

4. Area-wise Development Approach

4.1 Conceptual Zoning

(1) Overall Development Concept

In order to prepare master plan, area-wise development approaches are presented for the Siem Reap/ Angkor Town. Firstly, the proposed Strategic Vision in Volume I is reviewed. Secondly, three areas are proposed by geographical representation. Then, finally, the area-wise development approaches are prepared.

Here inherits the Strategic Vision, which envisages Siem Reap/ Angkor Town 2020 to be “a more beautiful and unique tourist city based on a harmony of history, arts and nature of Khmer.” This statement expresses overall development concept for the whole study area.

(2) Three Areas in Siem Reap

In order to prepare the master plan, this section dissects the Siem Reap area into three areas by its attributes as shown in Figure II.4.1.

- Urban Area
- Rural/ Heritage Area
- Tonle Sap Lake Area

Although the study area is delineated within the district boundary of Siem Reap, this conceptual area includes areas beyond the district boundary as those related to the study area.

The Urban Area is defined as the area that will be urbanized by 2020. A boundary is set between Rural/ Heritage Area and Tonle Sap Lake Area along the contour line of 10 meters above sea level.

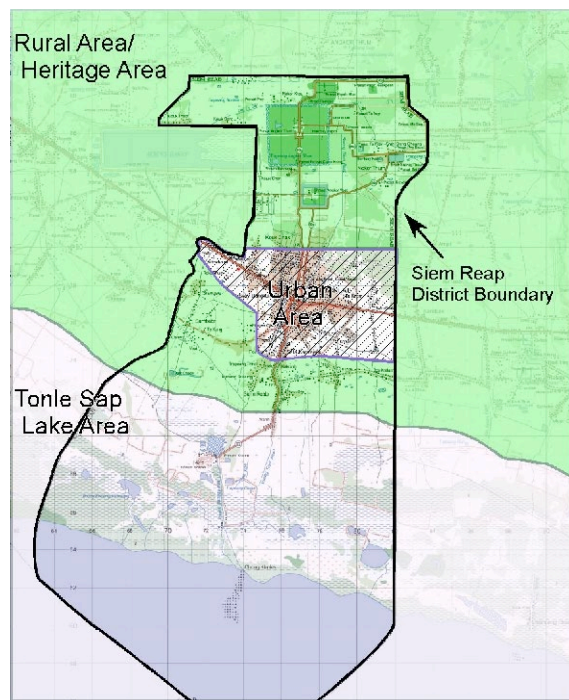


Figure II.4.1 Zoning of Siem Reap

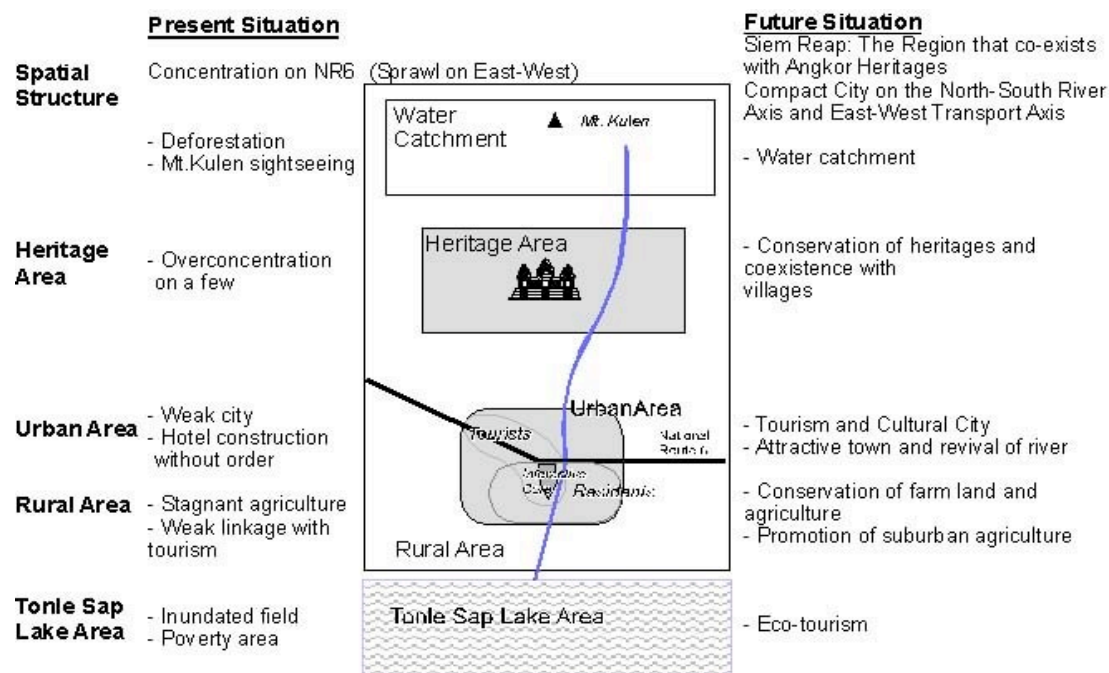


Figure II.4.2 Area-wise Situation of Siem Reap at Present and in Future

In response to the characteristics of each area as shown in Figure II.4.2, development approaches and possible projects have been identified as shown in Table II.4.1 and II.4.2.

