

A large abstract graphic composed of various shades of red and dark red squares and rectangles, creating a pixelated or mosaic effect.

Cambodia

Urban Sector Assessment, Strategy,  
and Road Map



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Urban Sector Assessment, Strategy,  
and Road Map

February 2012

Asian Development Bank

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# Currency Equivalents

(as of 30 September 2010)

|               |   |           |
|---------------|---|-----------|
| Currency unit | - | riel (KR) |
| KR1           | = | \$0.00024 |
| \$1.00        | = | KR4,231   |

## Abbreviations

|            |   |   |
|------------|---|---|
| ADB        | - | Asian Development Bank  |
| AFD        | - | Agence Française de Développement   |
| DED        | - | Deutscher Entwicklungsdienst (German Development Service)   |
| GDP        | - | gross domestic product  |
| GIZ        | - | Deutsche Gesellschaft für Internationale Zusammenarbeit<br>(German Society for International Cooperation) |
| GMS        | - | Greater Mekong Subregion  |
| JFPR       | - | Japan Fund for Poverty Reduction  |
| JICA       | - | Japan International Cooperation Agency  |
| NCDD       | - | National Committee for Sub-National Democratic Development  |
| NSDP       | - | national strategic development plan   |
| UNESCAP    | - | United Nations Economic and Social Commission for Asia and the Pacific                                    |
| UN-HABITAT | - | United Nations Human Settlements Programme  |
| UPDF       | - | Urban Poor Development Fund   |

## Glossary

|         |   |   |
|---------|---|---|
| khan    | - | urban district                            |
| PRAKAS  | - | a Khmer word referring to a “Declaration” |
| sangkat | - | urban commune                             |
| srok    | - | rural district                            |

# Acknowledgments

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# Sector Assessment: Context and Strategic Issues

## A. Introduction

1. This sector assessment, strategy, and road map documents the current assessment and strategic investment priorities of the Government of Cambodia and Asian Development Bank (ADB) in Cambodia's urban sector. It highlights sector performance (Appendix 1), priority development constraints, government plans and strategies, past ADB support and experience, other development partner support, and the future ADB support strategy. In addition to providing sector-level input into the ADB country partnership strategy for Cambodia, this paper serves as a basis for further dialogue and action on how ADB and the government can work together to tackle the complex challenge of managing rapid urban growth and development in the coming years.

## B. Overall Sector Context

### 1. Overall Context

2. Cambodia has recorded sustained economic growth in recent years. The economy grew by about 8% per annum between 2000 and 2003, and just over 10% per annum between 2004 and 2007. The main determinants of economic growth since the mid-1990s have been a relatively stable macroeconomic environment, generally prudent domestic financial policies, and the creation of critical market economy institutions following years of conflict and socialist economic orientation. Recent economic growth has been derived from a narrow base comprising the garment, tourism, and construction sectors and, to a more limited extent, the agriculture sector. The agriculture sector's contribution to gross domestic product (GDP) is declining, with the economy's structural shifts toward industry and services. The relatively high national population growth rate (at about 1.5% per annum) and the limited absorption of labor into the secondary and tertiary sectors have left agriculture to absorb about 290,000 new entrants per year (ADB 2009c).

3. Three major transitions are taking place in the countries of the Greater Mekong Subregion (GMS): political reform from central planning to market-oriented economies, policies toward open borders, and major administrative and economic reforms toward decentralization. The political changes in Cambodia are mostly derived from the reestablishment of the state, coupled with reforms from central planning to a market-oriented economy. For the past 10 years, this has been supported by a national policy for decentralization and deconcentration. These developments run in parallel with the much larger transformation from a rural- to an urban-based economy.

4. In a market economy, the intended stronger, sustainable economic growth cannot be planned by a government alone, because most economic innovations and decisions depend on private sector initiatives, which need to be guided and facilitated by the government. Urban areas are growing and



diversifying, they are envisioned to establish the most desirable site and localization of economic activities, while reducing the congestion costs of unplanned cities. Thus, urban development strategies for Cambodia need to focus on a balanced regional distribution of viable small and medium-sized cities and towns<sup>1</sup>. The argument in favor of developing such areas is based on the ADB goal of guiding urban development in Cambodia under the overriding goal of being pro-poor and pro-rural, that is, to be inclusive and sustainable.

