

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**

Need for road improvement is large 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 has a number of dead-ends and narrow, winding roads that resulted from enclosure by landowners.

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

### **1.2.3 Framework for Population**

Based on the socio-economic framework, the population of Siem Reap District will increase from 139 thousand (2004) to 211 thousand (2020). Based on the projection and above land condition, the population distribution is assumed among communes as shown in Table III.1.1 (Refer to the Chapter 18 for detail).

**Table III.1.1 Population Distribution in Siem Reap District**

Commune	Area (ha)	Total Population			Density (pop/ha)		
		2004	2012	2020	2004	2012	2020
Sla Kram	1,300	29,283	30,757	33,616	22.5	23.7	25.8
Svay Dangcum	4,031	30,082	36,407	46,746	7.5	9.0	11.6
Kouk Chak	3,811	18,115	18,512	19,314	4.8	4.9	5.1
Sala Kamraeuk	841	17,229	32,099	44,145	20.5	38.2	52.5
Nokor Thum	5,488	5,076	5,076	5,076	0.9	0.9	0.9
Chreav	6,580	8,371	13,694	22,626	1.3	2.1	3.4
Chong Khnies	1,610	6,396	6,907	7,598	4.0	4.3	4.7
Sambuor	2,697	3,264	3,427	4,510	1.2	1.3	1.7
Siem Reap	5,515	16,128	17,742	19,401	2.9	3.2	3.5
Srangae	3,738	5,622	6,066	7,611	1.5	1.6	2.0
<b>Total</b>	<b>35,612</b>	<b>139,566</b>	<b>170,687</b>	<b>210,643</b>	<b>3.9</b>	<b>4.8</b>	<b>5.9</b>

Source: JICA Study Team.

Table III.1.2 shows that all the communes at present have the population density below 30 persons per hectare. As the built-up area normally holds population close to 100 persons per hectare or more, the present state of urbanization looks to be quite lower in population density than in other Asian cities. Consequently, new residential areas are to be designed for 40-60 persons per hectare density.

The following table shows the estimated population in urban villages.

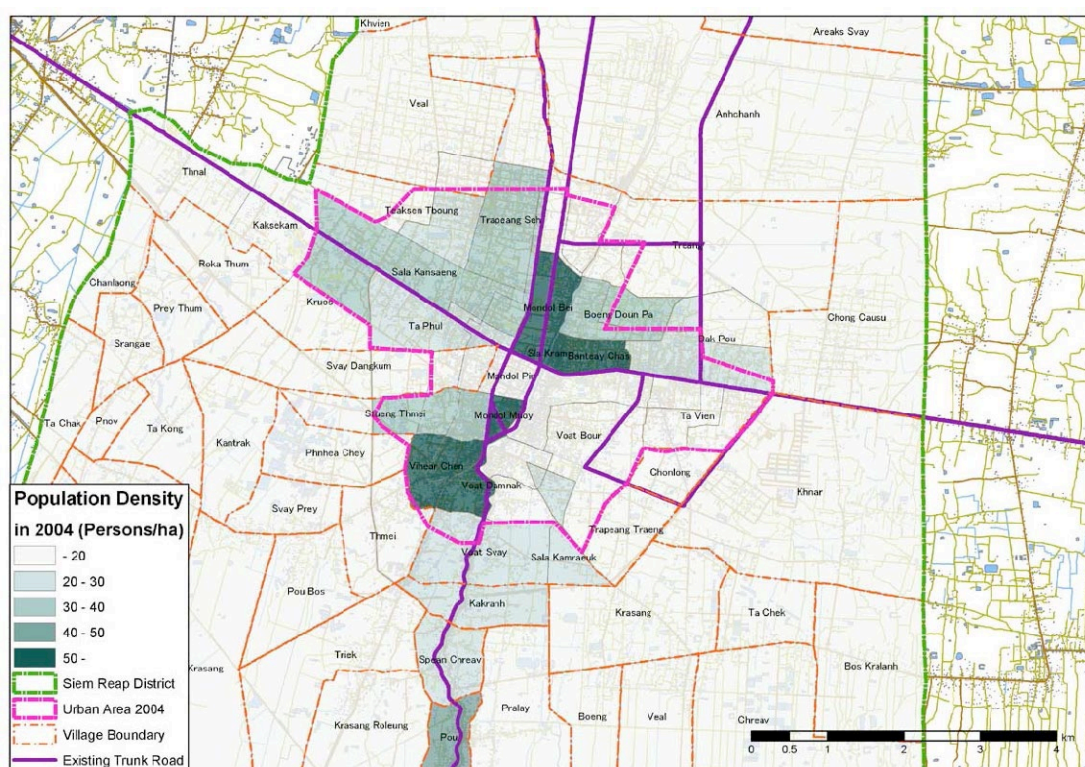
**Table III.1.2 Urban Population Distribution in Siem Reap District**

Commune	Area (ha)	Urban Population			Urban/Total Population		
		2004	2012	2020	2004	2012	2020
Sla Kram	1,300	17,767	17,707	18,457	61%	58%	55%
Svay Dangcum	4,031	24,471	30,327	39,867	81%	83%	85%
Kouk Chak	3,811	6,644	6,954	7,662	37%	38%	40%
Sala Kamraeuk	841	17,229	32,099	44,145	100%	100%	100%
Nokor Thum	5,488	0	0	0	0%	0%	0%
Chreav	6,580	0	0	0	0%	0%	0%
Chong Khnies	1,610	0	0	0	0%	0%	0%
Sambuor	2,697	0	0	0	0%	0%	0%
Siem Reab	5,515	0	0	0	0%	0%	0%
Srangae	3,738	2,472	2,601	3,051	44%	43%	40%
<b>Total</b>	<b>35,612</b>	<b>68,583</b>	<b>89,688</b>	<b>113,182</b>	<b>49%</b>	<b>53%</b>	<b>54%</b>

Source: JICA Study Team

The total urban population is estimated at 68,583 at present, while it is projected to increase to 89,688 in 2012, and 113,182 in 2020. The proportion of urban population in the whole Siem Reap District is 49% today, and is expected to grow gradually to 54% in 2020.

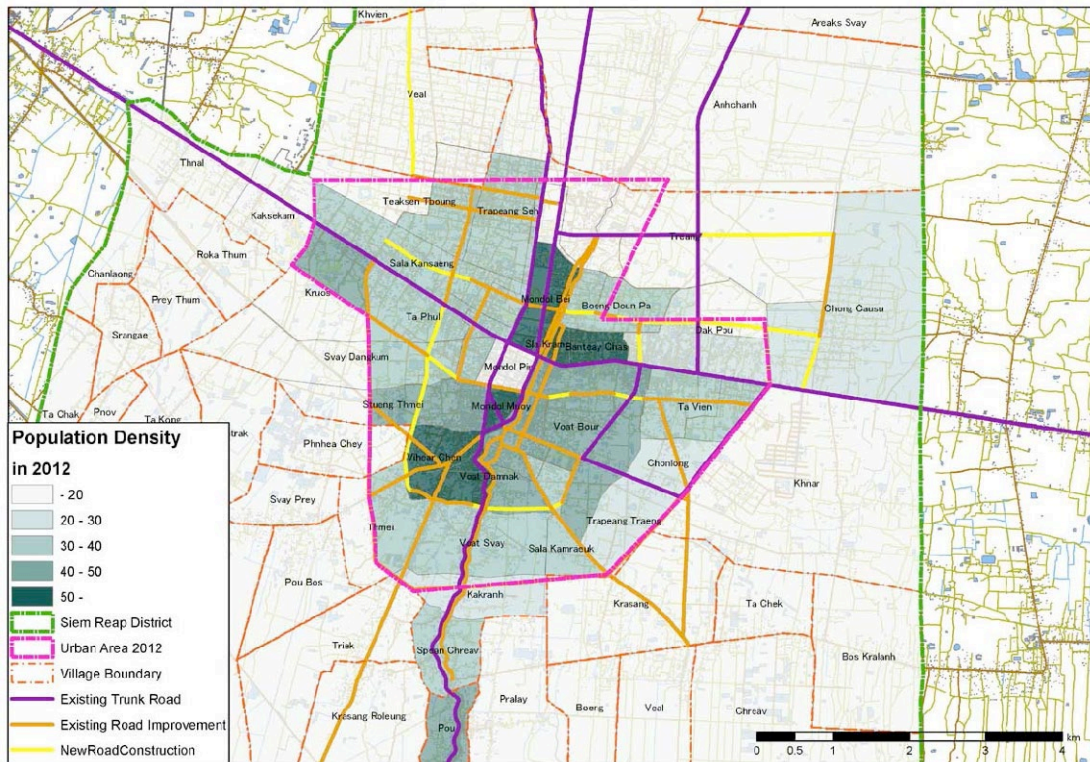
A rapid urbanization is expected in Sala Kamraeuk, Svay Dangcum and Sla Kram Communes, which are in the eastern part, adjacent to the existing built-up area. Both Communes should develop land area of 1-2 sq. km in every 8 years on the assumption of population density of 100 persons per hectare.