Table II.4.1 Planning Issues and Development Approaches

Area	Planning Issues	Development Approach
Urban Area	Need for attractive city with the historical architecture	• Urban improvement of the city center area with provision of urban infrastructure and of new greenery along main streets
	Creation of compact and orderly city	• Formulation of a compact, well-planned urban area with effective enforcement of the urban plan
	Scarce urban greenery	• Preservation of the existing greenery, particularly in the temple compounds
	Disorderly expansion of urban area in peri-urban areas	• Construction and improvement of city roads and infrastructure prior to urbanization with community partnership
	Lack of suitable lands in city center for large-scale hotel development	• Development of Hotel and Cultural Zone to accommodate increasing tourist visits and development of a visitor zone for the new Angkor Gate
Rural Area (Conservation Area)	Need for sustainable rural communities	• Promotion of village tourism with hands-on experience
	Sizable logging/ deforestation in progress	• Support for forestation at deforested areas and around the ruins
(The Remaining Area)	Limited use of local agricultural products for tourism	• Promotion of suburban agriculture and improvement of distribution system
Tonle Sap Lake Area	Limited data on environmental resources	<ul style="list-style-type: none"> • Comprehensive study on the natural resource of Tonle Sap and the perennial flooding area and planning for conservation • Promotion of sustainable ecotourism in Tonle Sap and the perennial flooding area
	Limited use of Tonle Sap for eco-tourism	

4.2 Development Approach for Urban Area

(1) Development Concept for Urban Area

The Urban Area of Siem Reap accommodates the hotels, guesthouses and commercial facilities such as restaurants and shops but also the housing units of urban dwellers that supports and sustains the tourism industry at large.

This indicates that the urban area of Siem Reap must be a good and livable place for the dwellers, but at the same time it must provide the tourists with amenity and relaxation after a visit to the ruins. This nature of the urban area is essential to sustaining and flourishing the tourism industry in the future.

Siem Reap District has the population of 139,000 in 2004, and is a compact city where most of the existing urbanized area is contained within a radius of about 2 km. Being a compact city is a natural gift of Siem Reap in the viewpoint of short and easy distance for human and goods movement and thus is energy efficient. The urban area is along the Siem Reap River (although there is a water quality problem now that needs remedy), and has a long water edge line and riverine forests. Siem Reap has a history dating to the first decade of 20th century with prominent trace of French colonial architecture, wide streets with lining of trees. As Siem Reap City is thus potentially gifted with natural and historical enchantment, the basic direction of urban development is taken to enhance and substantiate the potential to make an attractive city for the city dwellers and visitors alike.

Following the Strategic Vision, the development concept for the urban area can be summarized in the following three features as also shown in Volume I.

- A quality tourism city where tourists can fully feel a touch of the Khmer culture, the Khmer history and the Khmer arts.
- A human scale city in the atmosphere of Angkor
- An environment-friendly city

(2) Approach for Urban Area

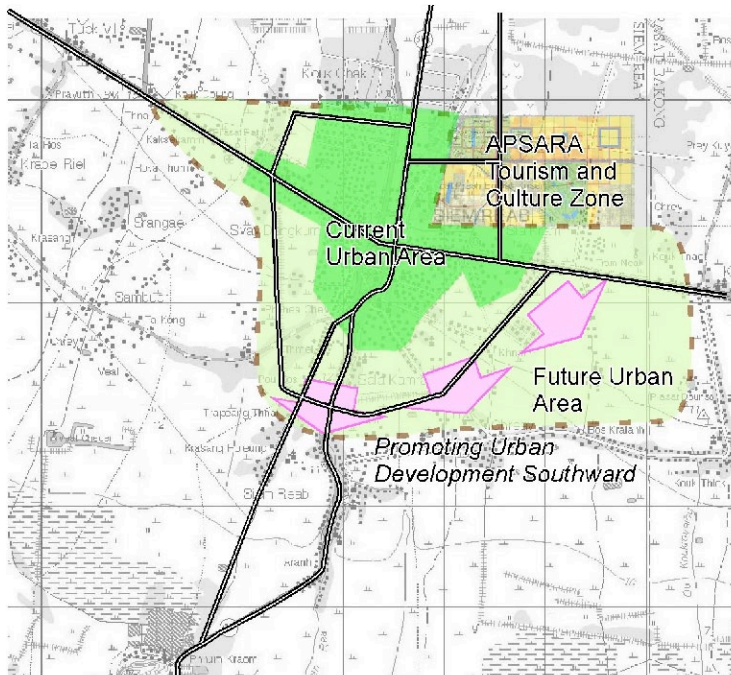
The approaches to realize the concept associated with the urban development in the urban area including both currently urbanized area and urbanizing area are as follows.

Formation of a Compact City with Effective Enforcement of the Urban Plan

Although Siem Reap has the population of about 139,000 in 2004, and is one of the largest regional cities in Cambodia, the urbanized area is almost concentrated in a compact radius of about 2 km utmost. This would mean that the city is a “Compact City”, which is good in energy efficiency and easy transport. This aspect of the city needs to be preserved in the future by inducing the urbanization in the central area to avoid overgrowth of the urban areas outwards.

In order to achieve a Compact City in Siem Reap, the control of new development shall be regulated based on the future land use plan. The land use plan depicted in this Study prepares the concept of a Compact City so that the city would not spread to much

outwards which would lower the efficiency of infrastructure development and the intra-urban transport more time and energy consuming.



Source: JICA Study Team

Figure II.4.3 Expansion of Urban Area following Compact City Concept

Urban Redevelopment and Integration of Old Quarter Area

The Old Quarter area, with a number of French Colonial architecture with a style, is an ideal town center for the tourists and residents alike. The Old Market on the south and Central Market on the north both deal with mixture of souvenirs for tourists and daily commodities and foodstuff for local residents. As a consequence, the both markets are not quite attractive to tourists or very convenient for local residents. These markets need to have a clear distinction in the line up of the commodities they deal in, typically like the Old Market dealing in more tourism oriented commodities and the Central Market dealing in more daily commodities.

