as in Phuc Tan and Chuong Duong Do.

In this historical and urbanization jumble, the legal basis for many activities has become increasingly complex, giving way to a variety of illegal developments.

Figure 13.2.1 Location of Red River and Outside-of-Dyke Areas

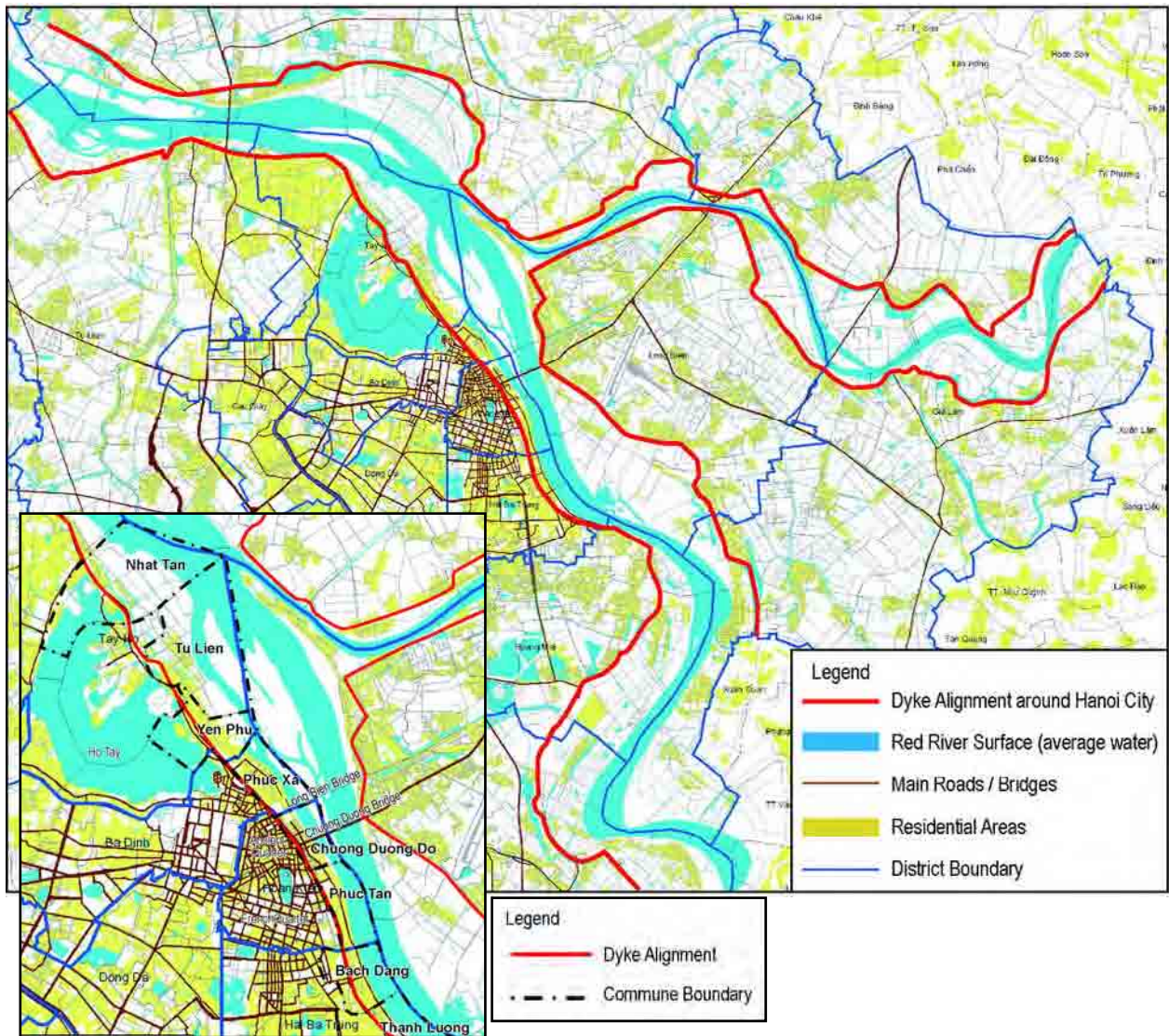


Figure 13.2.2 Past and Current Layout of Outside-of-Dyke Areas



The port and the Ancient Quarter were directly connected to the Red River (Source: "Hanoi Ancient Features," VNA Publishing House, 2005).

The alluvial plains outside the dyke are now occupied by buildings (Source: Google Earth).

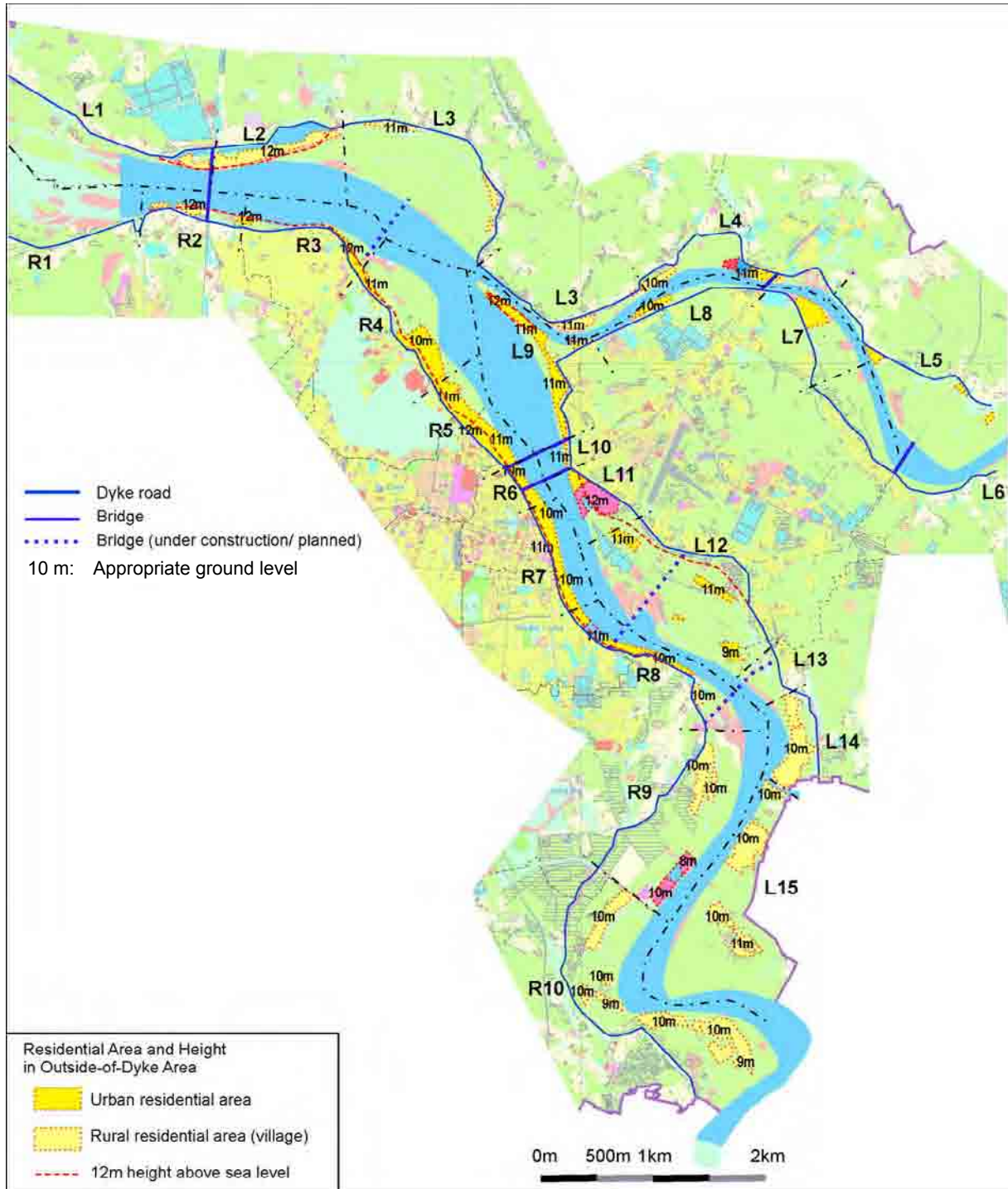
Table 13.2.1 Profile of Outside-of-dyke Areas

Commune			District Name	Area (ha)			Population			Population Density (no/ha) ³⁾	Land Use		
Code ¹⁾	Zone No. ²⁾	Name		Whole Commune		Outside-of-Dyke	Whole Commune	Outside-of-Dyke			Main Land Use ⁴⁾	Special Sites	
				Whole	Residential Area	Residential Area		No.	%				
L1	162	Dai Mach	Dong Anh	812	83	13	8,988	1,365	15.2	108	A		
L1	163	Vong La		634	73	19	6,378	1,651	25.9	88	R	Foot of Thang Long Bridge	
L2	164	Hai Boi		806	115	70	11,749	7,135	60.7	102	A, T, R		
L3	174	Vinh Ngoc		935	88	23	11,179	2,916	26.1	127	A, R		
L3	173	Tam Xa		503	21	0	4,006	0	0.0	192	A	Foot of Nhat Tan Bridge (planned)	
L3	172	Xuan Canh		618	77	17	9,329	2,045	21.9	122	A		
L3	171	Dong Hoi		710	89	28	9,055	2,796	30.9	101	A, R		
L4*	170	Mai Lam		632	108	20	10,102	1,875	18.6	94	A, R		
L4*	216	Yen Vien	Gia Lam	360	60	7	11,392	1,289	11.3	189	T, I, R		
L4*	207	Thi Tran Yen Vien		96	69	16	11,792	2,761	23.4	170	R		
L5*	214	Duong Ha		265	42	12	5,071	1,423	28.1	120	A		
L5*	212	Phu Dong		1,171	93	26	11,501	3,227	28.1	123	A		
L5*	213	Trung Mau		448	104	0	4,920	0	0.0	47	A		
L6*	209	Le Chi	Long Bien	769	59	43	9,898	7,226	73.0	168	A		
L6*	228	Kim Son	Gia Lam	614	120	20	10,371	1,723	16.6	87	A		
L6*	226	Phu Thi		495	83	0	6,706	0	0.0	81	A		
L6*	227	Dang Xa		584	65	0	7,912	0	0.0	121	A		
L6*	218	Co Bi		465	56	0	7,672	0	0.0	137	A		
L6*	123	Hoi Xa		625	65	0	8,394	0	0.0	129	A		
L7*	116	Giang Bien	Long Bien	430	51	35	4,756	3,237	88.1	92	A, R		
L8*	117	Thuong Thanh		461	99	16	11,760	1,859	15.8	118	R		
L9*	119	Ngoc Thuy		856	170	70	18,008	7,395	41.1	106	R, A		
L10	112	Gia Lam		268	112	15	34,230	4,565	13.3	306	R	Foot of Long Bien & Chuong Duong Bridge	
L11	121	Bo De	392	85	26	10,144	3,055	30.1	119	A, R	Foot of Chuong Duong Bridge		
L12	122	Long Bien	762	90	24	9,595	2,518	26.2	107	A, R	Foot of Vinh Tuy Bridge (planned)		
L12	124	Cu Khoi	481	66	30	5,967	2,724	45.7	91	A, R	Foot of Thanh Tri Bridge (planned)		
L13	224	Dong Du	Gia Lam	367	39	26	3,882	2,623	67.6	101	R, A	Ceramic village	
L14	208	Bat Trang		176	39	39	7,078	7,078	100.0	181	R, I, T	Traditional Ceramic village	
L15	217	Kim Lan		264	77	77	5,395	5,393	100.0	70	R, A	Ceramic village	
L15	223	Van Duc		650	53	53	6,377	6,432	100.0	121	A, R	Ceramic village	
Subtotal				16,649	2,351	725	283,607	84,311	29.7	121			
R1	180	Thuong Cat	Tu Liem	411	61	32	6,592	3,506	53.2	108	A		
R1	181	Lien Mac		608	67	3	7,016	284	4.0	105	A		
R2	182	Thuy Phuong		288	62	4	7,457	526	7.1	119	R, T		
R2	183	Dong Nga	345	120	12	18,094	1,823	10.12	151	R, A	Foot of Thang Long Bridge / Rattan & bamboo village		
R3	20	Phu Thuong	Tay Ho	633	330	25	12,185	938	7.7	37	A, R	Foot of Nhat Tan Bridge (planned)	
R4	17	Nhat Tan		350	47	47	8,106	8,106	100.0	173	R	Flower Market	
R4	16	Tu Lien		312	41	41	8,290	8,290	100.0	201	R, A		
R5	15	Yen Phu	Tay Ho	141	58	40	19,660	13,539	68.9	338	R, I		
R5	1	Phuc Xa	Ba Dinh	100	41	41	18,641	18,641	100.0	459	R	Long Bien Market	
R6	37	Phuc Tan	Hoan Kiem	70	23	23	14,830	14,830	100.0	647	R	Foot of Long Bien & Chuong Duong Bridge	
R7	38	Chuong Duong Do		101	35	35	21,969	21,969	100.0	636	R, T		
R7	47	Bach Dang	Hai Ba Trung	106	49	39	17,618	17,618	100.0	361	R, I, T		
R8	48	Thanh Luong		142	55	55	21,143	21,143	100.0	381	R, I, T	Foot of Vinh Tuy Bridge (planned)	
R8	105	Thanh Tri	Hoang Mai	339	75	26	10,788	3,778	35.0	143	I, R	Foot of Thanh Tri Bridge (planned) / food processing village	
R9	110	Linh Nam		535	134	76	14,117	8,033	56.9	105	A, R, T		
R9	106	Tran Phu		400	39	0	5,761	0	0.0	149	A		
R9	107	Yen So		730	115	0	10,908	0	0.0	95	A		
R10	194	Yen My	Thanh Tri	371	31	31	5,435	5,435	100.0	175	R, A		
R10	195	Duyen Ha		272	40	40	4,469	4,469	100.0	113	R, A	Food processing village	
R10	196	Van Phuc		489	101	80	8,774	6,963	79.4	87	R, A	Rattan & bamboo village	
Subtotal				6,743	1,524	650	241,853	159,891					
Total				23,392	3,875	1,375	525,460	244,202					

Source: HAIDEP HIS Survey, 2005

- 1) Codes with asterisks represent communes along the Duong River. Locations of codes are shown in Figure 13.2.2
- 2) Zone numbers correspond to those in the HIS.
- 3) Population density is for population against residential areas at commune level.
- 4) Symbols denote as follows: A = agriculture, R = Residential, I = industry, T = Transportation.