### 2. Growing Economic Contribution of the Urban Sector

5. The urban sector now accounts for about one-half of GDP in Cambodia, and the urban-based economy constitutes the most important share of the national economy. The bulk of the secondary and tertiary establishments and employment is located in towns and cities, while all primary sector employment is in villages (Appendix 2, Table A2.4). Due to greater labor productivity in the secondary and tertiary sectors, the urban-based economy is much larger than reflected in the urban population statistics due to newly created municipalities.<sup>2</sup>

6. Also, the urban informal sector is more productive than the rural one, which is the reason that so many rural people are attracted to marginally paid jobs in the larger cities, apart from the brighter prospects for services and education for their children. While the Phnom Penh capital region (which includes Kandal) obviously attracts most of the demographic and economic growth in the urban sector, the small and medium-sized cities and towns (footnote 1) should not be underestimated as to their role in the growing secondary and tertiary sectors. Deliberate urban growth policies in such secondary places are expected to contribute to poverty reduction in those provinces. Further, rural households in most countries derive a considerable percentage of their incomes from nonagricultural and nonrural activities, mostly in informal employment and petty trade (Rigg 1997, Yap unpublished).

7. The current urban population ratio stands at 20% (Khemro 2006) after the 2008 census, but the urban sector probably accounts for about 50% of GDP.<sup>3</sup> The urban-based labor force is much more productive than the agricultural labor force, which accounts for 75% of the total population.<sup>4</sup>

8. Urban population growth will continue to follow structural transformation. The next 10 years will see a considerable increase in overall population, with an even greater concentration on urban population to an estimated 30% or 5.6 million.<sup>5</sup> This constitutes a dramatic increase, which may indicate an urban share of the national economy in the order of 70% by 2020. Urban growth will be especially strong in the capital region, where more than one-half of urban development in the country will take place.

<sup>1</sup> Towns of less than 50,000 inhabitants; without defining a minimum size; among them towns with the administrative status of municipality (most of which were established in recent years only), but also all capitals of provinces (they do have the status of municipality) and the centers of districts (they are often typical rural market towns of rather small but growing population size).

<sup>2</sup> Of the existing 27 municipalities, 23 were created by new legislation in 2008 under the national decentralization and deconcentration reforms. The total population in municipalities is rated as urban although some small municipalities are more rural in character than urban. However, some peri-urban communities of the capital city may not be included in the urban population statistics.

<sup>3</sup> GDP sector contributions (2009) are reported to be 29% agriculture, 30% industries, and 41% services. Assuming 70% of industries and services as urban-based, the urban sector contribution would be 49.7% and very likely more than 50.0% of that for Phnom Penh alone.

<sup>4</sup> For comparison, Thailand's sector contribution (2009) is 12% agriculture, 44% industries, and 44% services. However, the labor share is 42% agriculture, 20% industries, and 38% services. The high official share of agricultural labor hides the fact that about 50% of agricultural incomes are derived from nonagricultural—and often nonrural—income sources.

<sup>5</sup> The official population projections by the National Institute of Statistics do not distinguish rural and urban ratios. This percentage figure is based on United Nations Development Programme and United Nations Economic and Social Commission for Asia and the Pacific estimates as well as a projection in Khemro (2006). These statistics are summarized in Yap (Unpublished draft).

9. Broad population estimates for 2020 (Table 1) are 2.8 million–3.4 million persons in metropolitan Phnom Penh (including Kandal), and 2.2 million–2.8 million in 25 municipalities. About 10 municipalities will reach 120,000–250,000; 15 towns will be in two classes (i.e., 70,000–100,000 and less than 50,000 inhabitants). In addition, some of the district towns will become municipalities. The estimates here are relatively crude because they are based on a simple sensitivity analysis of the shares of Phnom Penh and all other municipalities, beginning with the ratio of 55%–45% for 2008. It is not possible to project the expected population numbers for any specific town without further data on the economy and the regional differences in accessibility and connectivity among all towns (Appendix 2, Tables A2.5–A2.9).