There is a triangular block separating the Central Market area with the Old Market area occupied by the Provincial Hospital. There is no road going through this block, and this hinders the interactions of the both areas. As it is said that site of the Provincial Hospital shall be available in the future for commercial purpose, the planning for the site shall need to be considered thoroughly to provide a connection to the neighboring block to the north with the Central Market, as well as to enhance the areas commercial / tourism appeal by way of redevelopment and integration of the entire block.

At the same time, the Old Quarter area needs to be safe and amiable to the visitors and residents alike. For that purpose, provision of wide sidewalks with tree lining is recommendable. In order to improve the security, street lighting is encouraged along the main pedestrian walkways. In conjunction with the redevelopment of the triangle zone in between, new urban roads connecting the two zones and public facilities such as a small urban park and parking space needs to be considered.

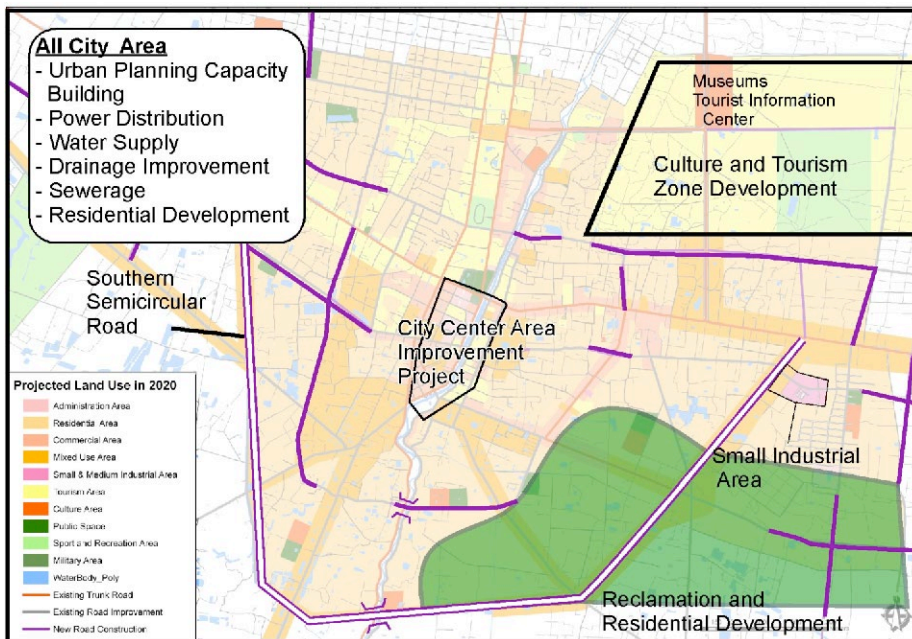
Urban Roads and Infrastructure Development

Demand for road improvement is felt to be high in the urbanizing areas outside of the well-established urbanized area. Sla Kram Commune, for example, has a high rate of motorcycle possession, whilst the roads are in poor condition. Sala Kamraeuk Commune that suffers much from urban sprawl has a number of dead-ends and narrow, winding roads that resulted from enclosure by landowners.

The lack of decent road network also results in poor drainage. Without a good road network, drainage canals or pipes are hardly devisable. Even existing drainage canals are already obsolete due to the lack of maintenance.

(3) Conceptual Plan for Urban Area

The Figure II.4.4 shows a conceptual plan for the area.



Source: JICA Study Team.

Figure II.4.4 Conceptual Plan for Urban Area

4.3 Development Approach for Rural/ Heritage Area

(1) Development Concept for Rural/ Heritage Area

The Rural Zone of Siem Reap extends in the north within the protected area of Angkor (Zone 1 and 2), and in the outskirts of the urban areas mostly in the south and in the west. The areas in the west of Siem Reap is generally conceived as potent for agricultural production due to the availability of water from West Baray, although the potential is tapped to a limited scale at present.

The rural areas around Siem Reap have an important role of sustaining Angkor ruins in a number of aspects.

- Siem Reap and Angkor is sustained naturally by the watershed of the Siem Reap River that provides the water resources, vegetation and natural eco-system.
- The rural areas provide workers for tourism and related industries, such as hotel and services, handicrafts production, transport and construction. Without the supply of workforce from the rural areas, the tourism in Siem Reap shall be difficult to sustain. Also, it is in the rural areas that provide the workforce for the preservation and rehabilitation of the ruins including some of the skilled workers for stone carving.
- The rural areas in Siem Reap maintain future possibility of local supply of foodstuff for visitors at hotels and guesthouses including vegetables and poultry. This will be an important aspect for the pro-poor tourism for Siem Reap.

Thus the rural areas in Siem Reap will co-exist with the Angkor tourism and Siem Reap as its main gate by maintaining the functions mentioned above for sustainable development of the region as a whole.

It is thus contemplated that the basic direction of development for the rural areas of Siem Reap to be the following;

Rural/Heritage Area: The Rural Communities Attractive for Tourists in Harmony with Heritages, Supporting the Tourism and Preservation

(2) Development Approach for Rural/ Heritage Area

The approaches to realize the concept associated with the urban development in the Rural/Heritage Area are as follows.

Agricultural Development in the Western Suburbs

The areas west of the urban area of Siem Reap is said to have high potential for agricultural development. Water for technical irrigation is available from the West Baray almost perennially. As Siem Reap is an international tourism city, there is substantial demand for agricultural products for foodstuff. There needs to be planning to establish agricultural development, primarily focusing on the cash crops such as vegetables and fruits.