Source: JICA Study Team

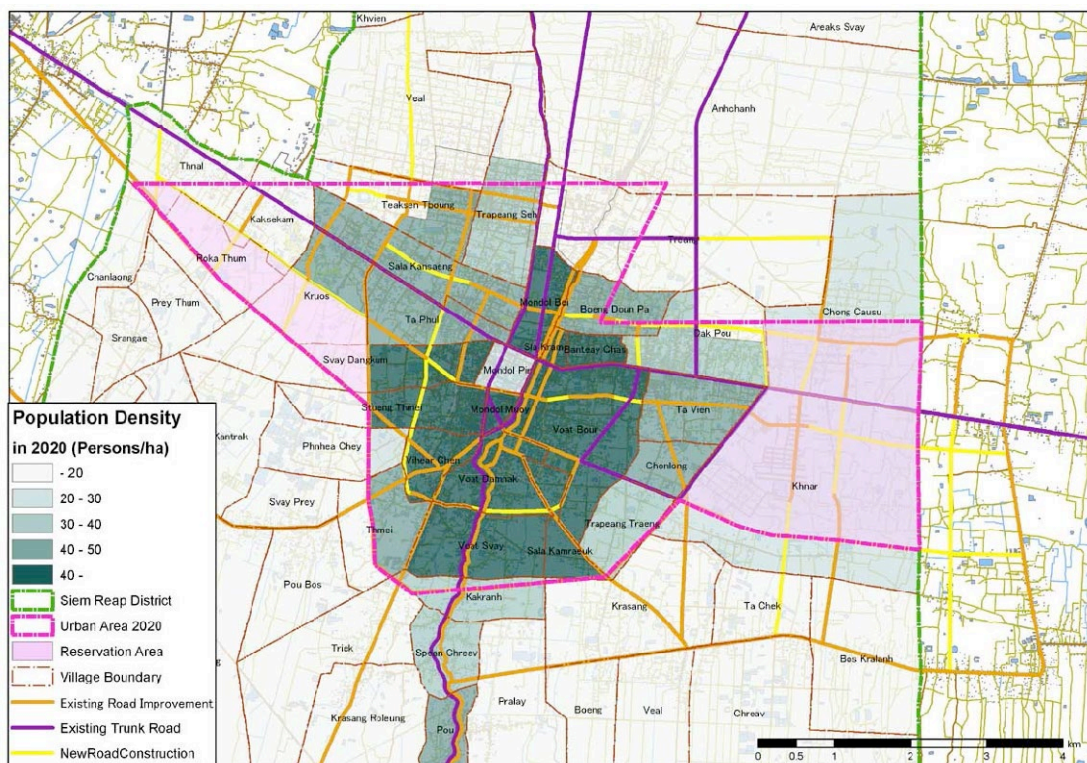
**Figure III.1.11**

**Current Population Density (2004)**



Source: JICA Study Team

**Figure III.1.12 Population Density (2012)**



Source: JICA Study Team

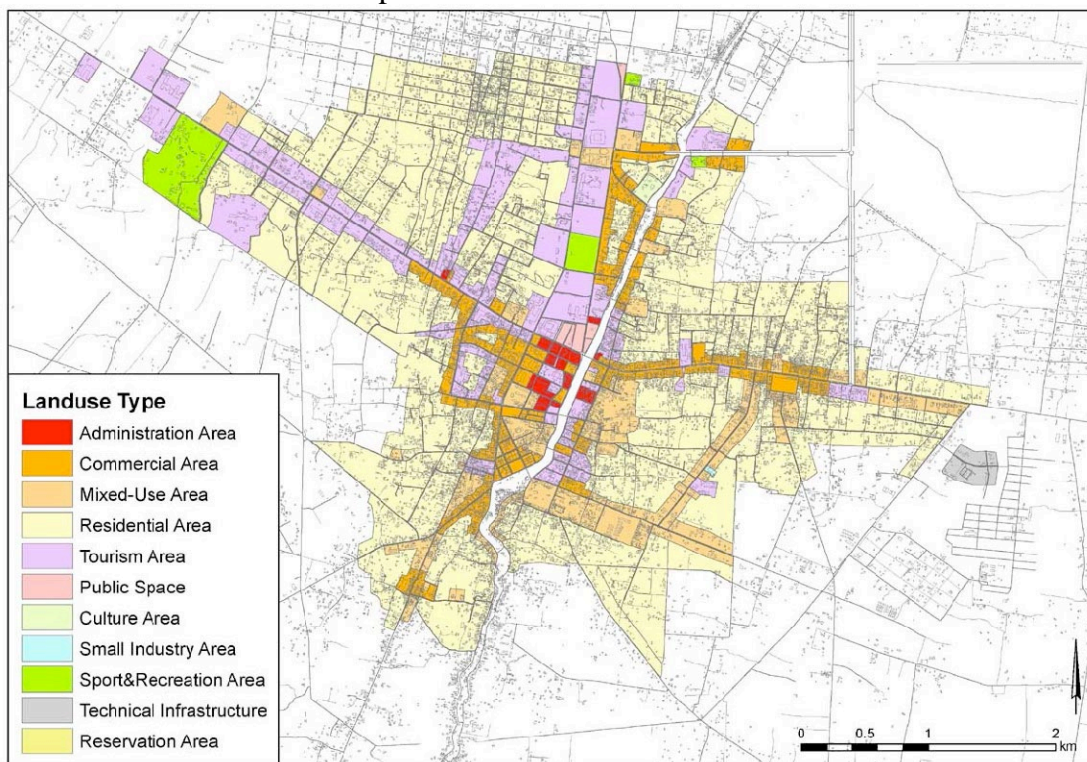
**Figure III.1.13 Population Density (2020)**

## 1.2.4 Land Use Framework

### (1) Existing Urban Situation of Siem Reap District

Recently, Siem Reap District and Asia-Urbs Project conducted a detailed land use survey within the built-up area. Based on the survey map, the land use pattern in the central area is interpreted as follows:

- Public facilities are concentrated in the south of Route 6, or French Quarter.
- Commercial use spreads over the all area along the road. The width on the commercial area is only single lot.
- The area inside the commercial area is used as low-rise residential area. Typical houses are two-storied and independent. Apartment and townhouses are not common except in Old Market Area.