Figure 13.2.2 Classification and Location of Outside-of-Dyke Areas in Hanoi City



Note: Codes refer to those shown in Table 13.2.1.

Figure 13.2.3 Photos of the Left Bank of the Red River and Both Banks of the Duong River

L1: Near Thang Long Bridge (Vong La, Dong Anh)	L3: New rural village (Tam Xa, Dong Anh)	L3: View of Duong River (Xuan Canh, Dong Anh)
L4: Marshland (Mai Lam, Dong Anh)	L4: Gravel port (Yen Vien, Gia Lam)	L4: Duong Bridge (Thuong Thanh, Long Bien)
L8: Dyke Road along Duong River (Thuong Thanh, Long Bien)	L8: New residential area (Thuong Thanh, Long Bien)	L9: Entrance to Bac Cau (Ngoc Thuy, Long Bien)
L9: Cornfield in river terrace (Ngoc Thuy, Long Bien)	L9: Gravel port (Ngoc Thuy, Long Bien)	L11: Highly dense residential area (Bo De, Long Bien)
L12: Dyke road along Red River (Long Bien, Long Bien)	L12: Access road to village (Cu Khoi, Long Bien)	L13: Thanh Tri Bridge under construction (Cu Khoi, Long Bien)

Note: Codes refer to those shown in Figure 13.2.2.

Figure 13.2.4 Photos of the Right Bank of the Red River



Source: HAIDEP Study Team.

Table 13.2.2 Development in Selected Outside-of-dyke Areas

Item	District/ Commune	Tay Ho		Ba Dinh		Hoan Kiem		Hai Ba Trung		Total
		Nhat Tan	Tu Lien	Yen Phu	Phuc Xa	Chuong Duong Do	Phuc Tan	Bach Dang	Thanh Luong	
Area (ha)	Residential Area	47	41	58	41	35	23	49	56	349
	Water Surface	151	118	53	27	54	24	39	58	524
	Other Use	151	153	31	33	12	22	19	29	450
	Total	350	312	141	100	101	70	106	142	1,322
Population	1989	5,237	4,856	13,054	11,647	12,092	8,851	12,881	12,098	80,716
	1999	7,104	7,095	17,652	15,767	20,508	14,199	16,402	18,797	117,524
	2003	8,106	8,290	19,660	18,641	21,969	14,830	17,618	21,143	130,258
Population Growth (%/yr)	1989-1999	3.1	3.9	3.1	3.1	5.4	4.8	2.5	4.5	-
	1999-2003	3.4	4.0	2.7	4.3	1.7	1.1	1.8	3.0	-
Population Density (no/ha)	Total Area	41	43	222	253	471	327	261	252	163
	Residential Area	173	201	339	459	636	647	362	381	374

Source: HAIDEP HIS (2005) and Hanoi Statistical Yearbook.

1) Excluding water surface.

3) Outside-of-Dyke Areas from the Viewpoints of Safety and Compliance to the Dyke Ordinance

The legality of residence and various activities and their safety are the most critical aspects which must be attended to and clarified in planning the future development of areas outside the dyke. For the Red River area, a rapid development assessment was made based on following factors:

- (i) Provision of a 30-meter-wide river terrace for riverbank protection.
- (ii) Allocation of 5 meters and 20 meters from the dyke foot in urban areas and rural areas, respectively, for dyke protection.
- (iii) Protection from flood with a 5-year return period (H=12m).
- (iv) Ownership of legal documents.

Then, the areas outside the dyke were classified, as follows:

- (i) Type A (areas to be protected from physical management of the river and dyke, ie (i) and (ii) above).
- (ii) Type B (areas vulnerable to floods with a 5-year return period, ie (iii) above).
- (iii) Type C (remaining areas).

Type A areas, covering 370ha of land, are home to about 61,000 people who must be immediately resettled elsewhere both to protect the dyke and the river which affect not only themselves but also the entire city. In Type B areas with a total of 1,127ha of land, as many as 207,000 people live under threat of floods with a 5-year return period. In Type C areas covering 185ha of land, about 29,000 people live, and they are less likely to be affected by floods (see Table 12.2.3 and Table 13.2.4).

Table 13.2.3 Areas and Population by Type of Area

District		Type A				Type B: Areas lower than 12m ³)		Type C: Areas lower than 12m ³)		Total	
		Dyke Protected Area ¹⁾		River Protected Area ²⁾		Area (ha)	Estimated Population	Area (ha)	Estimated Population	Area (ha)	Estimated Population
		Area (ha)	Estimated Population	Area (ha)	Estimated Population						
Left	Dong Anh	22	2,483	49	4,964	100	10,996	63	6,252	234	24,696
	Gia Lam	26	3,052	49	6,753	276	31,949	0	0	352	41,755
	Long Bien	14	2,369	50	6,327	216	27,957	42	4,670	322	41,322
	Sub Total	62	7,904	148	18,044	592	70,902	105	10,922	908	107,773
Right	Tu Liem	26	3,006	8	1,143	0	0	17	1,884	51	6,033
	Tay Ho	0	0	10	1,024	118	27,741	24	1,980	152	30,745
	Ba Dinh	3	1,377	12	5,507	37	16,981	4	1,836	56	25,701
	Hoan Kiem	9	5,824	28	17,939	50	32,017	8	5,120	95	60,900
	Hai Ba Trung	0	0	37	13,731	88	32,762	16	5,922	141	52,415
	Hoang Mai	0	0	12	1,717	91	10,180	11	1,574	114	13,471
	Thanh Tri	0	0	15	1,691	151	16,868	0	0	166	18,559
Sub Total	38	10,207	122	42,752	535	136,549	80	18,316	775	207,824	
Total		100	18,111	270	60,796	1,127	207,451	185	292,38	1683	315,597

Source: Worked out by Study Team based on available information.

1) 5m and 20m from the dyke foot in urban and rural areas, respectively.

2) 30m from the river (river terrace).

3) Equivalent to a 5-year return period.

Table 13.2.4 Size and Population by Type of Area

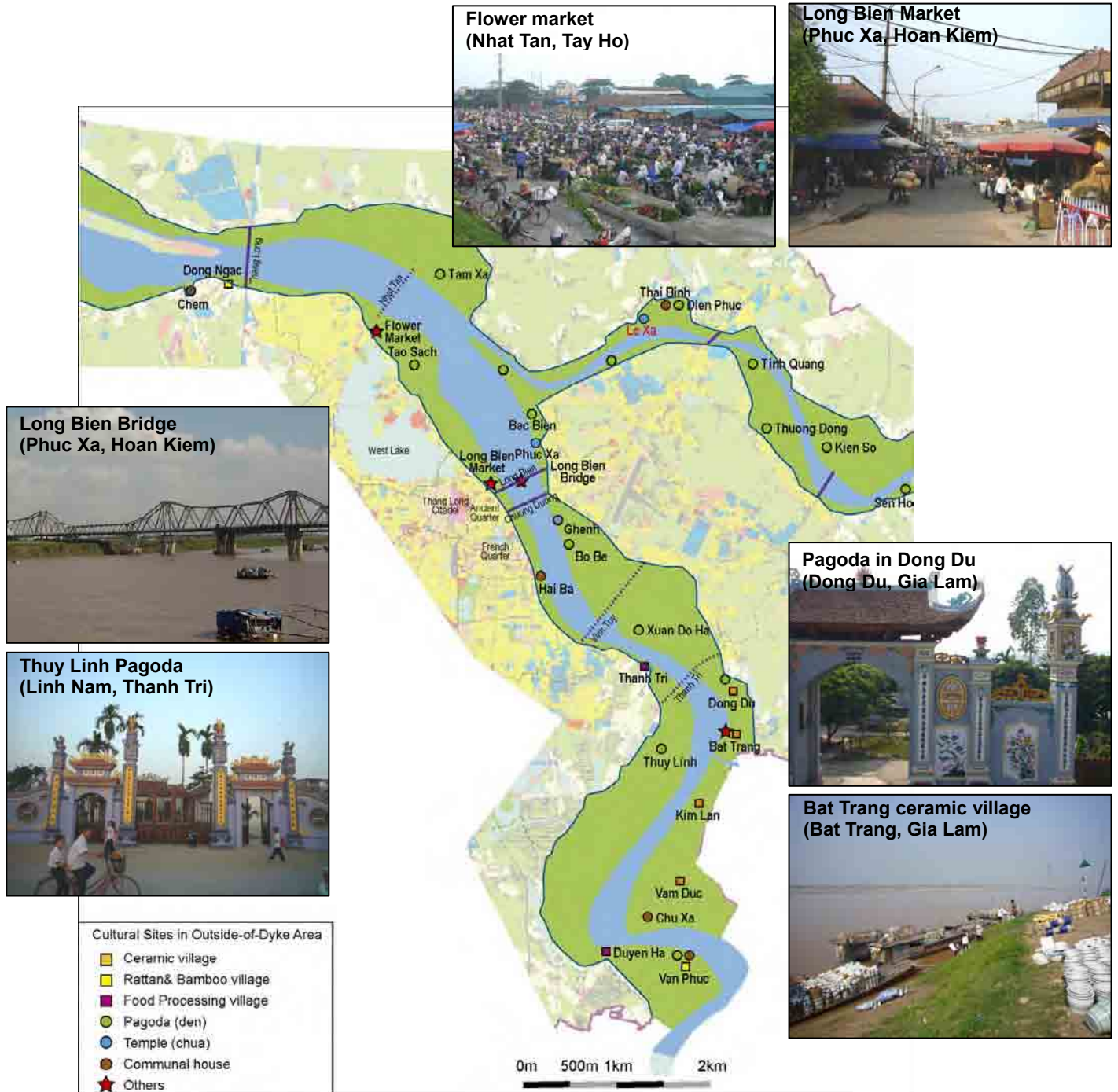
Commune			District Name	Type A				Type B		Type C	
Code	Zone No.	Name		Protection Limit (5m from dyke foot in urban area, 20m in rural area)		Other Restricted Area (River terrace, W=30m)		Area for Treats to Flood of 5-year Return Period (lower than H=12m)		Other Areas	
				Area (ha)	Estimated Population	Area (ha)	Estimated Population	Area (ha)	Estimated Population	Area (ha)	Estimated Population
L1	162	Dai Mach	Dong Anh	0	0	8	867	13	1,365	0	0
L1	163	Vong La		0	0	7	615	0	0	12	1,054
L2	164	Hai Boi		0	0	19	1,937	0	0	51	5,198
L3	174	Vinh Ngoc		10	1,268	0	0	23	2,916	0	0
L3	173	Tam Xa		0	0	0	0	0	0	0	0
L3	172	Xuan Canh		0	0	5	609	17	2,045	0	0
L3	171	Dong Hoi		12	1,216	0	0	28	2,796	0	0
L4*	170	Mai Lam		0	0	10	937	20	1,875	0	0
L4*	216	Yen Vien	Gia Lam	0	0	0	76	7	1,289	0	0
L4*	207	Thi Tran Yen Vien		5	852	10	1,705	16	2,761	0	0
L5*	214	Duong Ha		7	837	7	837	12	1,423	0	0
L5*	212	Phu Dong		3	370	0	0	26	3,227	0	0
L5*	213	Trung Mau		0	0	0	0	0	0	0	0
L6*	209	Le Chi	Long Bien	0	0	0	0	43	7,226	0	0
L6*	228	Kim Son	Gia Lam	0	0	0	0	20	1,723	0	0
L6*	226	Phu Thi		0	0	0	0	0	0	0	0
L6*	227	Dang Xa		0	0	0	0	0	0	0	0
L6*	218	Co Bi		0	0	0	0	0	0	0	0
L6*	123	Hoi Xa		0	0	0	0	0	0	0	0
L7*	116	Giang Bien		7	647	10	925	35	3,237	0	0
L8*	117	Thuong Thanh	2	189	10	1,161	16	1,859	0	0	
L9*	119	Ngoc Thuy	0	0	20	2,113	45	4,754	25	2,641	
L10	112	Gia Lam	Long Bien	5	1,532	5	1,532	15	4,565	0	0
L11	121	Bo De		0	0	5	597	9	1,074	17	2,029
L12	122	Long Bien		0	0	0	0	24	2,518	0	0
L12	124	Cu Khoi		0	0	0	0	30	2,724	0	0
L13	224	Dong Du		0	0	0	0	26	2,623	0	0
L14	208	Bat Trang	Gia Lam	2	363	17	3,085	39	7,078	0	0
L15	217	Kim Lan		9	630	15	1,051	77	5,393	0	0
L15	223	Van Duc		0	0	0	0	53	6,432	0	0
Subtotal				62	7,904	148	18,047	594	70,903	105	10,922
R1	180	Thuong Cat	Tu Liem	20	2,164	0	0	0	0	12	1,298
R1	181	Lien Mac		0	0	0	0	0	0	2.7	284
R2	182	Thuy Phuong		2	239	2	239	0	0	0	0
R2	183	Dong Nga		4	603	6	904	0	0	2	301
R3	20	Phu Thuong	Tay Ho	0	0	6	222	0	0	19	701
R4	17	Nhat Tan		0	0	0	0	42	7,257	0	0
R4	16	Tu Lien		0	0	4	802	38	7,622	3	602
R5	15	Yen Phu	Tay Ho	0	0	0	0	38	12,862	2	677
R5	1	Phuc Xa	Ba Dinh	3	1,377	12	5,507	37	16,981	4	1,836
R6	37	Phuc Tan	Hoan Kiem	9	5,824	12	7,765	20	12,942	3	1,941
R7	38	Chuong Duong Do		0	0	16	10,173	30	19,075	5	3,179
R7	47	Bach Dang	Hai Ba Trung	0	0	19	6,868	40	14,458	9	3,253
R8	48	Thanh Luong		0	0	18	6,864	48	18,303	7	2,669
R8	105	Thanh Tri	Hoang Mai	0	0	12	1,717	15	2,147	11	1,574
R9	110	Linh Nam		0	0	0	0	76	8,033	0	0
R9	106	Tran Phu		0	0	0	0	0	0	0	0
R9	107	Yen So		0	0	0	0	0	0	0	0
R10	194	Yen My	Thanh Tri	0	0	0	0	31	5,435	0	0
R10	195	Duyen Ha		0	0	15	1,691	40	4,469	0	0
R10	196	Van Phuc		0	0	0	0	80	6,963	0	0
Subtotal				38	10,207	122	42,752	535	136,547	79.7	18,315
Total				100	18,111	270	60,799	1,129	207,450	184.7	29,237