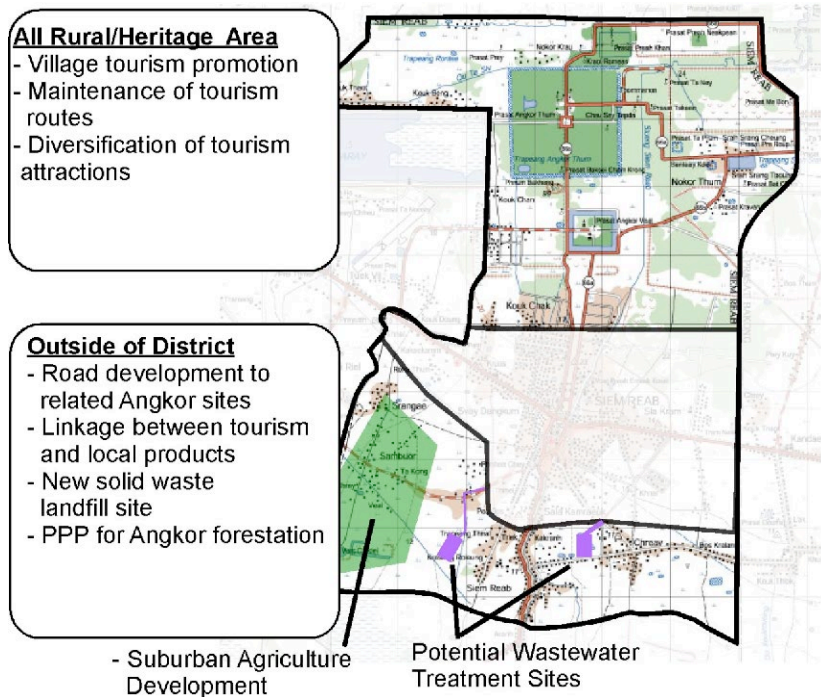
Promotion of Village and Eco Tourism

As the areas within the protected area is under strict control of building and land use changes, and generally the people living there have little means for livelihood than participating in tourism sector by selling souvenir or doing guides, or temporarily work for construction sites in the city. In order to enhance and establish the areas within the protection zone as a sustainable base for the Angkor monuments preservation and sustainable tourism, their need to be more involvement of the residents in the preservation zone in the activities related to the tourism.

Efforts need to be made to the promotion of village tourism and eco tourism in these villages. The village tourism encompasses on the village activities such as producing local products with tourism interest, such as pottery, weaving, stone and metal carving etc. The eco tourism will focus on the natural trail in the woods and along the natural river courses.

(3) Conceptual Plan for Rural/ Heritage Area

The Figure II.4.5 shows a conceptual plan for the area.



Source: JICA Study Team.

Figure II.4.5 Conceptual Plan for Rural/Heritage Area

4.4 Development Approach for Tonle Sap Lake Area

(1) Development Concept for Tonle Sap Lake Area

Gifted with various riverine resources, Tonle Sap, or often called the Great Lake, is the largest fresh water lake in Southeast Asia. The low-lying area around the lake is seasonally submerged by the lake's water surface that rises during the rainy season. While Tonle Sap functions as a gigantic regulation pond for the Mekong, it is historically an indispensable part of the Khmer Kingdom for transport and battle site, and is laden with rich natural environment with biodiversity. It would be no wonder if Tonle Sap was put on the UNESCO's World Heritage as a natural heritage.

Tonle Sap is open for an ideal optional tour destination for Angkor tourists, if the measures for conserving the natural environment are readily facilitated. This will widen the variety of Angkor tourism substantially, and will serve for enhancing sustainability of Angkor tourism further.

The direction of planning is thus set as in the following:

Tonle Sap: The Eco-Tourism Area with Protection and Sustainable Use of Diverse Natural Environment Providing Ideas Which Has Nurtured Khmer Culture

(2) Conceptual Plan for Tonle Sap Lake Area

The Figure II.4.6 shows a conceptual plan for the area.

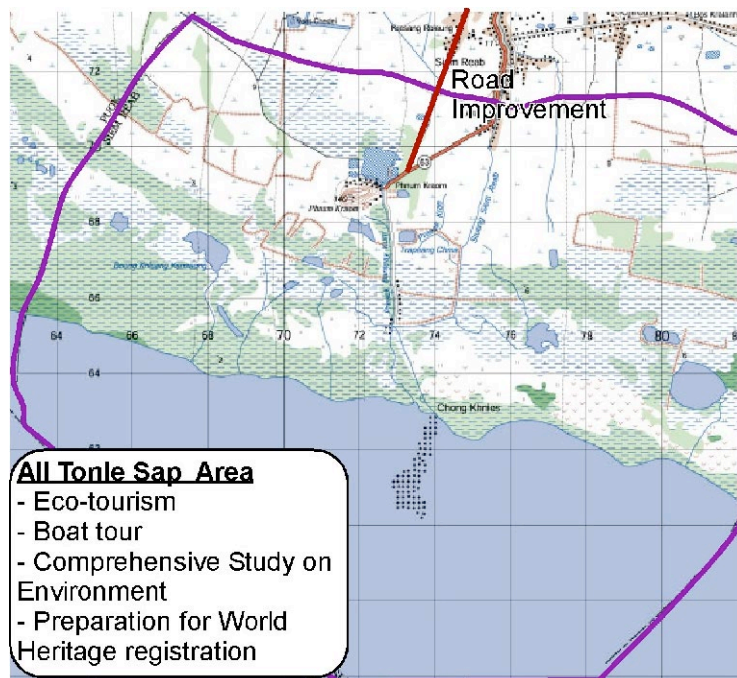


Figure II.4.6 Conceptual Plan for Tonle Sap Lake Area

5. Sector Development Plan

5.1 Development Plan to Realize Strategies

Under the proposed strategies, a series of measures have to be taken across the individual sectors. This section highlights those measures proposed in the Sector Development Plan under each strategy.