Source: Asia Urban Project Team, JICA Study Team

**Figure III.1.14 Existing Land Use Plan**

**Table III.1.3 Composition of the Land Use**

Land Use Classification	Commune										Total
	Sla Kram	Svay Danglum	Kouk Chak	Sala Kamraeuk	Nokor Thum	Chreav	Chong Knies	Sambuor	Siem Reap	Srangae	
Administration Area	0.7	8.6	0.0	1.3	0.0	0.0	-	0.0	0.0	0.0	10.7
Residential Area	189.4	321.7	142.6	279.5	0.0	0.0	-	0.0	0.0	0.0	933.2
Commercial Area	41.6	51.9	0.0	23.5	0.0	0.0	-	0.0	0.0	0.0	117.0
Mixed Use Area	19.3	33.5	1.2	94.2	0.0	0.0	-	0.0	0.0	0.0	148.2
Small & Medium Industrial Area	0.0	0.0	0.0	0.4	0.0	0.0	-	0.0	0.0	0.0	0.4
Tourism Area	65.0	101.5	28.9	18.8	0.0	0.0	-	0.0	0.0	20.1	214.2
Culture Area	3.1	0.0	0.0	1.2	0.0	0.0	-	0.0	0.0	0.0	4.3
Public Space	6.0	6.4	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	12.4
Sport & Recreation Area	9.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	23.1	9.0
Technical Infrastructure	0.0	0.0	0.0	0.0	0.0	9.6	-	0.0	0.0	0.0	0.0
Reservation Area	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0
<b>Sub Total</b>	<b>334.0</b>	<b>523.7</b>	<b>172.8</b>	<b>419.0</b>	<b>0.0</b>	<b>9.6</b>	<b>-</b>	<b>0.0</b>	<b>0.0</b>	<b>43.1</b>	<b>1449.4</b>
Others (Agriculture, Road, etc.)	966.5	3507.3	3638.6	421.6	5488.2	6570.6	-	2697.0	5515.3	3695.2	32500.3
<b>Total</b>	<b>1300.5</b>	<b>4031.0</b>	<b>3811.3</b>	<b>840.6</b>	<b>5488.2</b>	<b>6580.2</b>	<b>-</b>	<b>2697.0</b>	<b>5515.3</b>	<b>3738.3</b>	<b>34002.5</b>

Source: JICA Study Team

**(2) Structure of Urban Planning Area**

Urban planning areas is delineated in consideration of the urbanization direction, future development trends, conservation of archaeological site and natural environment protection as follows:

**1) APSARA Conservation Area (Zone 1, Zone 2 and Hotel Zone): Existing Heritage Area**

The area is defined as APSARA zone in the Degree No.1 signed in May 28, 1994 regarding the establishing the protected cultural zones in the Siem Reap/Angkor Region and guidelines for their management. APSARA has the responsibility to conserve or develop the area. Also, the tourism and cultural area (so-called Hotel Zone) which APSARA is developing should be included in this area where development is to be controlled by APSARA.

**2) Urbanization Area: Existing Urban Area including Urbanized Area, Urbanizing Area and Reservation Area for Development**

The area should be urbanized by 2020 and managed with a land use regulation. However, to formulate a Compact City, this area is still too large to promote development in this whole area. Therefore, an area for reservation for sizable development should be assured by the land use regulation

This area contains existing Urban Area including Urbanized Area and Urbanizing Area that are expanding but needed to be controlled by adequate regulation. Building and construction activities are encouraged based on the land use plan (land use type and its building regulation is defined in the following section). Any new development should follow the land use regulation and shall be subject to the government permission. The area is located in the south of APSARA Conservation Area and its limit in the south is set along the semicircular road and other by-pass road of the NR6.

**Reservation Area**

This area is contained in the Urbanization Area, but should be reserved for sizable development such as light industrial area and transportation/storage facilities. It means that those developments should be allowed not in the center of the urbanization area but in the peripheral. Also, sizable private residential area development with school /urban infrastructure can be allowed with permission by the responsible agency based on request and appraisal.

**3) Urbanization Control Area: Existing Rural Area**

The area should be controlled not to promote development of large scale but to promote agricultural use and to preserve the natural environment around the urbanized area. Villages in cultivated area and mixed use along the arterial roads can be allowed. Some development of technical infrastructure, environmental friendly recreation area, or those which have permission from responsible government agencies can be allowed in this area. Development which is larger than a certain scale shall require an environmental assessment.

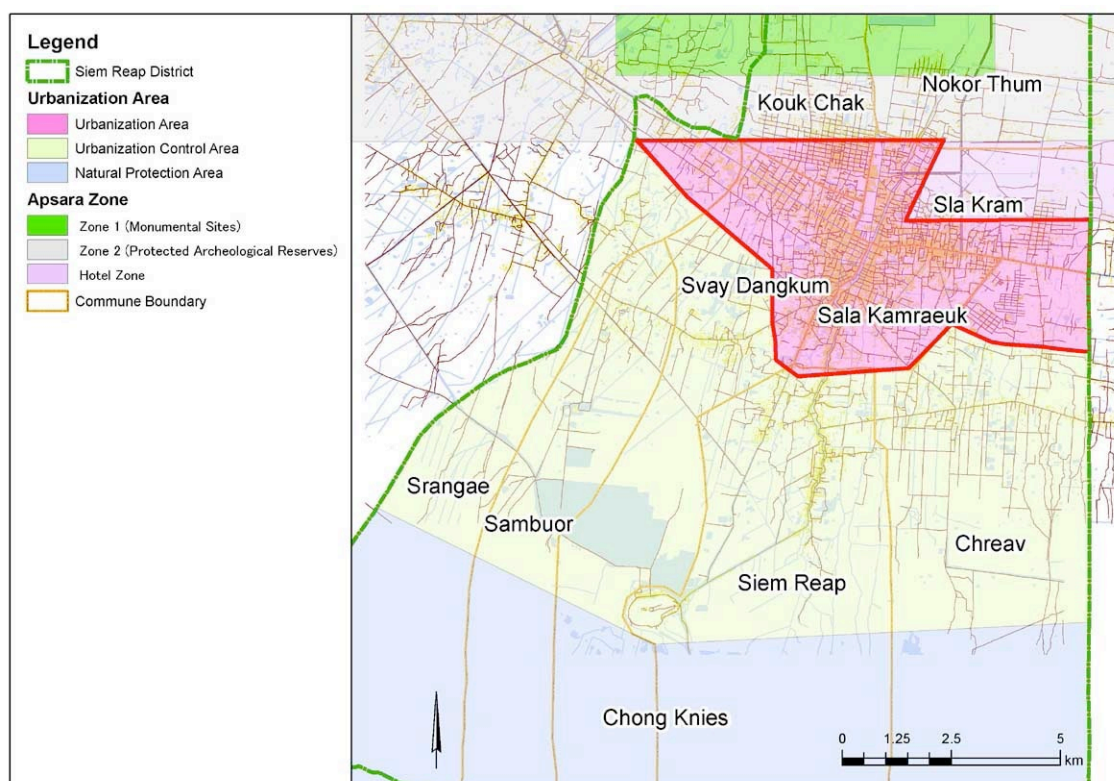
**4) Environmental Protection Area: Existing Tonle Sap Lake Area**

The area should be preserved for natural environment since this area is close to Tonle Sap Lake. Any development shall not be allowed.

**Table III.1.4 Responsible Agencies for Urban Planning Area**

<b>Current Classification of the Area</b>	Rural/Heritage Area	Urban Area (Urbanized Area/ Urbanizing Area)	Rural Area	Tonle Sap Lake Area
<b>Urban Planning Area</b>	<b>APSARA Conservation Area</b>	<b>Urbanization Area</b>	<b>Urbanization Control Area</b>	<b>Environmental Protection Area</b>
<b>Development Control</b>	Strict	Promoted based on Land Use Plan	Strict	Strict
<b>Responsible Agency</b>	APSARA Authority	Provincial Government/ APSARA Authority	Provincial Government/ APSARA Authority	Provincial Government/ APSARA Authority

Source: JICA Study Team



Source: JICA Study Team

**Figure III.1.15 Urban Planning Area in Siem Reap District**

### (3) Definition of the Land Use Categories

#### 1) Objective

Land use is a special method to control development speed and areas to be developed in the future, and to manage the areas for urban activities. Although the administrator should shoulder the responsibility on the control of urban development direction, Siem Reap city has not been developed with strict policy or regulation regarding the direction of utilization of the land. Nowadays, this causes many urban problems such as traffic congestion, mixed use by several types of buildings and so on. Definition and enforcement of land use categories can deal with these problems and lead to more attractive city.

#### 2) Classification

The classification of the land use in this Study shall follow those adopted in the Asia-Urban Project conducted with the German assistance through DED (*Deutscher Entwicklungsdienst*, German Development Service). This project deals with the two cities in the northeastern part of Cambodia, namely Siem Reap and Battambang as the pilot cities, and aims at formulating land use plans together with the capacity building of administrative staff. As part of the project, they consider a implementable land use restrictions, in which the following definitions and permissible and impermissible buildings are stipulated. We follow these land use categories.