Source: HAIDEP Study Team.

4) Location of Cultural Sites in Outside-of-Dyke Areas

There are various types of cultural sites and resources in areas outside the dyke, including traditional craft villages, pagodas (chua), and temples (den). Other interesting sites include the Long Bien Bridge, the Long Bien Market, flower market, the Hanoi Port, etc. (see Figure 13.2.5).

Figure 13.2.5 Cultural Sites in the Red River Area



Source: HAIDEP Study Team.

5) Main Issues

The Red River used to be the backbone of Hanoi, integrating the important areas and resources in the city. However, in the process of development and with the occurrence of disasters, the Red River has somehow become separated from the urban system in many ways. It can be seen only from limited locations and is no longer fully connected with the water bodies in the urban areas. Moreover, it has a limited role in transportation and its waterfront is mostly occupied by informal developments. All these show that the Red River no longer plays a key role in the socio-economic life of the city and is slowly losing its cultural and environmental importance. This is not enough reason, however, to disregard the Red River, since it is not as calm as those in many capital cities in the world such as the Seine River in Paris, the Sumida River in Tokyo, the Chao Phraya in Bangkok, or the Hong River in Seoul. The mighty Red River can bring untold destruction to the people and the city, as Hanoi's long history could attest.

The most difficult and critical issue in areas outside the dyke is the relocation of residents and activities. An approximate size of population which is to be resettled was estimated under the following assumptions (see Table 13.2.5):

- (i) Residents in Type A areas: They must be resettled to protect the river and the riverbank for the sake of the city: 78,908 persons.
- (ii) Residents in Type B areas and do not own proper legal documents: 87,555 persons.
- (iii) Residents in Type C areas and do not own proper legal documents: 15,461 persons.

A total of 181,924 persons or 58% of the total population of 315,588 living in areas outside the dyke need to be resettled.

The number is so large that resettlement will be extremely difficult, particularly in the short term. However, if the situation will remain unresolved, the number will even grow further, thereby heightening the danger the people and the city will face.

6) Development Goals and Proposed Development Strategies

Notwithstanding the danger that the Red River poses, it can provide the city with opportunities to enhance the city's image and create social, cultural, environmental, and economic values when it is properly incorporated into the strategic urban planning and development of Hanoi. The main goals are thus set as follows:

- (i) To revive the Red River as the cultural and environmental backbone of the city and as a strategic tool to enhance the city's image and identity.
- (ii) To promote socio-economic development by reorganizing the use of its ample space including the areas outside the dyke.
- (iii) To establish adequate institutional and technical frameworks to ensure the sustainable development of the areas outside the dyke.

The development of the Red River must be thought of on a long term, even beyond the master planning period. A policy or a shared idea on what the Red River should become in 50 or 100 years' time, which is not very long compared to the 1000-year history of Hanoi, must be in place. For sure, the river's environmental and cultural values will be much more appreciated by Hanoians as well as the international community. In order for the Red River to play its expected role, the overall development direction and management of the entire river area must be as follows:

- (a) **Environmental and Cultural Backbone:** The Red River forms an environmental and cultural backbone of the city by: (i) establishing effective flood and bank erosion control protecting life and property in the city, (ii) enhancing water-borne environmental value and ecosystems in integration with lakes and ponds dotting the city, (iii) enhancing the landscape in a way that it represents the city's image, (iv) integrating the Red River with other key areas such as Co Loa, Ho Tay, the Ancient Quarter, the French Quarter, and other cultural villages and heritage sites located in and around the river.
- (b) **Mobility and Transportation Axis:** The Red River must function more efficiently as an environment-friendly mobility and transportation axis to integrate both sides of the river, especially the cultural villages and heritage sites scattered in and around the river. Also, river transportation must be integrated with the city's overall public transportation network. The river is expected to strengthen its role in interprovincial transportation, linking various parts of the river basin for goods transport and tourism.
- (c) **Reintegration of Outside-of-Dyke Areas:** The areas outside the dyke must play a more constructive and affirmative role not only in the development and management of the Red River area but also in the overall urban development of the city. At present, the development forms a sort of barrier, blocking the effective physical and aesthetic integration of the river area with the existing urban area. As a result, the Red River is no longer the gateway to the city; rather, it has become the back door. In order to reintegrate the river to the city's development, it is critical to develop and manage the areas outside the dyke.
- (d) **Planning Framework for Outside-of-Dyke Areas:** The development of the areas outside the dyke involves complex legal and institutional issues which have accumulated since the dyke was constructed. Although a strong political will is necessary, the future development of the area needs more than that. To illustrate, a basic approach was preliminarily worked out (see Figure 13.4).
- (e) **Landscape Management and Urban Design:** These are elements critical to the achievement of the envisioned image of the Red River area. For this, the design of bridges and public facilities, as well as the city's skyline, among others, must also be properly managed.

Table 13.2.5 Estimated Population for Resettlement

Commune			District Name	Estimated Population by Type of Area			Estimated % of Compliance to Legal Documents			Estimated Population for Resettlement			
Code	Zone No.	Name		A	B	C	A	B	C	A	B	C	Total
L1	162	Dai Mach	Dong Anh	867	1,365	0	0	40	60	867	0	0	867
L1	163	Vong La		615	0	1,054	0	40	60	615	0	422	1,036
L2	164	Hai Boi		1,937	0	5,198	0	40	60	1,937	0	2,079	4,016
L3	174	Vinh Ngoc		1,268	2,916	0	0	40	60	1,268	482	0	1,750
L3	173	Tam Xa		0	0	0	0	40	0	0	0	-	-
L3	172	Xuan Canh		609	2,045	0	0	40	60	609	618	0	1,227
L3	171	Dong Hoi		1,216	2,796	0	0	40	60	1,216	462	0	1,677
L4*	170	Mai Lam		937	1,875	0	0	20	40	937	562	0	1,500
L4*	216	Yen Vien	Gia Lam	76	1,289	0	0	20	40	76	955	0	1,031
L4*	207	Thi Tran Yen Vien		2,557	2,761	0	0	20	40	2,557	0	0	2,557
L5*	214	Duong Ha		1,674	1,423	0	0	20	40	1,674	0	0	1,674
L5*	212	Phu Dong		370	3,227	0	0	20	40	370	2,212	0	2,582
L5*	213	Trung Mau		0	0	0	0	0	0	0	0	-	-
L6*	209	Le Chi	Long Bien	0	7,226	0	0	20	40	0	5,780	0	5,780
L6*	228	Kim Son	Gia Lam	0	1,723	0	0	20	40	0	1,378	0	1,378
L6*	226	Phu Thi		0	0	0	0	0	0	0	0	-	-
L6*	227	Dang Xa		0	0	0	0	0	0	0	0	-	-
L6*	218	Co Bi		0	0	0	0	0	0	0	0	-	-
L6*	123	Hoi Xa		0	0	0	0	0	0	0	0	-	-
L7*	116	Giang Bien	Long Bien	1,572	3,237	0	0	20	40	1,572	1,017	0	2,590
L8*	117	Thuong Thanh		1,350	1,859	0	0	20	40	1,350	137	0	1,488
L9*	119	Ngoc Thuy		2,113	4,754	2,641	0	20	40	2,113	1,690	1,585	5,388
L10	112	Gia Lam		3,064	4,565	0	0	20	40	3,064	588	0	3,652
L11	121	Bo De		597	1,074	2,029	0	20	40	597	263	1,217	2,075
L12	122	Long Bien		0	2,518	0	0	20	40	0	2,014	0	2,014
L12	124	Cu Khoi		0	2,724	0	0	20	40	0	2,179	0	2,179
L13	224	Dong Du	Gia Lam	0	2,623	0	0	20	40	0	2,099	0	2,099
L14	208	Bai Trang		3,448	7,078	0	0	40	60	3,448	799	0	4,247
L15	217	Kim Lan		1,681	5,393	0	0	40	60	1,681	1,555	0	3,236
L15	223	Van Duc		0	6,432	0	0	40	60	0	3,859	0	3,859
Sub Total				25,951	70,903	10,922				25,951	28,649	5,303	59,902
R1	180	Thuong Cat	Tu Liem	2,164	0	1,298	0	40	60	2,164	0	519	2,683
R1	181	Lien Mac		0	0	284	0	40	60	0	0	114	114
R2	182	Thuy Phuong		478	0	0	0	40	60	478	0	0	478
R2	183	Dong Nga		1,507	0	301	0	40	60	1,507	0	121	1,628
R3	20	Phu Thuong	Tay Ho	222	0	701	0	20	60	222	0	281	502
R4	17	Nhat Tan		0	7,257	0	0	20	40	0	5,805	0	5,805
R4	16	Tu Lien		802	7,622	602	0	20	40	802	5,295	361	6,459
R5	15	Yen Phu	Tay Ho	0	12,862	677	0	20	40	0	10,290	406	10,696
R5	1	Phuc Xa	Ba Dinh	6,884	16,981	1,836	0	20	40	6,884	6,701	1,101	14,686
R6	37	Phuc Tan	Hoan Kiem	13,589	12,942	1,941	0	20	40	13,589	0	1,165	14,754
R7	38	Chuong Duong Do		10,173	19,075	3,179	0	20	40	10,173	5,087	1,908	17,168
R7	47	Bach Dang	Hai Ba Trung	6,868	14,458	3,253	0	20	40	6,868	4,699	1,952	13,519
R8	48	Thanh Luong		6,864	18,303	2,669	0	20	40	6,864	7,779	1,602	16,244
R8	105	Thanh Tri	Hoang Mai	1,717	2,147	1,574	0	40	60	1,717	0	630	2,347
R9	110	Linh Nam		0	8,033	0	0	40	60	0	4,820	0	4,820
R9	106	Tran Phu		0	0	0	0	0	0	0	0	0	0
R9	107	Yen So		0	0	0	0	0	0	0	0	0	0
R10	194	Yen My	Thanh Tri	0	5,435	0	0	40	60	0	3,261	0	3,261
R10	195	Duyen Ha		1,691	4,469	0	0	40	60	1,691	990	0	2,681
R10	196	Van Phuc		0	6,963	0	0	40	60	0	4,178	0	4,178
Sub Total				52,959	136,547	18,315				52,959	58,905	10,160	122,023
Total				78,910	207,450	29,237				78,910	87,554	15,463	181,925