(1) Sector Development Plan under Strategy 1 “Promoting Tourism Focused on Up-market”

The tourism development plan is the major part of this strategy associated with infrastructure such as transportation and power and development administration. Toward making a quality tourism city, tourism development plan is aiming at creating a quality tourism destination in the context of Angkor history and culture. Siem Reap is not developed as ready to attract various types of tourists who can be exposed to a touch of Angkor history and culture. International tourism markets recognize Siem Reap/Angkor Town as not safe enough for individual tourists walking around. One of the factors is weak marketing and promotion by private-public partnership. The following measures are proposed, under the Strategy 1.

1) Developing tourism destination and diversified routing

Making full-utilization of potential tourism resources in Siem Reap/ Angkor Town, four folded destinations have to be developed and incorporated into the tour routing.

- Angkor Heritage Area: An integrated planning and management
- Urban Amenity and Cultural Tourism Area: Improving amenity and atmosphere
- Tonle Sap Lake and Rural Area: eco/village tourism for interactions with the culture
- Distant Angkor Monument Area: incorporated in routing

For developing tourism destination of Angkor Heritage area, transportation developments are proposed in the transportation sector; and access improvement to Angkor Heritages is proposed for distant Angkor Monument area. For Urban Amenity and Cultural Tourism Area, Strategy 2 is mutually associated. Lighting streets as well as Angkor heritages are also proposed in the power sector.

2) Giving tourists a taste of rich Khmer culture, history, art and the nature: theme-specific routing development and mobilization of potential cultural resources such as festival, native houses and local custom

3) Improving services and hospitality for a pleasant stay: tourist information, transport within the district and tour guide

4) Strengthening tourism marketing and promotion

Marketing and promotion have to be undertaken through public-private partnership targeting to up-markets.

(2) Sector Development Plan under Strategy 2 “Maximizing Local Benefits from Tourism Maximizing Local Benefits from Tourism “

Agricultural diversification and local product promotion comes the major place for the Strategy 2 associated with the development administration. Creating Angkor Brand for increasing local supply in the tourism markets is proposed as the objective. As part of this, special attention has to be paid to the rural areas as proposed as integrating rural economy into tourism through One Village One Product and Production Village Development.

- 1) Creating Angkor Brand for larger local supply
- 2) Integrating rural economy into tourism

For creating Angkor Brand, a new type of public-private partnership is necessary. Night market proposed in the tourism development sector is mutually related.

(3) Sector Development Plan under Strategy 3 “Making Town More Attractive to Tourists”

Towards a human-scale city in the Angkor Atmosphere, the urban development plan has a major role supported by infrastructure sectors and the development administration. The followings are approaches in the urban development plan.

- 1) Guiding urbanization to form a compact city
- 2) Center area development as a strategic corridor to enhance tourism attractiveness
- 3) Infrastructure guiding urbanization

For guiding urbanization to form a compact city, urban road networking and drainage improvement can be major tools. For making an attractive city, sidewalk and streetlights are necessary. Urban planning also guides urbanization with enforced land use plan with enough planning capacity. To make urban planning effective, streamlined administration such as development committee is necessary to appraise development project to check the compliance with urban plan. Information management is also required to enforce the land use plan with proper information.

(4) Sector Development Plan under Strategy 4 “Making Town More Sustainable in Environment “

Towards an environment-friendly city, a comprehensive approach is necessary. It comprises environmental management, infrastructure development, administration and finance. Environmental management sector proposes the following approaches for harmonizing with Angkor heritages and nature and reducing resources and energy.

- 1) Institutional capacity building
- 2) Enhancing environmental awareness
- 3) Financing to environmental conservation
- 4) Environment-considered development planning

These approaches cannot stand alone, which has to be incorporated with tourism, urban development, infrastructure development, administration and finance shown below.

	Harmonizing with Angkor heritages and nature	Reducing resources and energy
Tourism	Site management of Angkor monuments (TO-6)	
Urban Development	Green area management by land use plan	
Transportation	Environmental transport in the Angkor Heritage Park (TR-8, 9)	
Water resources/ Drainage and Sewerage	Groundwater intake management (W-1,2)	Wastewater treatment
Solid Waste Management		Solid waste management Sanitary Land fill (SW-3)
Power		Individual generator management (P-9)
Development Administration/ Local Financing	Enforced rules and regulations for groundwater intake and individual generator PPP for solid waste management Strengthening financial base HRD for information management for groundwater pumps and individual generators	
Community Empowerment	Co-exist with Angkor monuments (TR-8, 9)	

Note: The number in the parentheses represents project number mentioned later.

(5) Sector Development Plan under Strategy 5 “Strengthening Infrastructures for Tourists and People “

Infrastructure development covers five sectors: transportation, water resources and water supply, solid waste management, drainage and sewerage, and power. Infrastructure supports tourism, attractive town and environment as mentioned in Strategy 1-3.

(6) Sector Development Plan under Strategy 6 “Strengthening Local Administration and Finance”

Local administration and finance comprises development administration, local financing and community empowerment; these sectors also support tourism, attractive town and environment as mentioned in Strategy 1-3. Major approaches are as follows.