**Table III.1.5 Land Use Type Applied to Siem Reap District-1/3**

	<b>Definition</b>	<b>Permitted</b>	<b>Prohibited</b>
<b>Administration Area</b>	Primarily to provide accommodation for administration and public services.	<ul style="list-style-type: none"> <li>- Administrative facilities</li> <li>- Offices of NGOs and political parties</li> <li>- Police stations</li> <li>- Fire police stations</li> <li>- Post office</li> <li>- Courthouse</li> </ul>	<ul style="list-style-type: none"> <li>- Accommodation or tourism purpose facilities</li> <li>- Any industrial facilities</li> </ul>
<b>Residential Area</b>	Primarily to provide space for housing.	<ul style="list-style-type: none"> <li>- All kind of residential buildings</li> <li>- Small parks</li> <li>- Small retail stores</li> </ul>	<ul style="list-style-type: none"> <li>- Heavy industry</li> </ul>
<b>Commercial Area</b>	Primarily to provide accommodation for commerce (especially large scale) and for central businesses.	<ul style="list-style-type: none"> <li>- Residential buildings</li> <li>- Restaurants and bars</li> <li>- Accommodation facilities</li> <li>- Shopping facilities</li> <li>- Market places</li> <li>- Cultural facilities</li> <li>- Services and offices</li> <li>- Congress halls and trade fair areas</li> <li>- Wholesalers and suppliers</li> </ul>	<ul style="list-style-type: none"> <li>- All kinds of functions producing noise pollution</li> <li>- Factories</li> <li>- Truck stations</li> <li>- Airport (also no right to fly over the area)</li> </ul>
<b>Mixed Use Area</b>	To provide space for housing, and to accommodate businesses that do not have disruptive effects on the residential function. Provided that the newly development area should be limited in particular size.	<ul style="list-style-type: none"> <li>- Residential buildings</li> <li>- Religious places</li> <li>- Education facilities</li> <li>- Health facilities</li> <li>- Social facilities</li> <li>- Accommodation facilities</li> <li>- Workshops and handicraft which are not disturbing the residential function</li> <li>- Store places</li> <li>- Public toilets</li> <li>- Small scale agriculture use</li> </ul>	<ul style="list-style-type: none"> <li>- Utilizations that disrupt residential function, in particular factories, workshops for metal work, workshops for vehicle repairing as well as market places</li> </ul>
<b>Small &amp; Medium Industrial Area</b>	Predominantly to provide accommodation for enterprises, which are not seriously disrupting in character.	<ul style="list-style-type: none"> <li>- Repairing workshops of all kind</li> <li>- Washing places for vehicles</li> <li>- Handicraft of all kind</li> <li>- Food processing</li> </ul>	<ul style="list-style-type: none"> <li>- Big hotels</li> <li>- Big hospitals</li> <li>- Residential buildings</li> <li>- Education facilities</li> </ul>

Source: Asia Urbs Project Team and JICA Study Team



**Table III.1.6 Land Use Type Applied to Siem Reap District-2/3**

	<b>Definition</b>	<b>Permitted</b>	<b>Prohibited</b>
<b>Tourism Area</b>	To provide space for accommodating tourists (especially large scale hotels) as well as for tourism-oriented services and businesses.	<ul style="list-style-type: none"> <li>- Accommodation facilities</li> <li>- Restaurants</li> <li>- Tourism-related services</li> <li>- Tourist information centers</li> <li>- Cultural facilities</li> <li>- Amusement facilities</li> <li>- Shopping facilities related to tourism</li> <li>- Small scale tourism-related handicrafts</li> <li>- Small scale sports and recreation facilities</li> <li>- Residential buildings</li> </ul>	- Large scale technical infrastructures which disrupt landscape or natural environment
<b>Culture Area</b>	Primarily to provide space for cultural facilities and services.	<ul style="list-style-type: none"> <li>- Pagodas or any other religious facilities</li> <li>- Museums</li> <li>- Theatres, concert halls, cinemas</li> <li>- Libraries</li> <li>- Exhibition halls</li> <li>- Monuments (historical sites)</li> <li>- Cultural villages</li> </ul>	- Large scale shopping center and technical infrastructures
<b>Public Space</b>	Predominantly green areas and facilities, which are open for the public.	<ul style="list-style-type: none"> <li>- Public parks</li> <li>- Theatres / Concert halls – small scale</li> <li>- Monuments (statues) and its surrounding park/area</li> </ul>	- Large scale shopping center and technical infrastructures
<b>Sport &amp; Recreation Area</b>	Predominantly to give space for public or private sports facilities and recreational area.	<ul style="list-style-type: none"> <li>- Stadium</li> <li>- Sports grounds</li> <li>- Swimming pools</li> <li>- Golf course</li> <li>- Amusement parks</li> <li>- Play grounds</li> <li>- Picnic areas</li> </ul>	- Large scale technical infrastructures
<b>Technical Infrastructure</b>	Mainly giving space for the construction of technical infrastructure	<ul style="list-style-type: none"> <li>- Airport areas</li> <li>- Waste disposal sites</li> <li>- Waste separation sites</li> <li>- Waste water treatment plants</li> <li>- Drinking water treatment plants</li> <li>- Power stations</li> <li>- Other technical infrastructure</li> </ul>	- Commercial/ Tourism facilities - Agricultural use
<b>Agriculture Area</b>	Mainly giving space for agricultural use as well as agro-industrial operations	<ul style="list-style-type: none"> <li>- Agriculture use</li> <li>- Residential use</li> <li>- Small scale retail shops</li> <li>- Small scale operations for processing agricultural products</li> <li>- Workshops for agricultural tools and vehicles</li> <li>- Storehouses and warehouses</li> <li>- Small scale accommodation facilities for workers and guards at plantations</li> <li>- Canals</li> <li>- Water reservoirs / water tanks</li> <li>- Air field for agricultural airplanes</li> </ul>	- Any development without environmental assessment and permission
<b>Reservation Area</b>	Reserved for sizable development	<ul style="list-style-type: none"> <li>- Small/medium size industrial facility</li> <li>- Transportation facility</li> <li>- Storage facility</li> <li>- Sizable residential area</li> </ul>	- Any development without environmental assessment and permission

Source: Asia Urbs Project Team and JICA Study Team

**Table III.1.7 Land Use Type Applied to Siem Reap District-3/3**

	<b>Definition</b>	<b>Permitted</b>	<b>Prohibited</b>
<b>Protected Area (Corresponding to Environmental Protected Area)</b>	To protect and preserve natural environments as they alive	<ul style="list-style-type: none"> <li>- Wild life sanctuaries</li> <li>- Nations parks</li> <li>- Mountain areas</li> <li>- Water bodies including water reservoir</li> <li>- Buffer zones</li> <li>- Flooded forest</li> <li>- Fishing areas at Tonle Sap Lake</li> </ul>	- Any development without environmental assessment and permission
<b>Conservation Area (corresponding to APSARA Conservation Area)</b>	To protect and preserve all buildings with historic value	<ul style="list-style-type: none"> <li>- Historic sites of ancient times</li> <li>- Traditional Khmer style</li> <li>- Khmer modern style</li> <li>- French colonial style</li> <li>- Chinese heritage</li> </ul>	- Any development without environmental assessment and permission

Source: Asia Urbs Project Team and JICA Study Team

**Table III.1.8 Land Use Type NOT Applied to Siem Reap District**

	<b>Definition</b>	<b>Permitted</b>	<b>Prohibited</b>
<b>Heavy Industry Area</b>	To accommodate industrial operations, and in particular operations of kinds, which are not permitted in other specific land use areas	<ul style="list-style-type: none"> <li>- Factories</li> <li>- Parking for heavy vehicles</li> <li>- Technical infrastructure</li> <li>- First aid posts for emergency</li> <li>- Small guesthouses for visitors</li> <li>- Small scale residential buildings for workers coming from remote areas, but not for whole families</li> </ul>	<ul style="list-style-type: none"> <li>- Big hotels and guest houses</li> <li>- Big hospitals</li> <li>- Residential buildings</li> <li>- Education facilities</li> </ul>