7) Proposed Development Direction for Outside-of-Dyke Areas

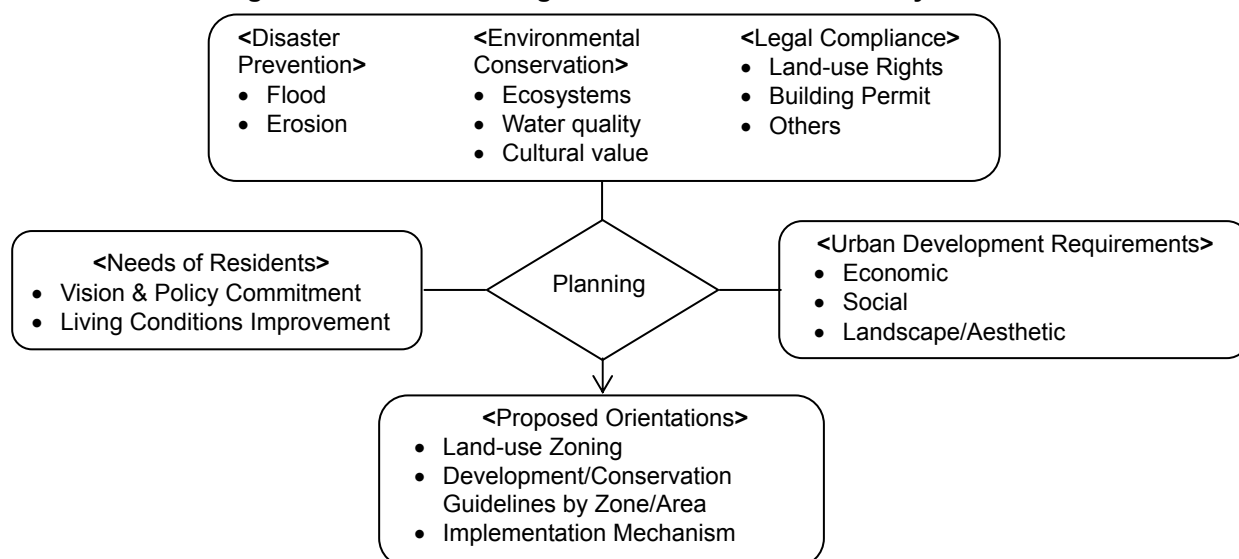
At present, a total of 160,000 reside in areas outside the dyke of the Red River. These residents have unclear legal status as to land-use rights and building permits. Aside from this, they live under constant threat of flood. The current height of the dyke aims to protect the urban area from floodwaters of a 125-year return period which was experienced in 1971.

The area is important to the city because of its historical and socio-cultural value and potentials for landscape improvement, disaster prevention, and urban development, among others. The basic development direction for the area has the following considerations:

- (i) Life and property must be protected from disasters.
- (ii) The area must be an integral part of key urban areas.
- (iii) The area must link key urban areas with the Red River and the left bank of the river.
- (iv) The area must provide expanded opportunities for economic development, while conserving the environment and avoiding disasters.
- (v) The area must be redeveloped in a way that it represents the water-green-culture concept to attract people and tourists.

The basic spatial planning orientation is to establish a zoning system in the area and to provide clear guidelines for suggested activities and developments depending upon the potential threat to disasters and socio-economic development opportunities. With the construction of a new dyke (same height as the existing main dyke) or a secondary dyke (lower height which can protect from floods of 5- to 10-year return period), the types of development and activity can be further elaborated. While more detailed study and planning work are necessary (see Figure 13.2.6), preliminary discussions and proposed orientation were made in HAIDEP, as follows:

Figure 13.2.6 Planning Framework for Outside-of-Dyke Areas



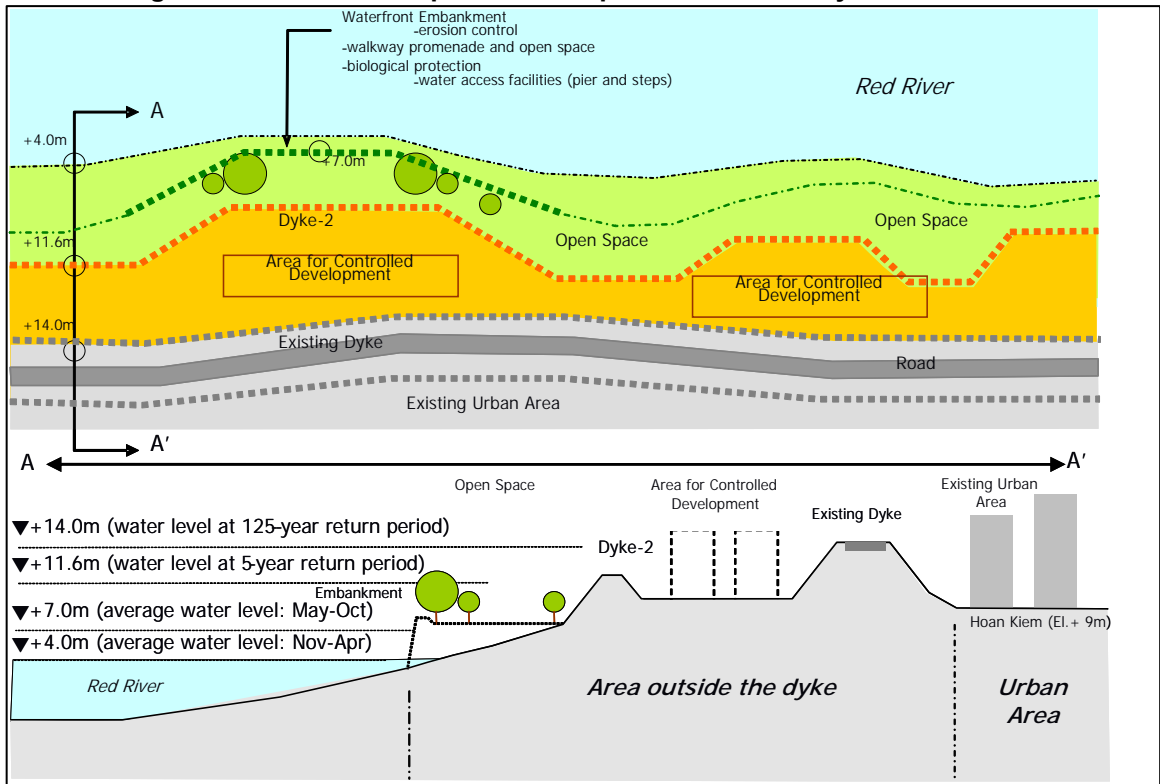
Source: HAIDEP Study Team.

(a) Basic Concept on Overall Use of Lands in Outside-of-Dyke Areas

Depending on the expected water levels and the provision of another dyke to protect legitimate residents and activities, the areas outside the dyke must first be broadly classified, as follows (see Figure 13.2.7):

- (i) **No Development Zone:** Areas lower than the average high water level (+ 7.0m) and those prohibited for development under the Dyke Law.
- (ii) **Open Space Zone:** Areas between the average high water level (+ 7,0m) and the water level of a 5-year return period (+11.6m).
- (iii) **Controlled Development Zone:** Areas between the water level of a 5-year return period (+11.6m) and the existing dyke (+14m).

Figure 13.2.7 Development Concept for Outside-of-Dyke Areas



Source: HAIDEP Study Team.

(b) Construction of Second Dyke

In order to protect legitimate residents as well as to create opportunities for new developments either for in-site resettlement and additional investments, the construction of a second dyke is proposed. Protected sections within the existing areas outside the dyke and which can be as safe as those inside the dyke must be ensured. The second, or supporting, dyke can be a minor dyke to protect the areas from flood with a 5-year return period (+11.6m), or it can be a major dyke which is the same as the existing dyke (+14m).

(c) Development Control

The areas to be protected by a major supporting dyke will be considered as ordinary urban lands and will be managed as such, while the areas to be protected by a minor supporting dyke will require strict management, since the areas will still be prone to

floodwaters of a 5-year return period. In principle, the land use must be nonresidential use or residential use with adequate protection measures.

On the basis of the above considerations, areas outside the dyke will be provided with ample opportunities for more effective development so that the Red River area can:

- (i) Provide a clearer legal basis for the residents and activities in areas outside the dyke.
- (ii) Integrate the existing urban areas with the Red River and its environs.
- (iii) Create opportunities for waterfront activities and enhance landscape of outside-of-dyke areas.
- (iv) Create opportunities for new urban and economic developments which generate additional economic benefits and tax revenues for the city.
- (v) Establish an improved image for the city by following the water-greenery-culture concept and through land-use zoning.

8) Implementation Strategy

Resettlement is the core issue to ensure the success of the proposed undertaking, a feat which can not be implemented overnight. Of the total of 216,000 people subject for resettlement, 32% or 78,000 need to be relocated in the short term because they are residing in protected areas and are thus considered illegal residents. The remaining 68% or 137,000 are to be relocated on a voluntary basis. At the same time, 28,000 need to be provided with adequate protection measures on site (see Table 13.2.6).

Possible resettlement measures are as follows (see Table 13.2.6):

- (i) The area where 28,000 people reside in will be protected by a second dyke.
- (ii) For other areas, a resettlement program need to be more carefully prepared based on further analysis of safety, legality, and existing conditions. However, it is proposed that the people can be resettled in and around the areas outside the dyke based on the formulation of a land-use and management plan for the areas outside the dyke.¹
- (iii) A strategic resettlement program needs to be formulated that will ease the government's financial burden by providing a more equitable share of cost and profit among stakeholders, value capture from developments, and, particularly, more active involvement of the private sector through an improved investment environment.

¹ A study on the Red River is ongoing with technical assistance from JICA.

Table 13.2.6 Development Orientation for Outside-of-Dyke Areas

Commune			District Name	Overall Land Use ²⁾	Estimated Population			Prioritized Areas and Measures		
Code ¹⁾	Zone No.	Name			For Resettlement			To Be Protected	For those to be protected	New Development
					Forced (short-Term)	Voluntary (Mid-Term)	Voluntary (Long-Term)			
L1	162	Dai Mach	Dong Anh	A, O	867	0	498	0		
L1	163	Vong La				615	1,036	0	0	
L2	164	Hai Boi		A	1,937	2,079	3,119	0		
L3	174	Vinh Ngoc		A	1,266	482	1,166	0		
L3	173	Tam Xa			0	0	0	0		
L3	172	Xuan Canh			609	618	818	0		
L3	171	Dong Hoi			1,216	462	1,118	0		
L4*	170	Mai Lam	T, I, O	937	562	375	0			
L4*	216	Yen Vien		76	955	258	0			
L4*	207	Thi Tran Yen Vien		2,557	205	0	0		Resettlement in area	
L5*	214	Duong Ha	A	1,423	0	0	0			
L5*	212	Phu Dong		370	2,212	645	0			
L5*	213	Trung Mau		0	0	0	0			
L6*	209	Le Chi	Long Bien	A	0	5,780	1,445	0		
L6*	228	Kim Son	Gia Lam		0	1,378	345			
L6*	226	Phu Thi			0	0	0	0		
L6*	227	Dang Xa			0	0	0	0		
L6*	218	Co Bi			0	0	0	0		
L6*	123	Hoi Xa			0	0	0	0		
L7*	116	Giang Bien			A	1,572	1,017	647	0	
L8*	117	Thuong Thanh	Long Bien	O	1,350	509	0	0		Resettlement in area
L9*	119	Ngoc Thuy		A	2,113	3,275	2,007	0		
L10	112	Gia Lam		O	3,064	1,501	0	0		Resettlement in area
L11	121	Bo De		O	597	2,458	0	0		Resettlement in area
L12	122	Long Bien		O,A	0	2,014	504			
L12	124	Cu Khoi			0	2,179	545	0		
L13	224	Dong Du	Gia Lam	R	0	2,099	0	525	Construction of 2 nd Dyke	
L14	208	Bat Trang		R	3,448	799	0	2,831		
L15	217	Kim Lan		R	1,681	1,555	0	2,157		
L15	223	Van Duc			0	3,859	0	2,573		
R1	180	Thuong Cat	Tu Liem	A	2,164	519	822	0		
R1	181	Lien Mac			0	114	170	0		
R2	182	Thuy Phuong		O	478	0	48	0		
R2	183	Dong Nga			1,507	121	196	0		
R3	20	Phu Thuong	Tay Ho	A	222	281	436	0		
R4	17	Nhat Tan		A	0	5,805	0	2,301	Construction of 2 nd Dyke	
R4	16	Tu Lien			802	5,656	0	1,831		
R5	15	Yen Phu		C	0	10,696	0	2,843		Resettlement in area
R5	1	Phuc Xa		Ba Dinh	6,884	7,802	0	3,955		
R6	37	Phuc Tan	Hoan Kiem	O	13,589	1,241	0	0		Resettlement in area
R7	38	Chuong Duong Do	Hai Ba Trung	C	10,173	6,994	0	4,802	Construction of 2 nd Dyke	
R7	47	Bach Dang			6,868	6,651	0	4,100		
R8	48	Thanh Luong	Hoang Mai	O	6,864	14,280	0	0		Resettlement in area
R8	105	Thanh Tri			1,717	2,061	0	0		Resettlement in area
R9	110	Linh Nam			A, R	0	4,820	3,213	0	
R9	106	Tran Phu	0	0		0	0			
R9	107	Yen So	0	0		0	0			
R10	194	Yen My	Thanh Tri	A	0	3,261	2,174	0		
R10	195	Duyen Ha			1,691	990	1,788	0		
R10	196	Van Phuc			0	4,178	2,785	0		
Total				No.	78,657	112,504	25,122	27,918		
				%	32.0	46.0	10.0	11.0		

Source: HAIDEP Study Team.