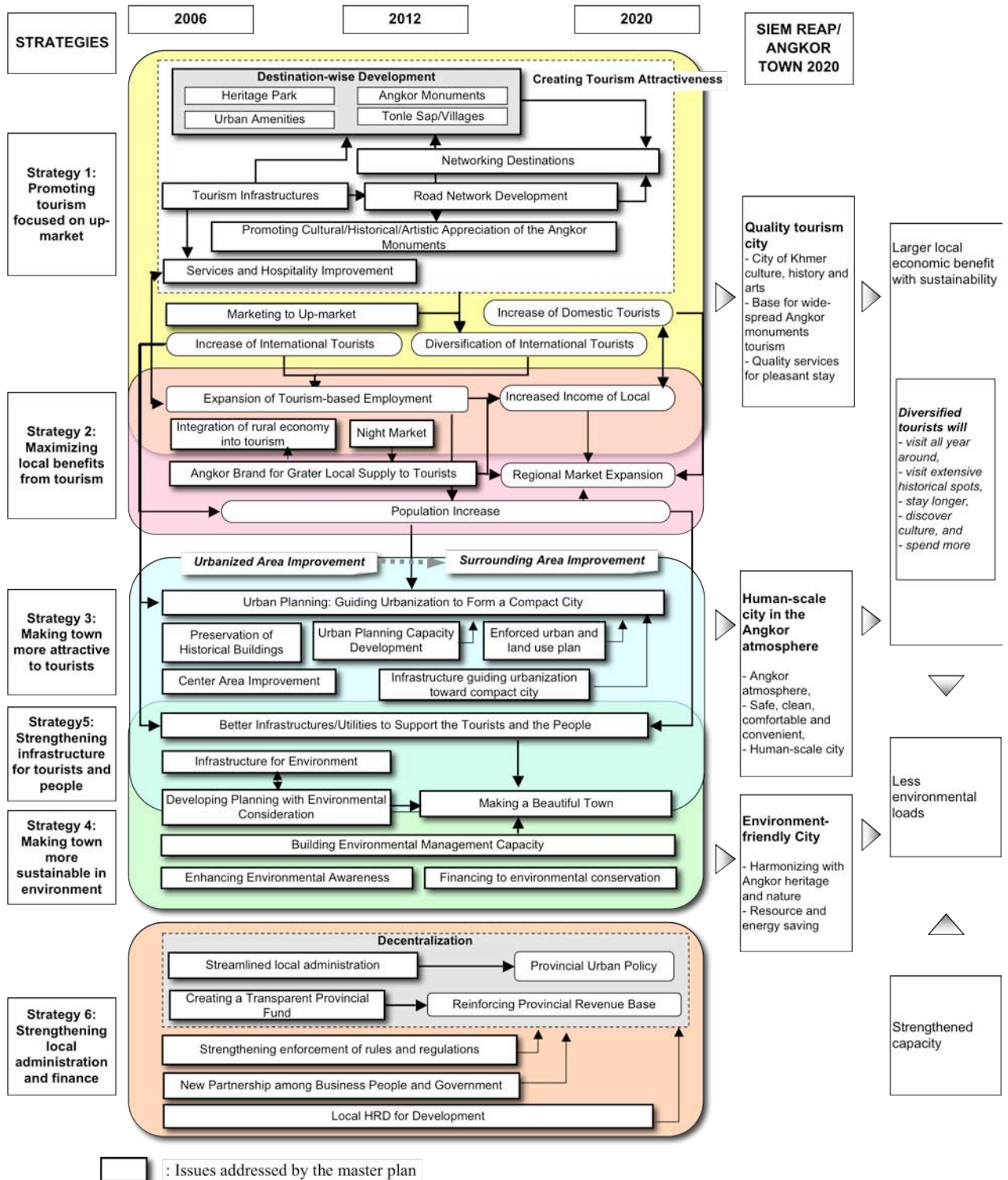
- 1) Streamlined local administration
- 2) New partnership among business, people and government
- 3) Reinforcing local financial base for sustainable development
- 4) Strengthening enforcement of rules and regulations
- 5) Local human resources development

As mentioned above, strategies to sector development plan is summarized the table below.