Source: Asia Urbs Project Team, JICA Study Team

#### (4) Draft Land Use Plan

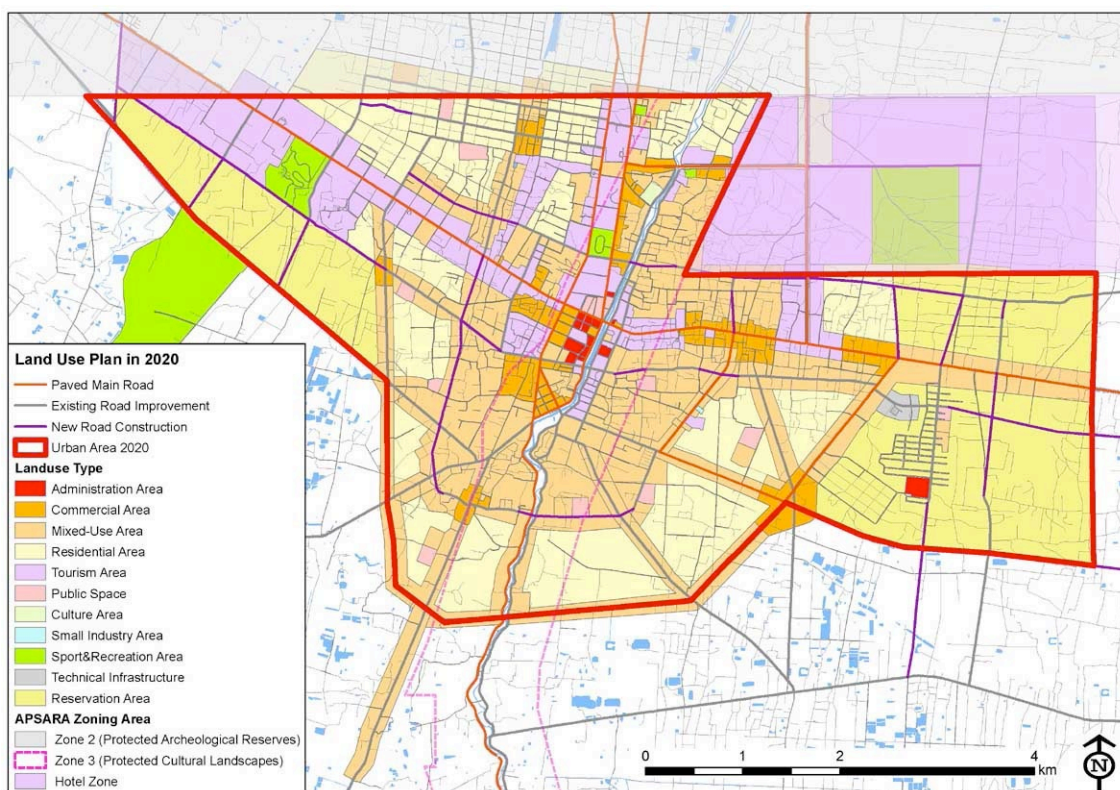
Based on the idea above, a draft land use plan is depicted in Figure III.1.16.

The land use plan in this Study shall have the target year of 2020. The future land use is thus formulated only for the target year of 2020.

In order to control the urban expansion and development to match the land use plan, the control of new buildings will be devised based on the coverage ratio, floor to area ratio and / or height of the buildings. The control will be applied to new buildings within the “urbanization area” set for 2020.

For the purpose of achieving a compact city in Siem Reap, the areas inside the proposed ring road and south of the NR6 shall be considered as a priority area for urbanization, and the infrastructure development shall be promoted with priority within this area, while the areas outside this priority area shall be considered for private sector urban development to be permitted on a certain scale and with well planned urban environmental conditions.

The areas under different categories of land use are shown in the Table III.1.10.



Source: JICA Study Team

**Figure III.1.16 Draft Land Use Plan**

**Table III.1.9 Composition of the Land Use in 2020**

Land Use Category	Commune										Total
	Sla Kram	Svay Dangcum	Kouk Chak	Sala Kamraeuk	Nokor Thum	Chreav	Chong Knies	Sambuor	Siem Reap	Srangae	
Administration Area	0.7	8.2	0.0	1.3	0.0	4.7	-	0.0	0.0	0.0	15.0
Residential Area	102.9	171.1	218.8	306.4	0.0	0.0	-	0.0	0.0	0.0	799.3
Commercial Area	40.4	52.4	9.4	38.9	0.0	16.9	-	0.0	0.0	0.0	158.0
Mixed Use Area	192.9	346.5	37.9	424.3	0.0	88.7	-	0.0	45.4	0.0	1135.6
Small & Medium Industrial Area	0.0	0.0	0.0	0.4	0.0	0.0	-	0.0	0.0	0.0	0.4
Tourism Area	640.6	152.3	30.6	33.1	0.0	0.0	-	0.0	0.0	141.1	997.7
Culture Area	25.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	25.0
Public Space	7.1	7.5	8.4	12.8	0.0	1.7	-	0.0	0.0	0.0	37.6
Sport & Recreation Area	98.7	6.4	0.0	0.0	0.0	0.0	-	0.0	0.0	158.1	263.3
Technical Infrastructure	0.0	0.0	0.0	0.0	0.0	9.6	-	0.0	0.0	0.0	9.6
Reservation Area	190.4	115.8	0.0	0.0	0.0	384.4	-	0.0	0.0	109.5	800.1
<b>Sub Total</b>	<b>1298.8</b>	<b>860.1</b>	<b>305.1</b>	<b>817.3</b>	<b>0.0</b>	<b>506.1</b>	<b>-</b>	<b>0.0</b>	<b>45.4</b>	<b>408.7</b>	<b>4241.7</b>
Others (Agriculture, Road, etc.)	1.7	3170.9	3506.2	23.3	5488.2	6074.1	-	2697.0	5469.8	3329.6	29760.8
<b>Total</b>	<b>1300.5</b>	<b>4031.0</b>	<b>3811.3</b>	<b>840.6</b>	<b>5488.2</b>	<b>6580.2</b>	<b>-</b>	<b>2697.0</b>	<b>5515.3</b>	<b>3738.3</b>	<b>34002.5</b>

Source: JICA Study Team

### 1.3 Projects / Programs

Based on the above mentioned plans and other related chapters, we propose the projects and programs for urban development. The projects and programs include those outside the urban area.

**Table III.1.10 Proposed Projects for Urban Development and Relevant Sectors**

Area	Sector approaches	Proposed Projects[Relevant Sectors]
Urban Area	<ul style="list-style-type: none"> <li>• Formulation of a compact city with Effective enforcement of the urban plan</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Urgent urban environment, infrastructure and landscape improvement project for City Center area – Priority Project</b></li> </ul>
	<ul style="list-style-type: none"> <li>• Urban redevelopment and integration of Old Quarter Area</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Urban planning capacity development</b></li> <li>• <b>Inventory of historical architecture with preservation value in Siem Reap City</b></li> <li>• <b>Residential development promotion</b></li> </ul>
	<ul style="list-style-type: none"> <li>• Urban roads and infrastructure development</li> </ul>	
	<ul style="list-style-type: none"> <li>• Construction and improvement of urban roads and infrastructure prior to urbanization under community partnership</li> </ul>	<ul style="list-style-type: none"> <li>• Community Application Project [Community Empowerment]</li> </ul>
	<ul style="list-style-type: none"> <li>• Enhancement of Visitor Reception Function</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Planning and implementation of Hotel, Cultural and Visitor Zone for New Angkor Gate</b></li> <li>• Development of Siem Reap Products Mart / Visitor Information Center for New Angkor Gate [Tourism]</li> </ul>
Rural Area	<ul style="list-style-type: none"> <li>• Promotion of village tourism with hands-on experience (Heritage Area)</li> </ul>	<ul style="list-style-type: none"> <li>• Village Tourism Promotion Project at selected village in the protection zone [Local Product Promotion]</li> </ul>
	<ul style="list-style-type: none"> <li>• Promotion of suburban agriculture and improvement of distribution system (Other Area)</li> </ul>	<ul style="list-style-type: none"> <li>• Agricultural diversification [Local Product Promotion]</li> </ul>
Tonle Sap Lake Area	<ul style="list-style-type: none"> <li>• Promotion of sustainable ecotourism in Tonle Sap Lake Area and Perennial Flooding Area</li> </ul>	<ul style="list-style-type: none"> <li>• Tourism facilities improvement [Tourism]</li> </ul>

Note: Projects in **bold** are the projects for the urban Development sector.