1) Codes refer to those in Figure 13.2.2 and Table 13.2.1

2) Symbols denote as follows: A = agriculture, O = open space, T = transportation, I = industry, R = residential, C = commercial.

13.3 Thang Long – Co Loa Zone

1) Context

Thang Long-Co Loa zone is composed of the Co Loa and the Thang Long citadels, Ho Tay, the Ancient Quarter, and the Red River. The zone is the core of Hanoi in all aspects, especially in the cultural and spiritual sense and has contributed to establishing the strong identity of Hanoi. It is a shared understanding among the people of Hanoi that this identity must be further strengthened and passed on for future generations to appreciate. And if proper measures will be introduced, there will be ample opportunity for a competitive economic development while preserving culture and enhancing social and environmental aspects.

However, this development orientation, as expressed in the 1998 Master Plan, have been negatively affected by increasing urban development pressure and insufficient measures to manage and control the development process. Within the zone, areas are not integrated at both physical and nonphysical levels. Physical connection does not mean a big bridge connecting two sides; it can take the form of a “path” through which environmentally friendly transportation modes, including walking, nonmotorized vehicles, electric-powered small vehicles, water transportation, etc., can be adopted. Moreover, views are interrupted by the dyke which has cut off the river space, including the areas outside the dyke, from the main urban areas. Uncontrolled development in the areas outside the dyke has further spoiled the integration of both sides of the Red River and the main urban areas with the Red River space. When this trend further continues without any planned and strategic interventions, the value of the areas as well as the city will be much reduced in the future.

2) Proposed Development Orientation

While the overall orientation is set in the HAIDEP General Plan, it is further necessary to formulate a more specific master plan to provide specific guidance for the development and management of this important zone. The master plan for the Thang Long-Co Loa zone must be an integral part of Urban Master Plan and the District Plan, and should be supported by necessary institutional arrangements proposed in the HAIDEP.

As the zone will be the core of Hanoi’s urban system in all aspects, it is expected to play a critical cultural, environmental, social, and economic role in a much more enhanced and coordinated manner especially among the subzones (see Table 13.3.1).

Table 13.3.1 Expected Function of Co Loa – Thang Long Zone

Function	Co Loa		Thang Long Citadel	Ho Tay		Ancient Quarter		Red River	
	Citadel	Buffer Areas		Water-front	Buffer Areas	Core Area	Buffer Areas	Water-front	Buffer Areas
Cultural	A	B	A	B	B	A	B	B	B
Environmental	B	B	B	A	B	B	B	A	A
Social-Recreational	B	A	B	A	B	A	B	B	B
Economic	C	B	C	C	A	A	A	C	B

Note: Symbols denote the following: A = very important role, B = important role, C = less important role.

In spatial and physical planning, due consideration must be given to the following (see Figure 13.3.1):

- (i) To ensure an uninterrupted vista along the Thang Long-Co Loa axis by clearing existing facilities and restricting future developments.
- (ii) To construct transportation facilities connecting Thang Long and Co Loa such as:
 - A bridge across the Red River for pedestrians and light vehicles.
 - Tram line using the expanded Long Bien Bridge.
 - A ferry across the Red River for pedestrians and light vehicles.
- (iii) To restore heritage sites and improve the Co Loa citadel and its adjacent areas.
- (iv) To redevelop the areas outside the dyke of the Red River to ensure the development vision and objectives.
- (v) To develop the Dong Hoi and Xuan Canh areas in a way that they match the development vision of the project. Development must be low density, high value with rich cultural and environmental flavor.

3) Development of a Cultural Core

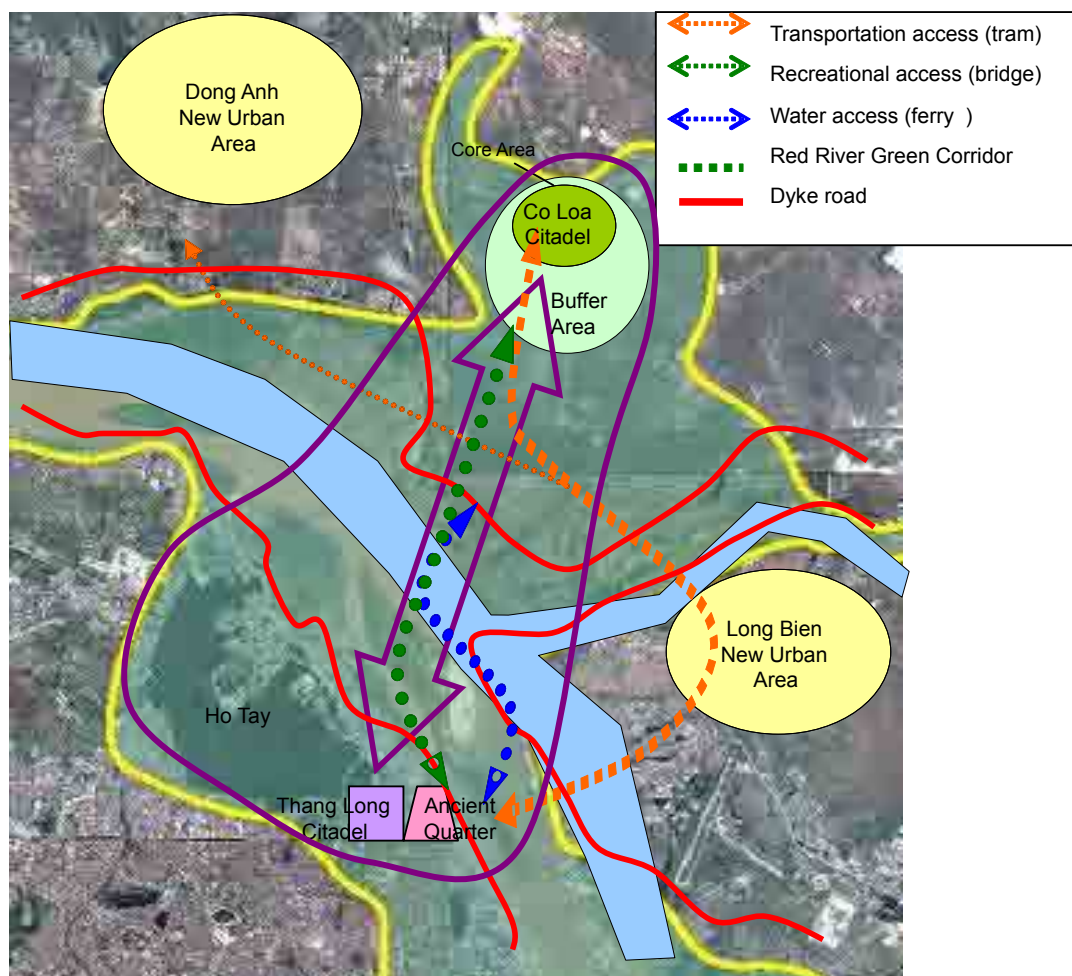
It is also proposed that a spiritual core in the heart of Thang Long-Co Loa zone be developed by constructing the proposed multipurpose 300-meter-high Hong Ha Tower at the end of Thanh Nien Street in the area outside the dyke. This complex intends to provide the people with: (i) a bird's eye view of Co Loa, Thang Long, Red River, and the entire urban setting of the city from a 200-meter-high observatory; (ii) an opportunity to appreciate the waterfront of the Red River directly and indirectly; (iii) a large gathering and events area (10-hectare plaza); (iv) a meditation area in the spacious plaza; (v) access to various services that are expected to be developed in the complex including museums, cultural centers, shopping facilities, conference and meeting halls, and so on. The tower can also provide good investment opportunities for the private sector to participate, such as TV tower, MICE facilities, commercial/business and tourism facilities, etc. If the scheme is properly designed, there would be a good chance for this project to be implemented on a BOT or a PPP arrangement (see Figure 13.3.2).

4) Orientations for Implementation

While the overall development will be guided by the proposed institutional framework, regulations, and guidelines, there is also a need to undertake further actions to ensure that the zone develops in the desired direction, as follows:

- (i) Designation of Co Loa – Thang Long Zone
- (ii) Formulation of specific master plans which will be an integral part of the overall master plan for the zone.
- (iii) Identification of action plans and projects wherein role sharing between the public and the private sectors is clearly defined.
- (iv) Establishment of a special management board or mechanism to promote implementation and monitoring of the actions/projects with the active involvement of stakeholders particularly the affected people and communities.

Figure 13.3.1 Preliminary Development Concept for the Thang Long - Co Loa Zone



Source: HAIDEP Study Team.

Figure 13.3.2 Image of the Proposed Cultural Core in the Thang Long - Co Loa Zone



13.4 Ancient Quarter

1) Context

Due to the internal and external impacts of rapid urban development, a serious concern is that the Ancient Quarter is at risk of losing its traditional values. Hence, there is a need for a common vision and sustainable development solutions to preserve and revitalize the area's cultural values, while improving its living conditions and strengthening its socio-economy in a comprehensive manner. Since traditional houses in the Ancient Quarter have become seriously degraded, living conditions especially sanitation conditions affect residents' health and social relationships. Traditional values in the Ancient Quarter are not merely physical ones but also intangible assets such as traditional commercial space, indigenous knowledge of crafts, and social networks among residents and original rural areas.

The Ancient Quarter in its long history has been constantly developed and transformed its landscape significantly, as is clearly seen when photos taken at different periods of time are compared. The changes took place in relatively short period of time and in fact are now obviously taking place. Many buildings rebuilt without compliance to regulations, residents and business activities have been changing, too. As urbanization makes progress, traffic congestions increase, and the environment deteriorates. In spite of the above, the Ancient Quarter remains one of the city's charms, attracting an increasing number of foreign and domestic tourists and visitors and maintaining its identity.

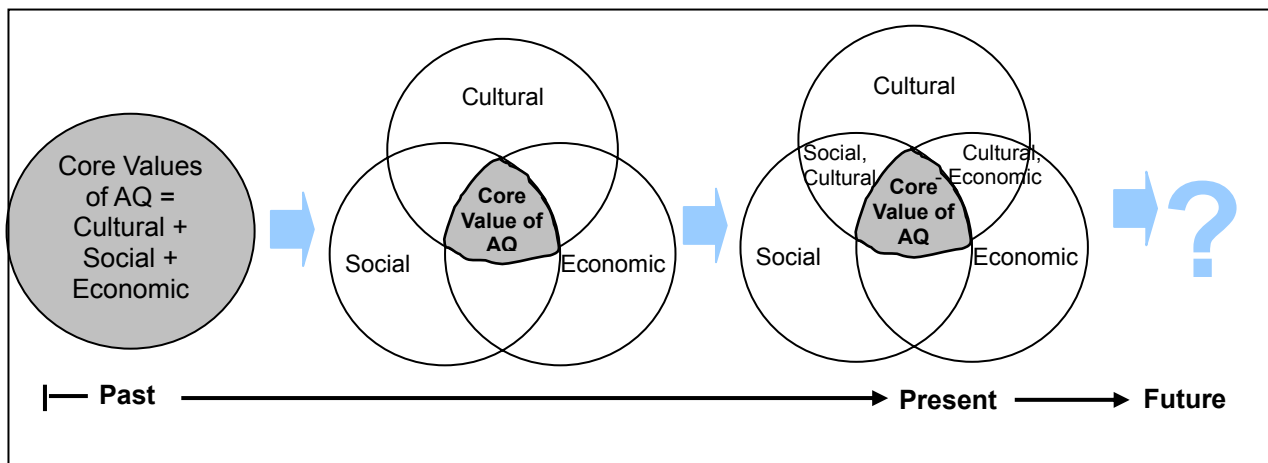
What is the core value of the Ancient Quarter? This question has not been answered clearly. Is it the historical buildings, the streets, the landscape, the festivals, the traditional business activities, the street scenes, or something else? In HAIDEP, this topic was intensively discussed in stakeholder meetings and raised in various questionnaire surveys.

The values of the Ancient Quarter are rooted in its diversity, especially cultural, architectural and economical aspects. Historically, Ancient Quarter has had multiple functions of living, commerce, and culture. While tangible values, such as traditional townscape, ancient houses, and traditional commercial activities have either disappeared or changed, the older generation who has lived in the Ancient Quarter for a long time remembers the values of the Ancient Quarter. It can be defined that "The core value of the Ancient Quarter is the overall tone and atmosphere with vital economic and living activities and traditional cultures which have been come down and respected by residents." No individual elements can stand out for the identity of the Ancient Quarter, but harmonization of tangible and intangible values can represent it. The values of Ancient Quarter cannot be divided clearly because the functions of the Ancient Quarter are diversified and values are overlapping each other (see Figure 13.4.1).