Table II.5.1 Strategies and Sector Development Plan: An Overview

		Strategic Vision			Sector Development Plan	
Objectives	Vision: Siem Reap/ Angkor Town 2020	Strategies	Economy, Urban Development and Environment	Infrastructure	Administration and Finance	
<p>Sustainable development toward 2020 through:</p> <ul style="list-style-type: none"> Promoting tourism in a sustainable way, Promoting and diversifying local economy related to tourism, Conserving environment, and Strengthening capacity. 	<p>Quality Tourism City</p> <ul style="list-style-type: none"> City of the Khmer culture, history and arts Base for wide-spread Angkor monuments tourism Quality services for pleasant stay 	<p>[1] Promoting tourism focused on up-market</p>	<p>Tourism Development</p> <ul style="list-style-type: none"> Destination-wise development and routing Angkor Heritage Park Area Urban Amenity and Cultural Tourism Area Tonle Sap Lake and Rural Area Distant Angkor Monument Area Promoting cultural appreciation Service improvement Strengthening marketing and promotion 	<p>Transportation</p> <ul style="list-style-type: none"> Access to distant heritages Transport in Angkor Heritage Park <p>Power</p> <ul style="list-style-type: none"> Lighting for Angkor monuments 	<p>Development Administration</p> <ul style="list-style-type: none"> Private-public partnership (PPP) for tourism marketing and promotion 	
		<p>[2] Maximizing local benefits from tourism</p>	<p>Agricultural Diversification and Local Product Promotion</p> <ul style="list-style-type: none"> Angkor Brand for larger local supply Integration of rural economy into tourism <p>Tourism Development</p> <ul style="list-style-type: none"> Night Market 		<p>Development Administration</p> <ul style="list-style-type: none"> PPP for APPC 	
		<p>Human-scale City in the Angkor Atmosphere</p> <ul style="list-style-type: none"> Angkor atmosphere Safe, clean, comfortable and convenient Human-scale city 	<p>[3] Making town more attractive to tourists</p>	<p>Urban Development</p> <ul style="list-style-type: none"> Guiding urbanization to form a compact city Center area improvement Infrastructure development guiding urbanization 	<p>Transportation</p> <ul style="list-style-type: none"> Road network guiding urbanization Sidewalk and road amenity Road safety <p>Sewerage and Drainage</p> <ul style="list-style-type: none"> Drainage guiding urbanization <p>Power: Street light</p>	<p>Development Administration</p> <ul style="list-style-type: none"> Development committee for checking the development from the urban planning viewpoints Enforcement of land use plan; vehicle registration and law on road traffic. HRD for information management
		<p>Environment-friendly City</p> <ul style="list-style-type: none"> Harmonizing with Angkor heritage and nature Resource and energy saving 	<p>[4] Making town more sustainable in environment</p>	<p>Environmental Management</p> <ul style="list-style-type: none"> Institutional capacity of environmental management Enhancing environmental awareness Financing to environment conservation Development planning with environmental consideration 	<p>Transportation</p> <ul style="list-style-type: none"> Environmental transport in the Angkor Heritage Park <p>Water Resources and Water Supply</p> <ul style="list-style-type: none"> Groundwater intake management Environmental water <p>Drainage and Sewerage</p> <ul style="list-style-type: none"> Wastewater treatment <p>Solid Waste Management</p> <ul style="list-style-type: none"> Sanitary landfill and reducing solid waste <p>Power: Reducing individual generators</p>	<p>Development Administration</p> <ul style="list-style-type: none"> Development committee for project appraisal from the environmental viewpoints Enforced laws and regulations for environment: groundwater and diesel generator Strengthening finance for environment PPP for solid waste management HRD for information management <p>Community Empowerment</p> <ul style="list-style-type: none"> Co-exist with Angkor monuments
		<p>A beautiful and unique city based on a harmony of history, arts and nature of Khmer</p> <ul style="list-style-type: none"> Offering implications of Angkorian wisdom for sustainable development and cultural diversity as a model in 21st century Cultural magnet in Southeast Asia 	<p>[5] Strengthening infrastructure for tourists and people</p>		<p>Transportation: sufficient road network for tourists and residents</p> <p>Water Resources and Water Supply: sustainable water resource development and water supply</p> <p>Solid Waste Management: making the town lovely</p> <p>Drainage and Sewerage: sustainable drainage and sewerage systems for hygienic and beautiful town</p> <p>Power: reliable power for all with less environmental load</p>	<p>Development Administration</p> <ul style="list-style-type: none"> Project planning, management and monitoring <p>Local Financing</p> <ul style="list-style-type: none"> Siem Reap Development Fund
			<p>[6] Strengthening local administration and finance</p>			<p>Development Administration</p> <ul style="list-style-type: none"> Streamlined local administration with transparency and accountability New partnership among business, peoples and government Strengthening enforcement of rule and regulations Local HRD for development <p>Local Financing: Reinforcing local financial base_</p> <p>Community Empowerment: strengthening capacity of people</p>

A series of measures under each strategy, mentioned above, are mutually related toward Siem Reap/ Angkor Town 2020. A flow diagram of development shows this process in line with the master plan as shown below.



Source: JICA Study Team

Figure II.5.1A Flow of Diagram of Development

5.2 Sector Development Plan

This section summarizes the contents of each sector development plan. The detailed description is provided in the Volume 3 of this report.

<p>(1) Urban Development</p>	<ol style="list-style-type: none"> 1. Disordered urban expansion 2. Low quality of environment, attractions and amenity in city center area 3. Low level of sanitation and living environment in local residential areas 4. Area-wise issues: <ol style="list-style-type: none"> 4.1. <u>Urbanized area:</u> <ul style="list-style-type: none"> • Preservation of French colonial architecture • Making an attractive city for the visitors • The city with river and greenery • Improvement of high density residential zone 4.2. <u>Urbanizing area:</u> <ul style="list-style-type: none"> • Insufficient infrastructure development • Hotel construction without order <div style="text-align: center;"> </div> <p>Source: JICA Study Team Figure II.5.2 Classification of Areas</p>
<p>Sector Objective</p>	<p>Making an attractive city:</p> <ul style="list-style-type: none"> • <u>Siem Reap Urban Area:</u> Making the most attractive city in Southeast Asia • <u>Rural/ Heritage Area:</u> The rural communities in harmony with heritages, supporting the tourism and preservation • <u>Tonle Sap Area:</u> The eco-tourism area with protection and sustainable use of diverse natural environment