Source: JICA Study Team.

There are five (5) projects directly related to urban and regional planning, while other projects are chiefly designed for relevant sectors with some coherence to the urban and regional planning sector. The following list summarizes the four projects. The further details are listed in the Appendix of this chapter.

**Table III.1.11 Priority Projects for Urban Development**

<b>Project Title</b>	<b>Implementing Agency</b>	<b>Outline</b>	<b>Proposed Schedule for implementation</b>
<b>U-1:</b> City Center Area Improvement	Siem Reap Province, in cooperation with relevant ministerial departments.	The Old Quarter Area is the core of the urban area of Siem Reap, as well as the gateway for the tourists. This project aims at creating and enhancing sustainable environment for the city center and its outskirt areas, by providing various urgent infrastructure and improving landscaping.	2006-2008
<b>U-2:</b> Urban Planning Capacity Building	DLMUPC, District, APSARA and Province.	Though Cambodia has a law and regulations for urban planning, the implementation system is still in developing stage, due mainly to the lack of experience and confidence. This project aims at assisting the local government to enhance the capacity to sustainably enforce the urban planning visions and land use plan by using GIS and other information system.	2006-2008
<b>U-3:</b> Inventory of Historical Buildings	APSARA / Siem Reap Province	There is plenty of old French colonial architecture dating back to 1930's, many of which are in danger for demolition or renovation. The project aims at making an inventory of such architectural pieces for preservation and sustainable use in the future.	2008
<b>U-4:</b> Residential Development Promotion	DLMUPC, District, and Private Sector	Urban population is growing rapidly without preparedness of residential development. Consequently, residential area is encroaching to Zone 2. To prevent the conflict between heritage and residents, Siem Reap should absorb new residents on the area without conflict. This project promotes development of residential area for newcomers as well as current residents in heritage area. It also provides community infrastructure such as clinic, elementary school and markets.	2008-2020
<b>U-5:</b> Planning and Implementation of Hotel, Cultural and Visitor Zone for New Angkor Gate	APSARA	To make Angkor ruins more attractive and enjoyable for tourists, enhancement of visitor reception function as well as preparation of hotel and cultural zone needs to be devised. This project aims at supporting APSARA with the ongoing planning and possible future implementation of Hotel and Cultural Zone.	2007-2008

Note: Shaded part corresponds to priority projects.

Source: JICA Study Team.

## **1.4 Current and Proposed Institutional Arrangements**

### **1.4.1 Present Institutional Setting of Urban Planning in Cambodia**

There are a few laws and a number of regulations to control urban development and regional planning in Cambodia. These regulations are not effectively enforced and some are not consistent with one another. The following section briefly reviews the laws and regulations related to the urban and regional planning issues.

#### **(1) Land Law (1992)**

The Royal Government of Cambodia enacted the Land Law of August 11, 1992. The Law widely defined various types of land rights (propriety, temporary possession,

authorization to cultivate, concession, ownership for a life time, right of use etc.). The Law allowed land ownership in urban areas but not in rural areas. Rural residents received only possession rights. Following the law enactment, large number of land disputes has been made between pre- and post- Khmer Rouge regime owners. Later, the Land Law was revised in 2001.

**(2) Royal Decree (1992)**

A Royal Decree issued in 1992 defined the 50m protected area on each side of the Siem Reap River and 500m zone for careful monitoring. This Decree was suspended in 1999.

**(3) Law on Land Management, Urban Planning and Constructions (1994)**

The Government enacted the Law on Land Management, Urban Planning and Construction in August 1994. The Law established a National Committee for Land Management, Urban Planning and Construction as a national organization. Provincial and district government are also required to establish respective Sub-Committee for Land Management, Urban Planning and Construction. The Sub-Committee is responsible to prepare each land use master plan. The prepared master plan should be approved by National Committee and be authorized by a Sub-Decree (Article 5).

Practically, there has been no Sub-Committee established in any provinces to prepare their land use master plans.

**(4) Law on the Establishment of MLMUPC (1999)**

Enacted in May 1999, the Law on the Establishment of Ministry of Land Management, Urban Planning and Construction (MLMUPC) merged related ministries into one. The Ministry has the authority to prepare and implement land use plan in urban areas in all Cambodia. In fact, each provincial and municipal department of land management, urban planning and construction represents the function to prepare local master plans.

**(5) Government Decision Number 47 (2003)**

As a pilot project, the Ministry of Interior delegated the administrative power from Provinces to Siem Reap District and Battambang District as to coordinate, to promote, and to supervise the formulation of master plan, land use planning, and all constructions as approved to build, repair and maintain roads to control traffic circulation and to register vehicles (Article 4).

This is a decentralization decision from provincial to district government. In fact, the Decision is not working properly and most of above administration remains within the Siem Reap Provincial Government.

**(6) Sub-Decree Number 15 (2004)**

The Sub-Decree Number 15 in 2004 authorized the APSARA Authority to prepare and to implement the district urban master plan and provincial tourism master plan (Article 11).

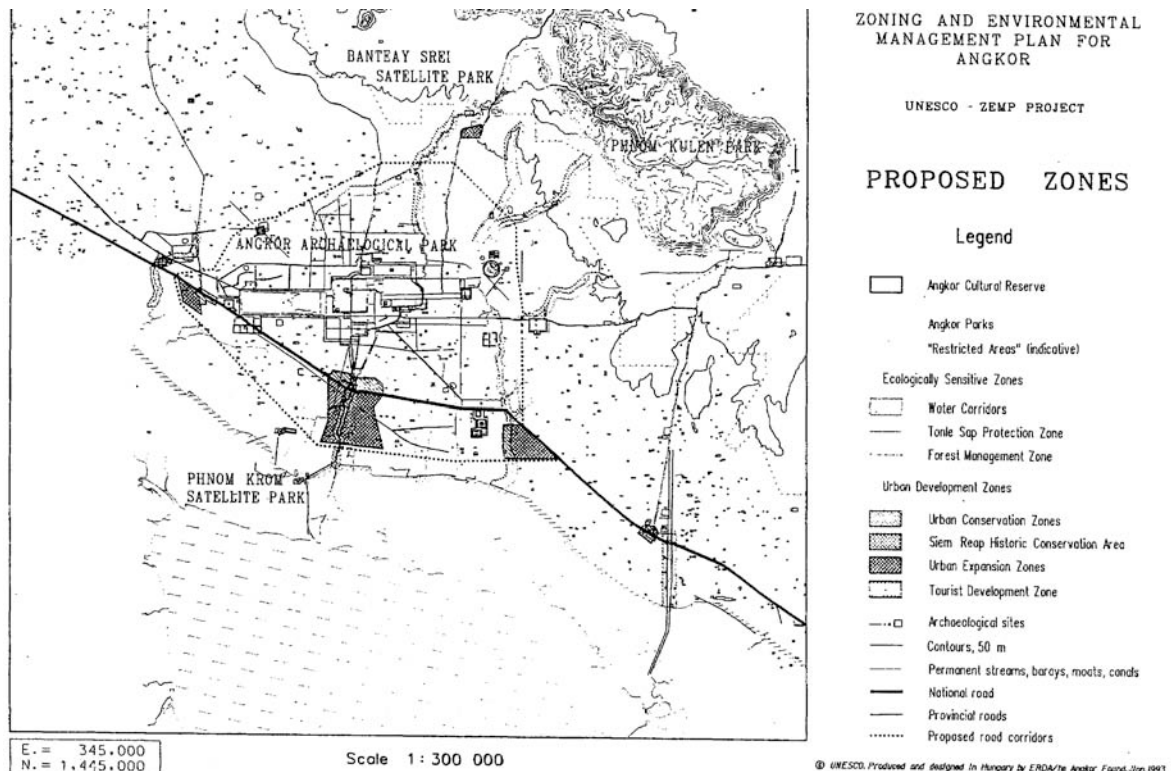
**1.4.2 Existing Land Use Framework**

Although the Angkor area was provisionally registered on the World Heritage List by UNESCO in 1992, an effective protection plan was required as conditionality for the non-provisional registration. The conditionality became a driving force to prepare a

master plan for the Siem Reap / Angkor Area. Since its establishment in 1995, APSARA has been the main workforce for land use planning.