10. The analysis shows that while Phnom Penh will dominate, population growth in other urban centers in Cambodia will be considerable—between 2.2 million and 2.8 million by 2020. This implies that policy must boost these urban centers to avoid an even more staggering dominance by the capital city. Appendix 2 has further population details.

**Table 1 Projected Urban Development in Cambodia, 2020**

| Component                                  | Alternative Projections (2020) <sup>a</sup> |                      |                      |                      |                            |                      |                            |                      |
|--|---|----------------------|----------------------|----------------------|----------------------------|----------------------|----------------------------|----------------------|
|  | Base Year (2008)                            |                      | Breakdown as in 2008 |                      | Metropolitan Growth Faster |                      | Metropolitan Growth Slower |                      |
|  | %   | Population (million) | %                    | Population (million) | %                          | Population (million) | %                          | Population (million) |
| Metropolitan Phnom Penh (including Kandal) | 55  | 1.438                | 55                   | 3.089                | 60                         | 3.370                | 50                         | 2.808                |
| Other urban (about 26 cities and towns)    | 45  | 1.176                | 45                   | 2.528                | 40                         | 2.247                | 50                         | 2.809                |
| Total urban                                | 100   | 2.614                | 100                  | 5.617                | 100                        | 5.617                | 100                        | 5.617                |
| Urbanization (%)                           |   | 19.5                 |                      | 30.0                 |                            | 30.0                 |                            | 30.0                 |
| Total population (million)                 |   | 13.396               |                      | 18.724               |                            | 18.724               |                            | 18.724               |

<sup>a</sup> In the projections, the present 10 larger urban centers above 40,000 inhabitants have been separated from the remaining very small ones. The medium-sized centers comprised about 887,000 people in 2008, and the smaller ones about 289,000. This corresponds to a ratio of 75%–25%.

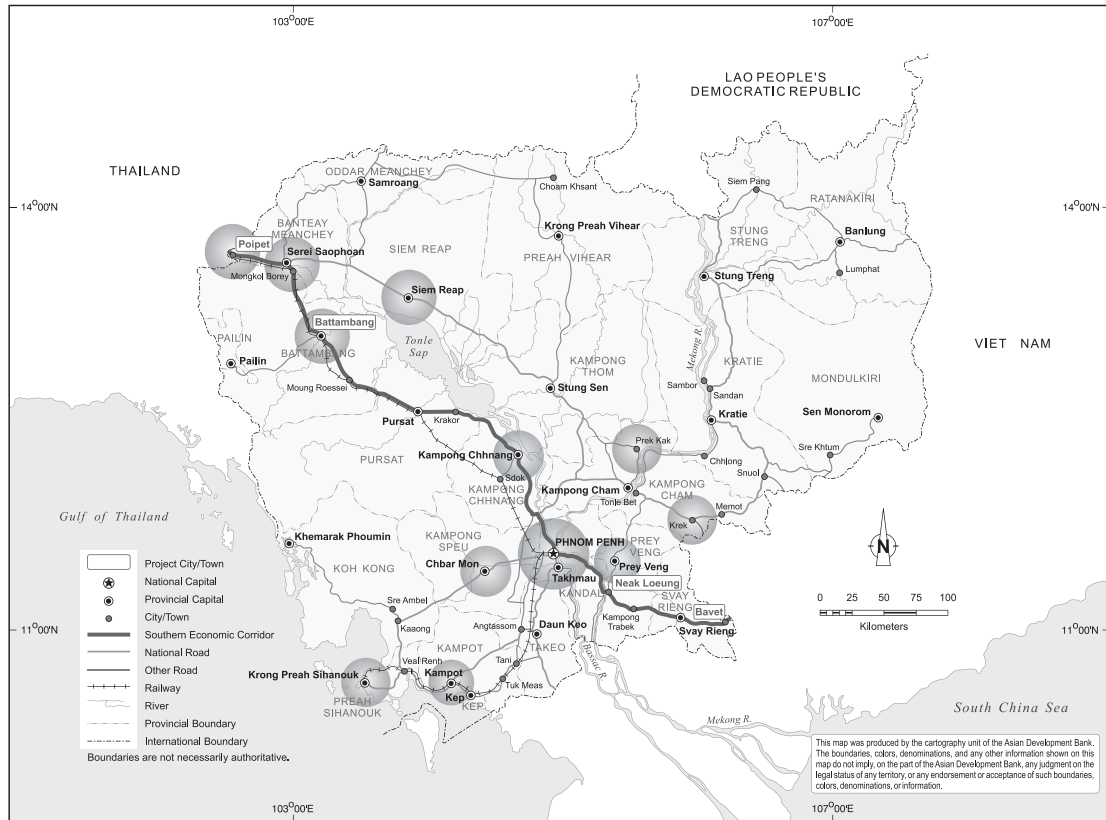
Source: ADB, based on Government of Cambodia, NIS (2008a).