Sector Approach	<p><u>Urban Area :</u></p> <ol style="list-style-type: none"> 1. Formation of a compact city with effective enforcement of the urban plan 2. Redevelopment and integration of Old quarter area 3. Urban roads and infrastructure development <p><u>Institutional framework</u></p> <ol style="list-style-type: none"> 4. Formation of Provincial Committee for land management, urban planning and construction 5. Capacity building for urban planning and enforcement 6. Funding for urban planning
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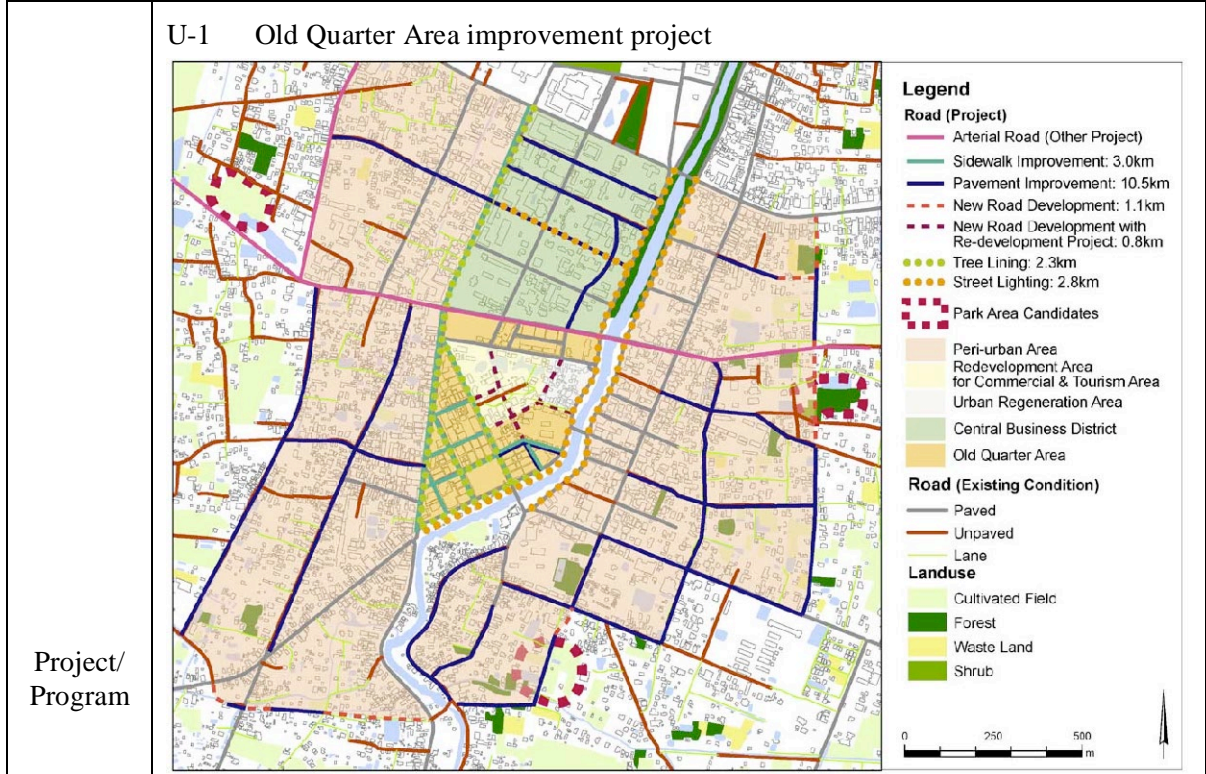


Figure II.5.3 Overall Plan for Old Quarter Improvement Project



Source: JICA Study Team
Image 1: An image of an Urban Park



Source: JICA Study Team
Image 2: An Image of a Bazaar

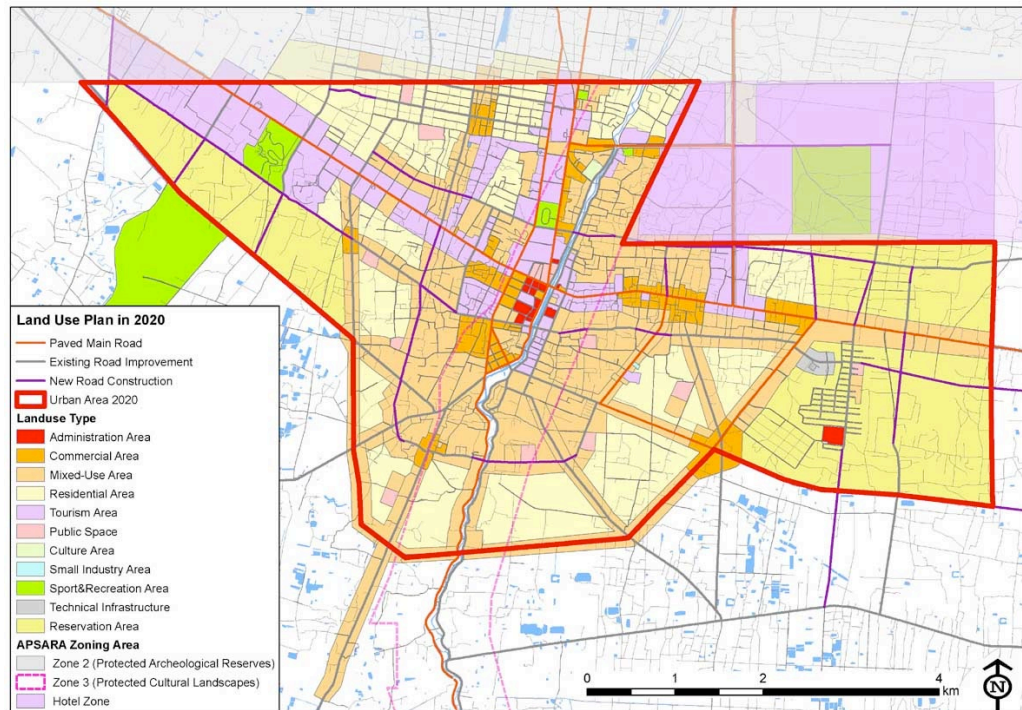


Source: JICA Study Team
Image 3: An image of Old Market Area



Source: JICA Study Team
Image 4: An Image of Sivatha Street

U-2 Urban planning capacity building



Source: JICA Study Team
Figure II.5.4 Draft Land Use Plan

- U-3 Inventory of historical architecture with preservation value in Siem Reap City
- U-4 Residential development promotion
- U-5 Planning and implementation of hotel, cultural and visitor zone for New Angkor Gate