The plan for the Ancient Quarter should focus on how to preserve these traditional values, improve living conditions, and strengthen economic foundation, with the proactive participation of both residents and the government in planning and implementation.

Based on the results of the Block Interview Survey of Hang Buom (253 households), most of the residents have respect for religious buildings and religious festivals and believe that these deserve prominence and need to be preserved or revitalized. Since these religious buildings have been encroached upon and residents have difficulties worshipping in them, the Ancient Quarter has somehow lost some of its spiritual energy.

Figure 13.4.1 Core Value of the Ancient Quarter



Tube houses and streets are also tangible elements which need to be revitalized. These are the physical spaces that preserve the image of the Ancient Quarter and the traditional commercial activities that take place in it. However, many residents mentioned that they cannot respect these spaces at present since the lifestyles at home and on the streets have changed because of the area's degraded physical conditions. While intangible elements may be difficult to preserve physically, tangible elements, such as buildings and streets, can be the guardians to protect these intangible values.

Table 13.4.1 Assessment of Traditional Culture

	Current Condition			Necessity		
	Prominent	Lost	Encroached Upon	Changed	Preservation	Revitalization
1. Religious buildings	100	10	61	19	151	81
2. Traditional tube houses	27	57	44	69	50	95
3. Street (townscape, house structure)	31	34	41	77	58	89
4. Gastronomic culture	116	29	25	39	65	71
5. Commercial-cultural atmosphere	68	40	16	60	32	39
6. Knowledge of handicraft	25	77	20	55	26	50
7. Occupational relation	28	50	18	61	28	32
8. Close relation with original villages	31	52	19	54	25	40
9. Family lifestyles	69	16	27	82	55	62
10. Clan relations	72	14	19	61	61	52
11. Religious festivals	107	13	7	18	121	59

Source: Interview Survey of Hang Buom Block, HAIDEP, 2005.

2) Residents and Communities to Play a Key Role

Throughout the Ancient Quarter's history its residents and communities who were originally organized by business type and street have played a central role in making the area a dynamic marketplace and living quarter. A survey made in HAIDEP revealed that intangible values, such as social network, traditional economic activities, festivals and events, and lifestyles, form the core of the value of the Ancient Quarter and that these have been sustained mostly by residents and communities. However, these same key characters currently face various difficulties both due to internal and external factors.

The integrity of the communities and the social network has gradually been lost as old residents are replaced by in-migrants and by the younger generation who are less inclined to become immersed in local community affairs or in strengthening the socio-economic linkages between the Ancient Quarter and the hinterland villages. Other causes are the increasing new developments from external investors which have replaced traditional businesses, the widening income disparity among residents in the Ancient Quarter, and so on. The basis for socio-economic stability and integrity in the Ancient Quarter communities has become weak. Results of the HAIDEP HIS showed the following characteristics of households in the Ancient Quarter (see Table 13.4.2):

- (i) While households in the Ancient Quarter earn much more than the average households in Hanoi, income disparity among the former is large. Fifteen per cent (15%) belong to the lowest household income category (receiving less than VND 1.5 million/month) compared to 9% of Hanoi's average. Meanwhile, 30% of households in the Ancient Quarter belong to the highest category (receiving more than VND 4 million/month) compared to 15% of Hanoi's average.
- (ii) Households in the Ancient Quarter live in houses with living spaces at about half of Hanoi's average living space and that are more than twice older than Hanoi's average housing age.

Living conditions in many parts of the Ancient Quarter are considered among the worst in the city. Traditional tube houses are densely inhabited without proper maintenance and are rebuilt to adjust to changes in the residents' lifestyles. Utilities have become obsolete and damaged, natural lighting is limited, ventilation is constrained, foul odor from poor drainage permeates the air. However, improvement of poor living conditions is constrained due to the people's lack of financial capacity and the serious space constraints in the Ancient Quarter. Poor living conditions have likewise undermined the people's motivation and initiative in engaging in traditional cultural and social activities.

Table 13.4.2 Profile of Households and Their Living Conditions

Indicator		Ancient Quarter	Hanoi	
Area (ha)		100	92,097	
Net Population Density (pax/ha)		603	36	
Household	No. of HHs	14,374	760,000	
	Ave. No. of HH Members	4.2	4.3	
	Ave. HH Income (VND000/month)	3,577	2,567	
Income Level (VND mil./ month/HH)	Low	Under 1.5m	15.4	9
		Middle	12.3	18
	High	2.0-3.0m	23.7	18
		3.0-4.0m	18.3	23
		More than 4.0m	30.3	15
Housing Conditions	Average Space (m ²)		44.0	88
	Living Area per Person (m ² /pax)		10.5	20.5
	Ave. No. of Rooms		2.6	3.7
	Ave. House Age (years)		74.9	32
	Duration of Residence (years)		54.7	-
	Housing Ownership	Privately Owned	77.4	92
		State-owned	19.8	
Land-use Right (% of privately owned)		75.2	89	

Source: HAIDEP HIS, 2005.

3) Approach to Sustainable Development

While there is consensus about the role of the Ancient Quarter as the city's core and that it should represent the city's identity, more elaborate image and plan on this role and the future of the Ancient Quarter remain unclear. Although there are a number of useful studies and undertakings done in the past, these do not provide a comprehensive picture and orientation for the future development of the Ancient Quarter. The image of the Ancient Quarter that must be promoted is briefly stated as follows:

“The Ancient Quarter is a livable and competitive traditional commercial and living quarter with a unique identity characterized by an exquisite blend of cultural, social, economic, and living functions.”

Hence, the important elements that must be incorporated in planning and developing the Ancient Quarter should include the following:

(a) Building of Adequate Spatial Structure

Increasing living spaces, as well as those for social and economic activities, and enhancing traditional physical value and landscape with due consideration to the following:

- (i) to improve living conditions and increase the opportunities for livelihood and business;
- (ii) to strengthen social cohesion through an improved economic base and quality of life;
- (iii) to respond to new investment and address development needs;
- (iv) to restore or expand public spaces.

(b) Enhancement of Economic Development

As the Ancient Quarter has developed into the most significant marketplace in the city, its economy has been a core component of the Ancient Quarter's system. Demand for new investments has been very large, while traditional businesses have suffered from various difficulties due to low productivity, poor management and lack of capability as well as capacity to expand and modernize, among others. Since the Ancient Quarter's economy must be an integral part of the area's cultural and social components, there is a need for the government to establish an adequate institutional framework and implementing guidelines on the preferred types of business and the management of such, as well as on the effective support mechanisms for traditional business households. Businesses that do not strengthen the image of the Ancient Quarter must be strictly controlled through a separate set of regulations.

(c) Strengthening of Social Integrity

Residents and communities must be placed more in the center of management and development of the Ancient Quarter. They must be proved with more solid basis of living through improved living conditions, stable economic basis, strengthening social network and more time to spare for appreciating history and cultural aspects, and involvement of social and community activities to enrich the Ancient Quarter environment.

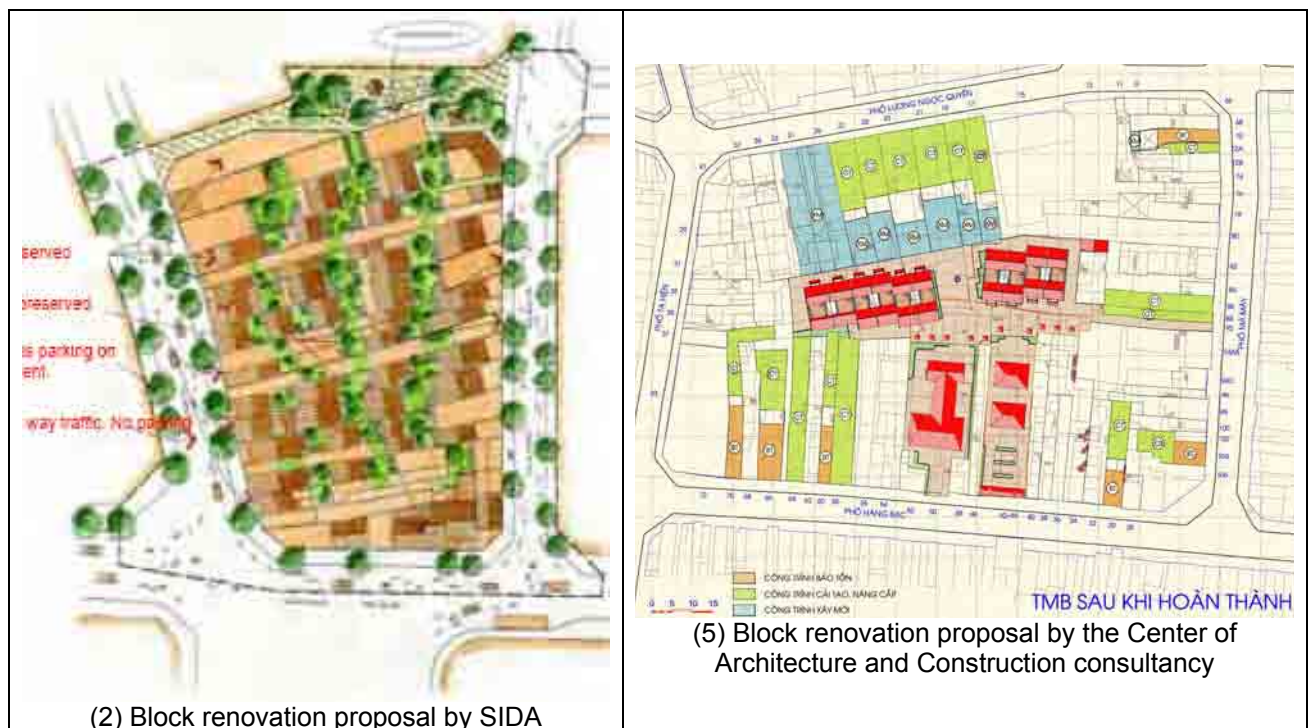
(d) Cultural Preservation and Development

The cultural value of the Ancient Quarter is complex. It is the fusion of tangible and intangible values, physical setting, and people’s lifestyles as they evolve through time. The cultural value of the Ancient Quarter is not static, but dynamic. For this, a thorough assessment of the area’s tangible and intangible values must be made to determine which should be preserved, restored/revived or enhanced/developed. The adoption of new cultural values that embody contemporary times is another responsibility and should add to the “culture bank” of a living and continually evolving Ancient Quarter.

(e) Design of Urban Space

Landscape, especially the views from the streets, is a critical tangible value of the Ancient Quarter. While the control of building heights and the coordination of building facades are important, what is more crucial is preserving and enhancing traditional and cultural values as an integrated physical setting, including the design of buildings, facilities, and street furniture; the organized use of road space; the creation of attractive public spaces; the control of the overall landscape; and the provision of safe and comfortable space for street activities. The concept of total design of urban space and activities must be elaborated for the Ancient Quarter (see Figure 13.4.2).

Figure 13.4.2 Proposed Block Renovation Plan for Hang Buom



(f) Improvement of Infrastructure

Improvement of infrastructure, including drainage, sewerage, water supply, telecommunication, pavement, etc., is important to support a much enhanced and sustainable development of the Ancient Quarter. Priority for infrastructure development must be placed on those living under poor conditions. Except for immediate rescue measures, infrastructure improvement/development must be implemented in a synchronized manner with overall area improvement/development as is demonstrated in the block renovation plan in Hang Buom (see Figure 13.4.2).

(g) Traffic Management

Traffic management is critical and must be attended to immediately with provisions for future demands. It is easy to blame excessive use of motorcycles, undisciplined use of road space for parking, poor traffic enforcement, etc. However, traffic problems are the results of much more complex urban problems. Basic principles to consider when addressing traffic issues in the Ancient Quarter are as follows:

- (i) Effective use of limited road space: In the Ancient Quarter, road space is limited and cannot be expanded, while the demand is high and is expected to become higher. Priority among road users must be more clearly set.
- (ii) Since the Ancient Quarter is designed for pedestrians and small vehicles, larger vehicles, such as cars and trucks, must be controlled by limiting their access during certain hours of the day.
- (iii) Motorcycles must be classified according to those owned and used by residents and those by visitors. Priority must be given to the former; while for the latter adequate levels of parking fee must be charged.
- (iv) Through traffic in the Ancient Quarter must be eliminated. One method is to introduce two types of sticker: one for residents and has no fee, and another for visitors with a fee (daily or monthly). Those without stickers will not be allowed to enter the Ancient Quarter.
- (v) Roadside parking for motorcycles must be provided in an organized manner together with an improved charging system. In addition to a fixed amount, a time-based fee must be introduced, especially where the demand is high. Parking space must be provided on the carriageway rather than on the sidewalks, unless the sidewalk space can sufficiently accommodate it. Sidewalks are an important space for residents, visitors, and other activities in the Ancient Quarter.
- (vi) Traffic control in the Ancient Quarter must be strengthened by setting the speed limit of motorcycles to that of bicycles, expanding pedestrian paths and priority at crossings, and widening sidewalks where appropriate.
- (vii) The walking environment must be improved by taking back sidewalk space from excessive parking and vending use, installing proper street furniture, improving safety and amenity for walking at night and in bad weather, etc.