### (1) ZEMP (1994)

To fulfill the above conditionality by UNESCO, the Royal Government of Cambodia prepared Zoning and Environment Management Plan (ZEMP) in 1994 under the supervision of UNESCO. ZEMP has been implemented in various aspects. The area has been de-mined with priority and illegal logging has been banned.



Source: ZEMP (1994)

**Figure III.1.17 Zoning by ZEMP**

Royal Decree Number 001/NS was issued to establish Protected Cultural Zones in the Siem Reap / Angkor Region and Guidelines for their Management on May 28, 1994. Current zoning as follows is based on this Decree that has different zoning from ZEMP. New construction within Zone 1 and 2 has been prohibited. New construction in Zone 3 can be approved with permission.

Zone 1: Monumental sites

Zone 2: Protected archaeological reserves, or Buffer zone

Zone 3: Protected cultural landscapes

Zone 4: Sites of archaeological, anthropological or historical interest

Zone 5: Socio-economic and cultural development perimeter of the Siem Reap/Angkor Region.

### (2) PUR (1995)

After the establishment of APSARA in 1995, the protecting authority became clear.

APSARA firstly prepared its plan as *Plan d'urbanisme de reference et projets prioritaires: Siem Reap /Angkor* (PUR) in 1995. PUR proposed the protection of agricultural area in the western outskirt and residential development in the southeastern area. Additionally, a Hotel Zone was proposed defined in the northeastern area.

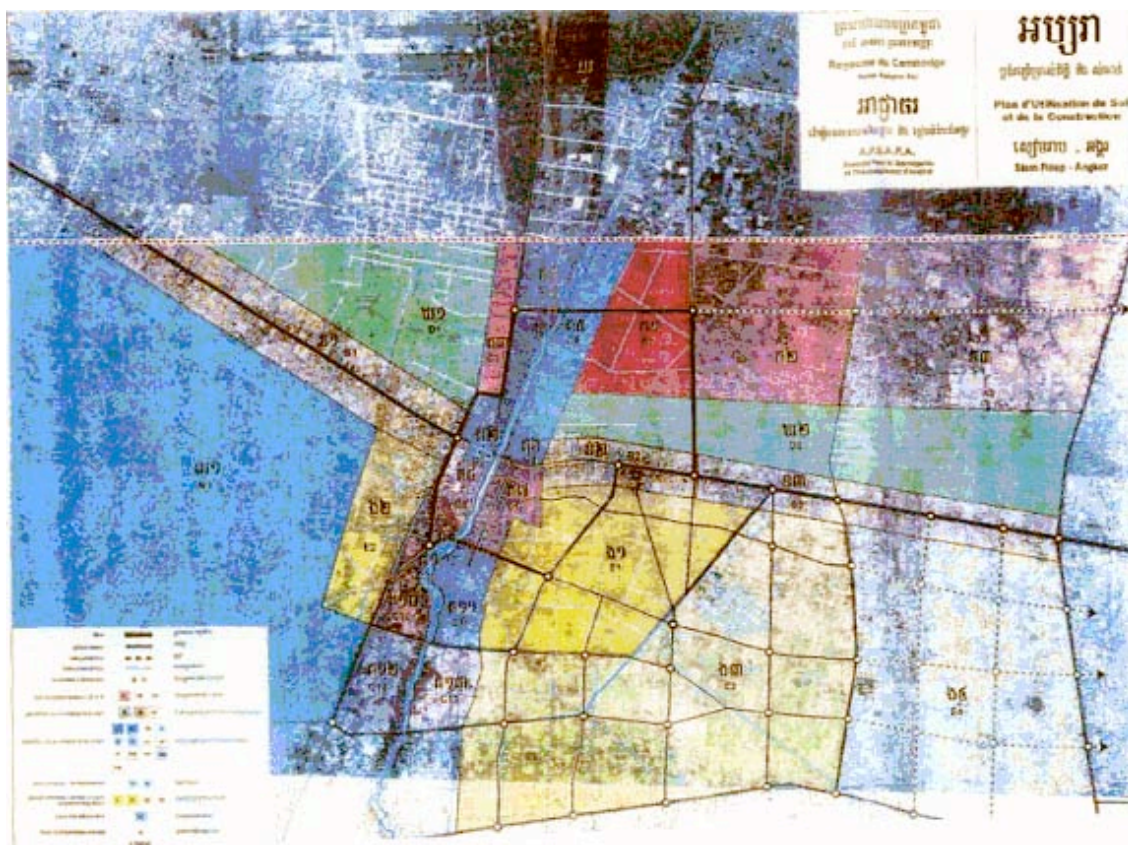
Based on the PUR, Royal Sub-Decree Number 79 (October 1995) authorized the three points as follows:

- APSARA was committed to manage and to develop the 560 hectare of Hotel Zone;
- The 250 meter wide area along the Route 6 was defined as Urban Planning Buffer Zone and
- The 500 meter wide area on each bank of the Siem Reap River was defined as Embankment Protection Area.

Some ideas, especially the hotel zone, are still active in the current zoning.

### (3) PUSC (1999)

In July, 1999, the APSARA prepared the Land Use and Construction Plan (*Plan d'Utilisation des Sols et de la Construction*, PUSC). The PUSC defined a detailed building regulation including purpose, site area, height, and colors. Figure III.1.17 shows the road network of PUSC. Although the plan was authorized by the Decree 35, it was cancelled due to its strict regulations.



Source: PUSC (1999)

**Figure III.1.18 Zoning in PUSC (1999)**

### (4) Revised PUSC (2002)

With foreign aid from AFD, APSARA revised PUSC in June 2002. Major revisions



are made in the following two points.

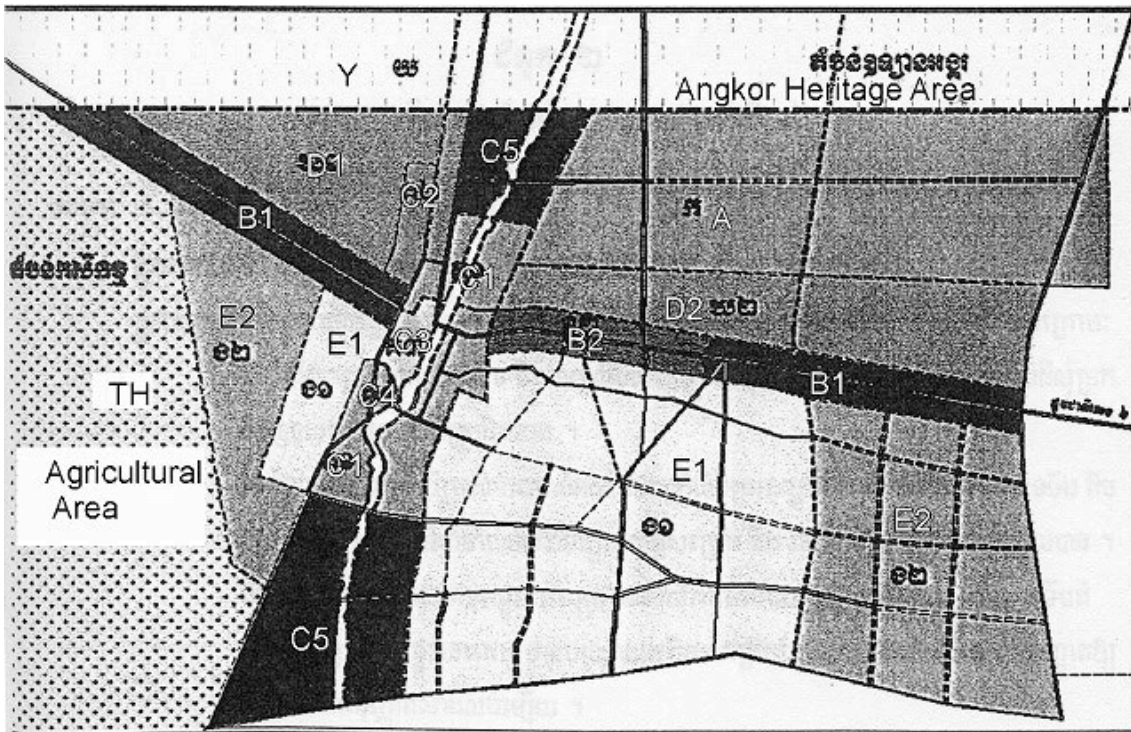
One was the deregulation of building clearance of hotels along the Route 6. Original plan required 300meters to next hotel and 30meter clearance to the Route 6. However, these requirements were considered too strict and finally deregulated.