11. Figure 1 illustrates the distribution of the most important municipalities (27 in total, 23 of which are new, as of 2009). Most provinces have only one municipality, but their geographic distribution across the country is unequal, with a concentration of the more important larger municipalities in the GMS Southern Economic Development Corridor, Phnom Penh, the port city of Sihanoukville, and near the border with Thailand in the northwest (Appendix 2, Tables A2.10–A2.11).

12. The urban development agenda is closely linked with development of agriculture and natural resources, transport, and water and sanitation. The urbanization trend is also driven by the market orientation of the economy and the regional policy of open borders. Thus, urban sector growth is inevitable, but its uneven distribution across the country is influenced by policies. The weak institutional framework, especially outside of the major urban centers, needs to be reformed, and the capacity of government needs to be strengthened, especially at the municipal level. The principal strategic issue is how to distribute urban growth across the country at the earliest possible stage.

13. Over the 15 years to 2007, the overall national poverty ratio declined to about 36% (United Nations World Food Programme 2007), which is still a high value by regional comparison (i.e., Viet Nam's

**Figure 1 Major Urban Areas in Cambodia**  
(more than 40,000 persons in 2008)



Sources: Government of Cambodia, NIS (2008a) and ADB (2006a).

fell 27%, and Thailand's 12%). The distribution of poverty varies considerably in Cambodia, from less than 15% in the capital city to well over 45% in the northern and northeastern provinces and in the vicinity of Tonle Sap. Urban poverty also differs from rural poverty because the reference values in cost of living differ between urban and rural areas. Comprehensive urban development measures for provincial and subregional centers need a different approach that targets both the urban poor in the towns and the poor in the urban hinterlands.

### C. Subsector Assessment

14. The subsectors of urban development are (i) the physical conditions and trends of urban land and housing; essential urban infrastructure conditions; and trends regarding roads, power supply, solid waste, and water supply and sanitation; and (ii) the institutional framework, especially regarding the newly established municipalities.

## 1. Subsector Physical Conditions

### a. Urban Housing and Infrastructure

15. The average household size decreased from 5.2 persons in 1998 to 4.7 persons in 2008. There are considerable variations; the smallest household sizes were not recorded in Phnom Penh (5.1 persons) but in the provinces of the Plain Region that are experiencing net outmigration (such as Svay Rieng and Prey Veang at 4.2 persons), whereas the largest household sizes were in relatively remote rural provinces like Ratanak Kiri and Stung Treang.

16. Urban housing conditions exhibited two interesting trends toward improvement. First, there was a considerable increase in the use of permanent construction materials in urban residential buildings, from 69% (1998) to 86% (2008), compared with much lower values for rural areas (Appendix 2, Table A2.12). Nevertheless, the pace of change has been impressive, measured by the use of permanent construction materials in all buildings from 34% (1998) to 57% (2008), with fast overall change in 12 provinces, and fast urban change in 16 provinces, and only few peripheral provinces lagging behind (Appendix 2, Table A2.13).

17. Second, the availability of improved water sources, electric power, and indoor toilets doubled across the country, although from a compounded low level of 8% in 1998 to 17% in 2008, with marked increases in urban areas (from 43% to 72%), especially in Phnom Penh (Appendix 2, Tables A2.14–A2.17).

18. The use of electric power is not recorded separately for urban areas, but it may be assumed that households in municipalities, mostly in larger urban areas are the prime consumers of electric power from the national grid. As of 2008, only 22% of all households were reported to have electricity, a similar figure to the urbanization ratio of 20%. The use of kerosene has been reduced from nearly 80% (1998) to about 39% (2008), indicating the increasing use of other sources like battery power and small generators. None of the more urbanized provinces come close to the high rates of domestic electricity use in Phnom Penh (at nearly 90%), indicating the large disparities between the capital and the other urban areas.