4) Long-term Improvement Concept

The Ancient Quarter is the most valuable asset of the city today, and it is expected to remain so in the future. It is not simply an environment that must be preserved, but a place for redevelopment. As discussed in earlier sections, the key concept is “living preservation,” meaning the core value of the area should be preserved while developing its social and economic aspects to match the needs of the people and the urban economy. The Ancient Quarter will always be a place for people to live in and for communities to develop. It will continue to be a dynamic marketplace where diverse traditional and modern commercial and business activities will flourish side by side. It will be a place where pedestrians will be given topmost priority in traffic movement and for which a clean, healthy, and safe environment will be ensured. With a myriad of tangible and intangible assets, the Ancient Quarter will always be a place steeped in culture, history, and beauty, where the residents take the lead in its preservation and development.

5) Proposed Management Mechanism

(1) Development Process

In the Ancient Quarter, there are about 70 streets and 70 blocks. While economic activities are promoted in streetfronts, livelihoods and community relations are rooted and strengthened inside residential blocks. To strengthen street identity while retaining economic competitiveness and improving living conditions imbued with traditional value, an integration of: (i) block redevelopment planning, (ii) street development planning, and (iii) business model establishment, together with community participation, will be effective. This proposed planning approach, in integration with other measures such as consensus building, funding, management, and monitoring, is one of the elements of the proposed implementation mechanism (see Figure 13.4.3).

(2) Management Mechanism

A key to the sustainable development of the Ancient Quarter is the establishment and the effective operation of a management system for the area, with clear role-sharing among all stakeholders. At the center of such management system will be the Ancient Quarter Management Board (AQMB) with its new roles and functions.

In its new role, the AQMB should widen its function as well as the extent of its intervention. Its new functions should involve enforcement, promotion, and coordination of the development of the Ancient Quarter not only on the physical aspect but also in terms of economic development and cultural preservation.

The enforcement function includes: (1) building up effective, practical legal platform for the preservation and the development management of the Ancient Quarter in the physical, economic, and cultural aspects; and (2) collaborating with other agencies and local governments to enforce these regulations and guidelines and oversee the actual situation.

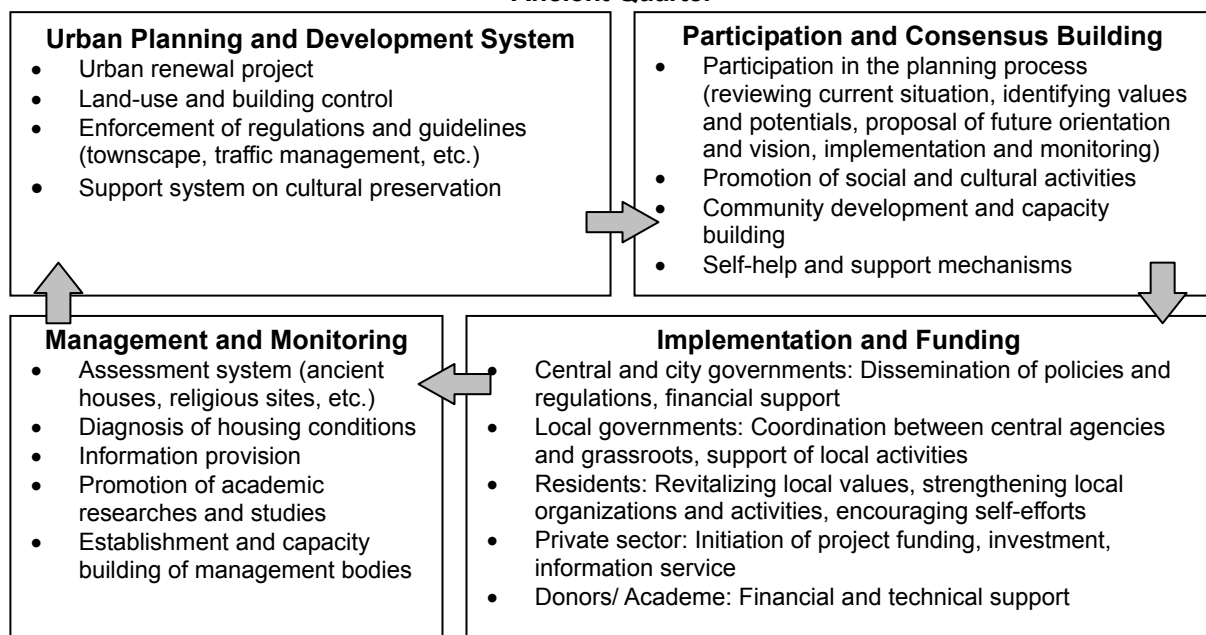
The promotion function involves the tasks of: (1) developing a long-term vision, objectives, and master plan; (2) periodically reviewing these strategies and action plans; as well as (3) looking for ways to mobilize and pull various resources into a single fund for the development of the area.

Other than these, the AQMB must function as coordinator along three axes: (1) the vertical axis linking the central level of government, Hanoi PC, Hoan Kiem district PC, phuong PCs, and communities; (2) the horizontal axis linking the stakeholders in various sectors such as: ministerial agencies, departments, related organizations, and various types of associations (crafts, business, communities); and (3) the third axis linking the Ancient Quarter with international donors, NGOs, NPOs or international academic societies.

To accomplish these new roles and functions, the AQMB should be reorganized. Its structure may include the board of directors at the top and a number of divisions responsible for clearly defined tasks. The two should be coordinating with each other. The AQMB should have at least the following divisions: administrative office, cultural office, urban management office, economic development and management office, project promotion office, achievement office, inspection office, and community support office.

The management system of the Ancient Quarter must also define the role-sharing among various stakeholders, in which governments at different levels, the community, and the private sector are the three principal players.

Figure 13.4.3 Proposed Implementation Mechanism for the Sustainable Development of the Ancient Quarter



6) Proposed Business Model for the Ancient Quarter

The preservation and the development of the Ancient Quarter cannot be achieved by individual effort; the collective strength of all stakeholders and the harnessing of potential business opportunities and financial resources are needed. However, current constraints being faced of the Ancient Quarter is the lack of an organized network, coordination, and financial resources. To establish a sustainable preservation and development mechanism for the Ancient Quarter, it is thus significant to establish a proper business model wherein the main actors to implement actions and projects are the residents using local resources.

The proposed business model mainly consists of: (i) Ancient Quarter Fund, (ii) newly established organizations, (iii) funding organizations, (iv) technical support organizations, and (v) beneficiaries. As the main engine of this business model, the “Ancient Quarter Fund” shall be established to be used for projects and activities which aim to improve the social, physical, and cultural environment of the Ancient Quarter. As the main implementation bodies of the business model, four (4) new organizations shall be established: (i) a community development organization (CDO) to promote and manage the activities of local community organizations (LCOs), (ii) a one-stop agency (OSA) to provide advice, information, and coordination for interested parties, i.e. citizens, private enterprises, and tourists, on services related to the Ancient Quarter, (iii) a special purpose company (SPC) to implement urban development projects (housing development, renovation of public facilities, etc.), and (iv) LCOs comprising local volunteer residents to promote social and cultural activities, community businesses, public services, etc. Social contributions to and earnings by these organizations can be mobilized to preserve and develop the Ancient Quarter in a sustainable manner.

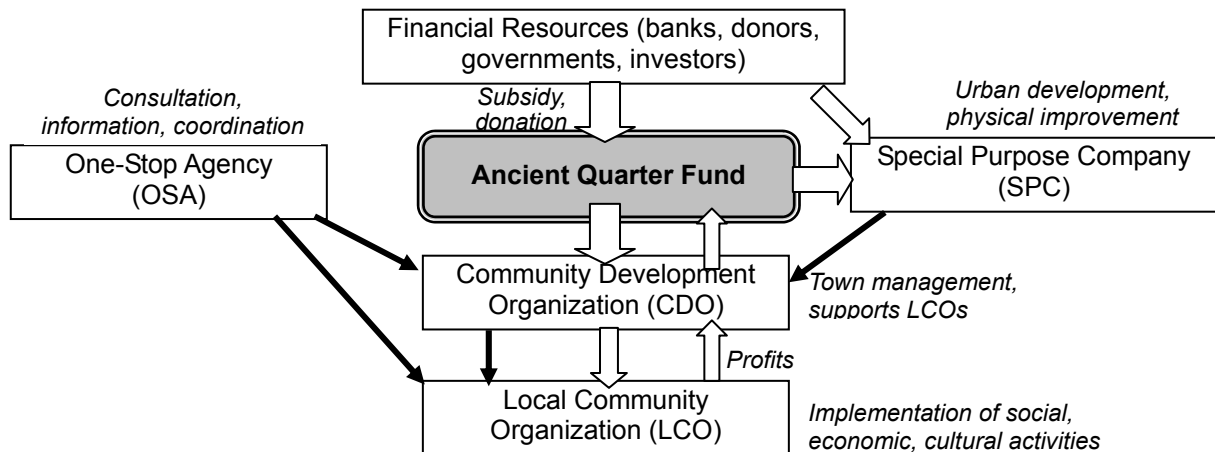
- (i) How to identify the core values of the Ancient Quarter crosscutting the cultural, social, and economic aspects.
- (ii) How to preserve and revitalize them.

- (iii) How to balance cultural preservation, socio-economic development, and physical improvement.
- (iv) How to reach a consensus with the stakeholders including governments, residents, citizens, the private sector as well as national/ international society on the values that need preservation/development and the approach to take to ensure the sustainable development of the Ancient Quarter.

What is necessary is to preserve the remaining values and revitalize them through redevelopment and reconstruction of the physical environment, as well as the collection of memories, stories, opinions, and knowledge. In addition, a balanced harmonization of these values and activities is necessary, since economic pressure and modernization may destroy traditional values together with the people’s memories of the place.

Since the streets and blocks can be the core for sustainable development as these are the minimum levels of economic activities as well as communities and livelihood in a tangible and intangible manner, local stakeholders need to consider how they can sustain their cultural and spiritual life while pursuing economic development.

Figure 13.4.4 Proposed Business Model for the Ancient Quarter



13.5 Ho Tay Waterfront Area

1) Context

Ho Tay (West Lake) is expected to form one of the most important components of the city's envisioned cultural and environmental backbone which will follow the water-greenery-culture concept. In the past, there were 16 ancient villages around the lake; but now, they have almost disappeared and with it, the area's charm and character. The waterfront areas are mostly for private use, and public access to the lake is limited. This issue has become more important as there is a need to meet the people's increasing demand for recreation. Degraded water quality and ecological system are also critical concerns. Past and ongoing developments which were or have been uncontrolled or lack strategic planning have negatively affected the surrounding land uses and environment and have reduced the economic development opportunities both in the waterfront areas and in the hinterland.

2) Proposed Development Concept

The potential of the Ho Tay area must be tapped to the maximum extent. Because of its rich resources and large size, the area must be transformed into an integrated new urban center enriched with water resources, as well as greenery, and infused with culture. The Ho Tay area can provide the largest water space for landscape improvement, recreation, and probably aquaculture. Greenery can easily be expanded by planting different varieties of trees and plants. The remaining ancient villages, temples, and pagodas dotting the landscape can form a strong cultural basis when they are fully restored and integrated. Based on the water-greenery-culture concept, the surrounding areas can be further developed or redeveloped in a blend of modern and traditional design to create a new political and economic center. Especially, an integrated development with the proposed UMRT Line 2, which will pass along the west and south coastal areas, can provide a great chance to implement development/redevelopment plans.

The proposed development concept for the Ho Tay area is as follows (see Figure 13.5.1):

- (i) The area will be broadly classified into nine zones, each of which shows a specific image.
- (ii) The zones will be connected by a network of footpaths along the coastline which will also integrate various cultural spots and villages. The footpath network will also interface with water transportation routes.
- (iii) Selected locations along the waterfront will be recovered by relocating the establishments currently occupying the spots or by improving the existing spaces and connecting them to the proposed footpath network.
- (iv) In the cultural villages open spaces will be secured and connected to the footpath network. These spaces can be used for commercial and other purposes at the discretion of the village people.
- (v) A new landscape and skyline will be developed through guidelines and a planned development.
- (vi) The Ho Tay water surface will also be used as part of the footpath network.

The main physical development concepts relating to the water-greenery-culture concept are further explained as follows (see Figure 13.5.2).

(1) Water

- (i) Connect West Lake with the Red River and the To Lich River to create a continuous water system.
- (ii) Improve the To Lich River section along Thuy Khue Street to make it a dominant urban and landscape element.
- (iii) Redevelop the system of lakes east of West Lake and belonging to Nghi Tam, Yen Phu, Tay Ho, and Quang Ba villages.
- (iv) Redevelop the water system in the area outside the dyke into an attractive entertainment park, connecting to the Red River to form a bigger network of water bodies.
- (v) Provide the public access to the waterfront from several areas.

(2) Greenery

- (i) Large green parks will be located in the area outside the dyke.
- (ii) Trees will be planted all over the lakefront.
- (iii) Each traditional village will have a park planted to a typical tree species.