The other defined the responsibility of land developers to protect the existing drainage system. These revisions caused opposition by investors and the PUSC has not been authorized as a decree.

**(5) Sub-Decree on Demarcation, Preparation, Construction and Development in Siem Reap-Angkor (Sub-Decree 35)**

In 2004, APSARA submitted a draft of Sub-Decree on Demarcation, Preparation, Construction and Development in Siem Reap-Angkor, also called as “Sub-Decree 35,” to the Council of Ministers for approval. This draft has not yet been authorized as of September 2005. If this Sub-Decree is authorized, it will be the latest guideline for urban planning in Siem Reap. The Sub-Decree authorizes the APSARA Authority to regulate the permission of construction following the basic categories of land uses in Siem Reap. The following Figure III.1.19 and Table III.1.12-13 show the guidelines of regulations.

Most of the elements in the Sub-Decree follow the PUSC. The Sub-Decree also deregulated building shape rule from the Revised PUSC (2002) by receiving public opinions.



Source: Sub Decree 35.

**Figure III.1.19 Zoning by Sub Decree 35**

**Table III.1.12 Definition of Zones in Sub Decree 35**

Zone	Description
A	Cultural and Tourism Area (1,007 ha)
B1-2	First Level Development Area of Siem Reap
C1-5	Protected Cultural Area (500 m width along Siem Reap River)
D1-2	Second Level Development Area of Siem Reap
E1-2	Short, Medium, and Long-term City Expansion Area.
TH	Natural and agriculture areas
Y	Angkor Park

Source: Article 2, Sub-Decree 35.

**Table III.1.13 Building Shape Regulation by Sub Decree 35**

Zone	Head of Lot	Setback		Floor area ratio	Building-to-land ratio	Height (H)	Others
		From Roads	From plot boundary to Building				
B1		6m/National Route and 4m from other routes	2.5m and ½ Height if front land=30m	60%	60%	H<14m	
B2		4m/National Route	½ Height if front land=30m	100%	70%	H<12m	
C1		4m/ National Route No.6 and 6m from other routes	2.5m and ½ height if front land =30m	60%	60%	8m<H<13m, or 11m <H< 14m	Along River Along Road to Angkor, Sivatha, Route No.6
C2		10m	2.5m and ½ height if front land=30m	60%	60%	8m <H< 13m, or 11m <H< 14m	Along River Along road to Angkor
C3	Larger than 20m	6m	4m	60%	60%	8m<H<13m, or 11m <H< 14m	Along River Along Sivatha road
C4			½ height if front land =30m	100%	70%	8m<H<13m	
C5		6m	2.5 and ½ height if front land =30m	60%	60%	8m<H<13m, or 11m <H< 14m	Along road to Angkor
D1		8m	2.5 and ½ height if front land =30m	35%	30%	8m<H<11m	
D2		8m	2.5 and ½ height if front land =30m	60%	50%	8m<H<11m	
E1		4m	2.5 and ½ height if front land =30m	80%	70%	11m <H< 14m	
E2		6m	2.5 and ½ height if front land =30m	60%	60%	8m<H<11m	
N		6m	2.5 and ½ height if front land =30m	10%	10%	8m<H<11m	

Source: Sub Decree 35.

### 1.4.3 Issues in Institutional Framework for Urban Planning

#### (1) Weak Institutional Framework

It is well understood that the Law on Land Management, Urban Planning and Construction (1994) is the basic law governing the urban planning in Cambodia.

Nonetheless, as depicted in the Subsection 1.1.2, there are a number of laws and regulations for the urban planning in Cambodia without much coordination. Some of the sub-decrees and government decisions make more specific stipulations, but their relative position to the Law is yet unclear.

For example, Siem Reap has supposedly three authorities responsible for urban planning; namely APSARA, District Government and Provincial Department of Land Management, Urban Planning and Construction (DLMUPC), as tabulated below.

**Table III.1.14 Three Authorities Responsible for Siem Reap Urban Planning**

Name	Legal Backup
DLMUPC (Province)	Land Management Law (1994)
Siem Reap District	Government Decision 47 (2003)
APSARA Authority	Sub-Decree 15 (2004)

Source: JICA Study Team.

As there is no stipulation of duplicating legal powers it is unclear which organizations should take a lead in establishing the urban plan for Siem Reap city and which institution to enforce it.

### (2) Lack of Experience in Formulating Urban Master Plan

The Law on Land Management, Urban Planning and Construction (1994) stipulates that a development master plan needs to be drawn by the Provincial committee and approved by the National Committee (Article 5), together with the Land Use master plan (Article 8). Nonetheless, no such development master plan or land use plan has ever been officially approved in accordance with this Law. In this regard, urban planning still does not exist in practice in Cambodia.

In this regard, it is strongly recommended that the development master plan together with the land use plan for Siem Reap as proposed in this Study shall follow the stipulations in the Law and be applied for approval with necessary modification and coordination.

### (3) Difficulty in Securing Land for Public Facilities

In relation to the items (1) and (2) above, it is often pointed out by local administrators that it is extremely difficult to secure necessary land for public facilities such as roads, drainage, parks etc. Part of the reason for the difficulty comes from the lack of funding for advance procurement of land, as the financial flow from the central to provincial governments are scarce and insufficient. Another reason is that there is no institutional framework to designate some area for the public use as part of the development master plan<sup>5</sup>.

---

<sup>5</sup> In the Urban Planning Law in Japan, each municipality has the power to designate certain area for the public facility, and introduce land use and building permit restriction. This will be a measure for safeguarding the availability of public lands prior to the procurement, and control speculation about the land.

#### 1.4.4 Proposed Institutional Framework for Urban Planning

##### **(1) Formation of Provincial Committee for Land Management, Urban Planning and Construction**

Following the stipulation in the Law on Land Management, Urban Planning and Construction, there needs to be the Provincial Committee for Land Management, Urban Planning and Construction in Siem Reap Province. The task of the committee will be to envisage and integrate the proposed visions of SRAT Study, Asia Urbs project financed by DED of Germany, and other related planning works, and prepare the urban development plan and land use plan for Siem Reap for application for approval in the Central Committee.

The main participating organizations shall be:

- Governor of Siem Reap Province
- APSARA Authority
- Department of Land Management, Urban Planning and Construction
- Department of Public Works, Transport and Communication
- Other departments as necessary
- District and Commune representatives

##### **(2) Capacity Building for Urban Planning and Enforcement**

Capacity building will be required for the staff of the Provincial government as well as the Department of Land Management and Urban Planning Division of APSARA Authority for the preparation and enforcement of urban planning. External assistance will be recommendable, as the know-how for urban planning in Cambodia has limited stock at present, and a number of new systems need to be formulated.

The possible areas that require capacity building shall be:

- Guidelines for urban planning principles
- Methodology for analysis of urban problems
- Use of GIS (Geographical Information System) as a tool for urban planning
- Formulation of urban development plans
- Formulation of land use plans
- Facilitation for public participation for urban planning
- Designing of urban planning enforcement measures

##### **(3) Funding for Urban Planning**

It was pointed out that the Provincial Government lacks in financing tools for urban planning and infrastructure needs. As the budgetary system in Cambodia is yet substantially centralized, with the major flow of financing to the local governments come chiefly from the Central Government, area specific infrastructure and urban planning needs are somewhat left behind. It is recommendable that the local government should have its own flow of capital in such a way as the local taxes. The proposed hotel tax, though it is at present suspended, is a good and recommendable way to finance the local improvement needs in infrastructure and financing.

This issue will be highlighted in the chapter for local financing (Chapter 12).