19. Urban infrastructure—that is, roads, water supply, solid waste collection, and sanitation—has improved considerably in the past 10 years, although only in Phnom Penh are conditions of a satisfactory standard. There is, therefore, much scope for improvement programs that can only be tackled in conjunction with institutional management programs to strengthen local governance.<sup>6</sup>

20. The analysis of roads reveals modest paved road networks of very limited length. On a national average, there are 3.4 urban inhabitants per meter of good-quality urban road, with a wide range of conditions between municipalities. In the most urbanized *sangkats* (urbanized quarters or divisions of communes), the ratio might be about 1.5 persons per meter. However, the statistical material is not complete. The data for 1995 listed in ADB (1999) are not directly comparable, because paved and unpaved roads of different widths were considered together, but an overall assessment of road conditions was given (typically “50% poor”). This kind of assessment is not available for 2008. Drainage in 1995 was poor (i.e., drainage conduits typically “70% blocked”). Presently, it must be assumed that drainage and flood control have been improved along with the extensions to the urban road systems (Appendix 2, Table A2.18).

<sup>6</sup> In the analysis of three infrastructure categories (i.e., roads, water supply, and sanitation), statistical information is not available for each municipality; it is hidden in the commune statistics. These statistics have been compiled in the new district data books. For the analysis, *sangkats* (the most urbanized quarters or divisions of communes) had to be used as proxies, because the municipalities are not shown in the district data books. All of the most urbanized *sangkats* add up to less than one-half of the urban population.

21. Urban water supply improved considerably from 1998 to 2008 (Table 2). The estimates of access to improved water sources agree with statistics extracted for the most urbanized *sangkats*, with an average coverage of 76% for piped water supply. Information on other water supply systems, such as pump and mixed wells, is given in Appendix 2, Table A2.19, but these systems do not figure prominently in those urbanized areas where piped water supply is now available (ADB 2010b).

22. Solid waste collection in urban areas (using the most urbanized *sangkat* as a proxy) must have improved considerably over the 10 years to 2008, when the national mean value stood at 58.6% coverage for all municipalities. Conditions in Phnom Penh are better than elsewhere. Secondary cities such as Battambang (54.2% coverage) and Sihanoukville (53.4% coverage) were better off than Siem Reap (surprisingly low at only 29.2%) and most of the smaller municipalities (ranging from zero to 35.0%) (Appendix 2, Table A2.20). Information on solid waste conditions in 1995 in ADB (1999) is very limited and not directly comparable with the 2008 data. There is no information on solid waste disposal, which is largely in open unregulated dumpsites, except for Phnom Penh (which receives about 1,000 tons per day).

23. Information on urban sanitation is not available separately from national statistics. Here, the overall conditions have improved from 85% of all households with no toilet (1998) to 66% (2008). For 2008, the two categories “connected to sewerage” and “septic tanks” have been combined to stand for “urban sanitation.” Using the resulting values as a proxy for describing urban sanitation, the national average stands at 28%, somewhat higher than the national urbanization ratio (Appendix 2, Tables A2.21–A2.22). This result tallies with the overall figure of 81% of urban households with access to improved sanitation in 2008 (Table 2). Sanitation conditions in the municipalities can now be assumed to be reasonably satisfactory, at least for the availability of toilets, and in comparison with poor rural sanitation conditions. The values range from less than 10% in Preah Vihear Province to more than 40%, approximately parallel to provincial urbanization ratios. Phnom Penh stands at 89%, although this is higher than expected, given the poor sanitation conditions in the many low-income housing areas.

**Table 2 Overview of the Water and Sanitation Sector**  
(% coverage)

| Indicator                           | 1998<br>Baseline | 2004<br>Actual | 2007<br>Actual | 2008<br>Actual | 2015<br>Target | 2020<br>Target | 2025<br>Target |
|-------------------------------------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Rural access to improved water      | 24.0             | 35.5           | 55.4           | 40.5           | 50.0           | 75.0           | 100.0          |
| Urban access to improved water      | 60.0             | 52.7           | 67.1           | 75.8           | 80.0           |                |                |
| Rural access to improved sanitation | 8.6              | 15.0           | 19.6           | 23.0           | 30.0           | 50.0           | 100.0          |
| Urban access to improved sanitation | 49.0             | 47.5           | 57.1           | 81.0*          | 74.0           |                |                |

Note: The piped urban water supply is 42.3%, but a centralized water supply may be less than 5%.