(3) Culture

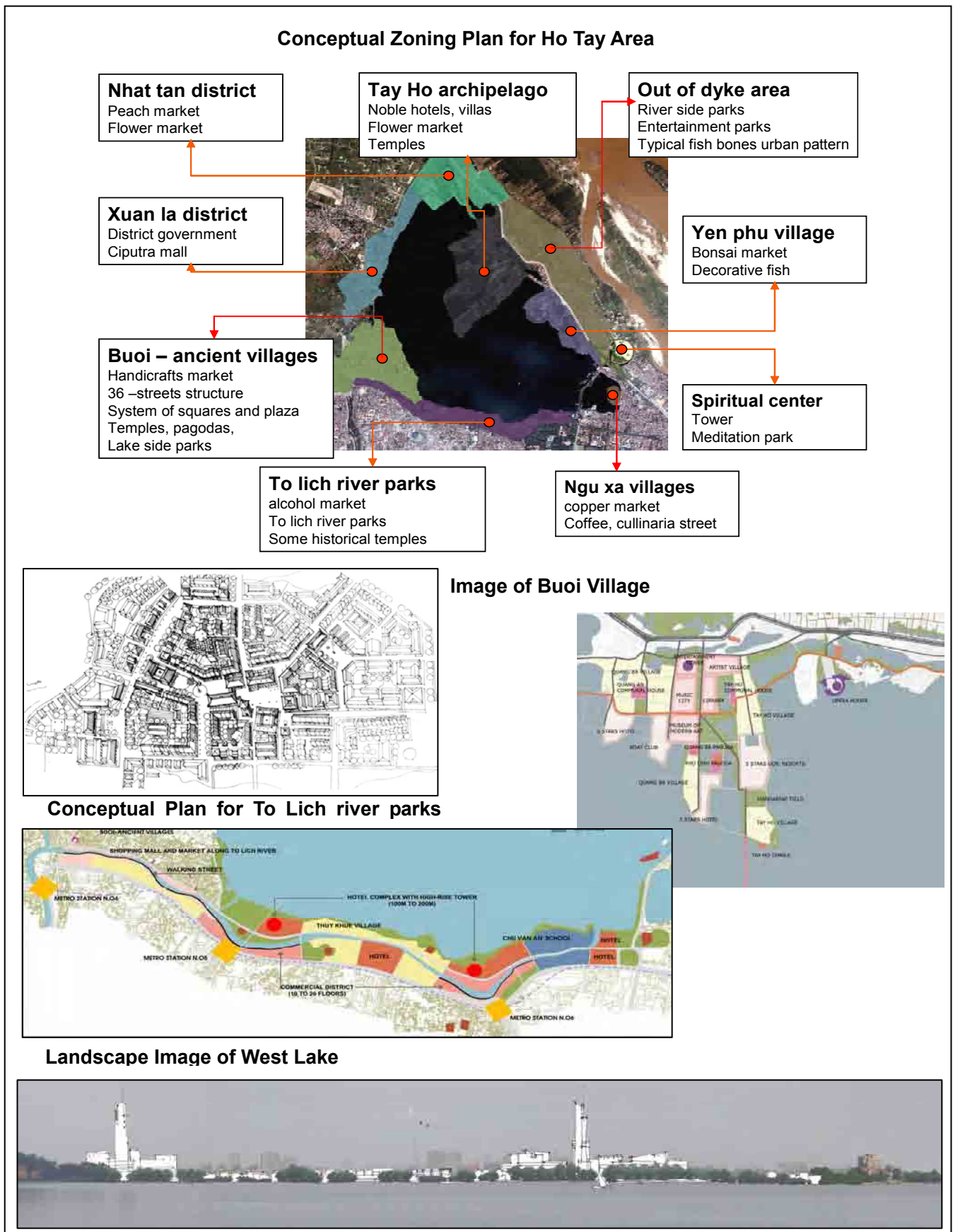
- (i) Restore the historical places, like temples, pagodas, and communal houses, and make the surrounding areas public spaces.
- (ii) Redefine and improve the traditional villages, transforming them into vital urban districts and providing them with markets selling traditional products made by these villages.
- (iii) Make the Tay Ho peninsula into a modern cultural center with an opera house, library, museum, artists' village, etc.

3) Proposed Implementation Strategy

In order to revive the Ho Tay area and make it a new urban center, the proposed strategies include the following:

- (i) Formulate a specific master plan for the area in compliance with the overall Master Plan for the city and identify action areas for which detailed plans will be prepared.
- (ii) Formulate a set of guidelines on the preservation and development of the area, particularly on investments by the private sector.
- (iii) Establish an effective management and monitoring mechanism for each action area with the involvement of the communities.

Figure 13.5.1 Development Concept for the Ho Tay Waterfront Area



13.6 French Quarter

1) Overview and Context

The French Quarter is located in the southern part of the city center, bounded by Trang Thi and Trang Tien streets in the north, Dai Co Viet and Tran Khat Chan streets in the south, the Vietnam Railway line in the west, and Tran Quan Khai and Tran Khanh Du streets (the dyke road) in the east. When the nation was known then as Tonkin during the French colonial period from the end of 19th to the early 20th century, the quarter's wide boulevards and tree-canopied streets were developed. Colonial-style mansions and villas, set behind walls and street trees, were the symbols of Hanoi City which was then called the "Petit Paris in Asia." Most of the beautiful architectures and civil engineering structures, such as the Indochina longitudinal railway (Hanoi - Saigon), the Long Bien Bridge across the Red River, and the Opera House, were constructed by French architects and engineers during this era. These French-style buildings have been used as public facilities (ministries, hospitals, libraries, museums, embassies, etc.). In addition to unique architectures, various scales of parks and lakes have created beautiful landscapes and atmosphere. The area's tranquil ambience has attracted various interests such as politics, diplomacy, and economic activities. Since the end of the nineties, high-rise buildings have been constructed and many foreign-capital companies and hotels have been established in the area.

However, as urban development pressure increases and the living environment worsens, the value of the French Quarter is being threatened. New developments do not always conform to the desired image for the area and deteriorating living quarters make the life of the residents difficult. While the area has a well-planned urban structure, spacious roads with wide sidewalks and plentiful street trees, heritage sites, lakes, and parks, unless new developments are guided and existing living quarters are upgraded properly, the French Quarter may lose its charm and fail to enhance the image of the city.

2) Key Considerations

In the future, the French Quarter must provide space for competitive economic development and attractive urban living and services for the people, visitors, and investors alike. As many reputable cities in the world maintain urban centers which are both steeped in historical value and equipped with efficient, modern infrastructure thereby attracting quality investments and tourists, the French Quarter needs to further strengthen its image. To achieve this, due consideration must be given to the following:

- (a) **Total Urban Design:** The French Quarter must be planned in totality so as not to lose its aesthetic charm and to enhance the living conditions and development opportunities. The physical, economic, social, and cultural aspects need to be planned and designed comprehensively. The quarter's future development should not be physically oriented, but instead should rely on strengthening its competitiveness by taking advantage of its existing physical and economic conditions. In addition, its natural and cultural assets should be preserved to enhance its appeal.
- (b) **Urban Competitiveness:** The French Quarter has potential for competitive urban development in terms of convenient location, sufficient urban infrastructure, rich culture and tradition, beautiful landscape, and dynamic economic activities. The Ancient Quarter and the French Quarter shall become twin urban centers in the future, with the former serving as a traditional commercial quarter with a highly preserved

cultural aesthetics, while the French Quarter will be more into economic and political functions. By taking advantage of foreign investments, commercial and business activities in the city will diversify and help in moving the city toward deeper integration with the global market.

- (c) **Infrastructure:** Infrastructure, especially the transportation network in this area, is sufficiently developed. The streets in the French Quarter with its grid pattern, expansive sidewalks, numerous street trees, and fascinating streetscape have a unique charm and character that should be preserved as one of Hanoi's most precious cultural assets. Parking areas should be developed, and traffic safety should be enhanced.
- (d) **Natural and Cultural Values:** Unlike the narrow and occupied sidewalks in the Ancient Quarter, the wide, tree-lined sidewalks in the French Quarter enable citizens and visitors alike to enjoy a safe and convenient walking environment. Pedestrian environment should be further improved to create a green network in combination with the preservation of various architectural assets, parks, and lakes. To preserve the original landscape of the boulevards and ensure harmony between historical structures and new buildings, urban development controls on building heights, FAR, etc. should be imposed.

3) Proposed Strategies

The proposed UMRT network can provide a great opportunity to promote the envisioned development for the French Quarter. The UMRT network, comprising lines 1, 2, and 3, can effectively cover the city center, including the French Quarter, rendering the latter accessible within 5-10 minutes of walking. This further makes the following developments possible:

- (i) Prohibiting or restricting the entry of private vehicles into the city center, including the French Quarter, since the UMRT can already be an effective alternative transportation mode to reach and move around the area. The provision of car/motorcycle parking in the periphery of the city center in integration with UMRT station development will also be an effective measure.
- (ii) Redeveloping and revitalizing the areas around the UMRT stations become highly feasible. An integrated development of the underground space for commercial use and parking will be effective in improving the urban structure and transportation at the same time.
- (iii) Improving accessibility to the premier urban center will further enhance the function and value of the French Quarter, thereby promoting a public-transit-based urban center.

13.7 Proposed Development Orientation for Special Areas

1) Goals and Objectives

Designating and planning special areas are necessary to concretize the basic urban development orientations that the HAIDEP Master Plan is proposing for Hanoi's overall development. These areas are expected to embody the concept of water-greenery-culture and thereby revitalize traditional areas, to promote socio-economic development, and to establish effective mechanisms for sustainable development.

2) Proposed Strategies, Actions, and Strategic Projects

In order to promote the objectives of the development of special areas in Hanoi, five strategies are set for which more concrete actions and strategic projects are proposed (see Figure 13.7.1). The basic strategies are as follows:

- (i) Guaranteeing of a sustainable development of the Ancient Quarter
- (ii) Establishment of a feasible mechanism for the desired development of the French Quarter
- (iii) Preparation of plan and effective development mechanism for the Thang Long - Co Loa heritage zone
- (iv) Establishment of an effective mechanism for the redevelopment of outside-of-dyke areas
- (v) Establishment of an effective mechanism for the sustainable development of the Ho Tay environmental zone

Strategic projects for priority action are the following:

- (i) Model project on Hang Buom block
- (ii) Model project on integrated development of UMRT
- (iii) Detailed plan for Thang Long - Co Loa heritage area
- (iv) MP on conservation and development of the Red River space
- (v) Investment study on the cultural core in Thang Long - Co Loa zone
- (vi) Development and management study for Thang Long-Co Loa zone
- (vii) Development and management study for Ho Tay waterfront
- (viii) Study on PPP for effective development of special areas

Table 13.7.1 Proposed Development Direction for Special Areas



Objectives	<ul style="list-style-type: none"> • Realize the concept of “water-greenery-culture” to enhance the charm and identity of Hanoi by regenerating historic areas • Promote opportunities for new urban economic and social development toward the next millennium • Establish effective mechanism for sustainable development with the participation of city stakeholders
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Strategy	Action	Monitoring Indicator
I1 Ensure sustainable development of Ancient Quarter	I11 Prepare master plan for sustainable development of Ancient Quarter based on HAIDEP exercise I12 Strengthen management capacity of Ancient Quarter Management Board I13 Establish feasible mechanism of Ancient Quarter development based on public-private participation (PPP) and community involvement	<ul style="list-style-type: none"> • Progress of actions
I2 Establish feasible mechanism for desired development of the French Quarter	I21 Prepare development strategy and guidelines for the French Quarter I22 Establish a French Quarter Development Council involving main stakeholders to manage development in the area I23 Implement model projects	<ul style="list-style-type: none"> • Progress of actions
I3 Prepare plan and effective mechanism for development of Thang Long - Co Loa heritage zone	I31 Prepare master plan and development strategy and guidelines I32 Establish Thang Long - Co Loa Development Council involving main stakeholders I33 Implement model projects on a PPP scheme	<ul style="list-style-type: none"> • Progress of actions
I4 Establish effective mechanism for redevelopment of outside-the-dyke areas	I41 Prepare master plan and development strategy and guidelines I42 Establish a task force under HPC involving central government agencies to manage the development process I43 Implement modal projects on PPP basis	<ul style="list-style-type: none"> • Progress of actions
I5 Establish effective mechanism for sustainable devt. of Ho Tay environmental zone	I51 Prepare master plan and development strategy and guidelines I52 Establish Ho Tay environmental Zone Council to manage development I53 Implement model projects on a PPP scheme	<ul style="list-style-type: none"> • Progress of actions

Strategic Projects	P11 Model project on Hang Buom block P12 Model project on integrated development of UMRT P13 Detailed plan for Thang Long - Co Loa heritage area P14 MP on conservation and development of the Red River space P15 Investment study on the cultural core in Thang Long - Co Loa zone P16 Development and management study for Thang Long-Co Loa zone P17 Development and management study for Ho Tay waterfront P18 Study on PPP for effective development of special areas
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Source: HAIDEP Study Team.