Source: ADB (2010a).

### *b. Institutional Framework*

24. Several ministries are directly involved in managing urban development. The relevant ministries (i.e., Ministry of Economy and Finance; Ministry of Environment; Ministry of Interior; Ministry of Land Management, Urban Planning and Construction; Ministry of Planning; Ministry of Public Works and Transport; and Supreme National Economic Council) and their main departments appear to be

relatively well prepared for their tasks of coordinating national programs and preparing laws and regulations.<sup>7</sup> However, provincial, and particularly municipal, agencies under the ministries are understaffed and underequipped to carry out their assigned responsibilities.

25. The subsector performance can be described by three statements that also link the physical conditions to the institutional framework applicable to all urban subsectors:

- (i) Accelerating urban growth is not matched by growth in infrastructure systems, which is also unevenly distributed, with a heavy dominance by the capital region.
- (ii) Urban development is not sufficiently linked with the regional economies, even though some remote small towns have grown rapidly along with rural growth due to rural–rural migration.
- (iii) Development of institutions and capacity building has not been able to cope with urban development, although major achievements exist, including the creation of municipalities and efforts toward drafting a national urban development strategy and national housing policy.

26. The urban reclassification of 2004 (Government of Cambodia, NIS 2004c) also triggered the creation of new municipalities in 2009, using the same boundaries for delineating the administrative areas of local authorities. However, most municipalities are now too large, in the sense that the urban districts include large tracts of rural land, with some population that could also be rated as rural. Yet, it has been argued that the urbanization ratio of Cambodia is much higher than the officially adopted figure of 20% (UNCDF 2010).

## 2. Subsector Issues

27. Subsector issues are primarily those arising from the gap between urban growth and slow institutional development, which results in a considerable backlog demand for administrative capacity building. The four main issues are institutional deficiencies, lack of integration of the urban sector, incomplete information management, and inadequate urban finance. These issues can be grouped under five headings as follows.

- (i) **Economic potential and needed institutional response.** The importance and potential of urban development in Cambodia's structural transformation are beginning to be recognized, but the response in institutional changes is too slow to cope with the demand. Thus, there is a strong need for more adequate institutional responses, especially at subnational levels.
- (ii) **Integrating the urban development agenda.** The government and development partners need to integrate the new urban agenda with other policy reforms and strategies, because urban development cuts across many sector concerns, such as water, sanitation, transport, agriculture, and natural resources management.
- (iii) **Developing and using specialized information.** The planning and monitoring of urbanization processes require data in formats and combinations that are currently unavailable, although progress is being made.
- (iv) **Urban development finance system.** Urban infrastructure provision and maintenance are unable to cope with the demand from growing cities and towns. The infrastructure deficits

<sup>7</sup> However, no systematic assessment has been carried out on capacities at ministerial or departmental levels.

reflect the lack of managerial capacity and of inadequate local revenues, because most of the infrastructure expenditure is paid from national budgets. There is no financing system available to municipalities other than central government grants.

- (v) **Urban infrastructure development, management, and finance.** Urban infrastructure is typically seen as the responsibility of the sector line agencies that are vertically structured rather than horizontally at the level of each municipality, district, or province. Horizontal coordination and cooperation are needed to achieve progress in water supply simultaneously with sanitation and/or solid waste management, and local transport. This has not been achieved yet in the newly established municipalities, which are without staff and financial resources.

28. Limited local funding for capital investment, maintenance, and operations is available. Municipalities have few local revenue sources because user fees and taxes are not being collected. Urban infrastructure investment is supply-driven rather than based on local investment capacity, and there is a notable absence of participation of local stakeholders in local investment strategies. Exceptions include some community-based environmental projects in Phnom Penh, where local participation in decision making and cost sharing appears to be well organized. Also, community participation can still be found in villages where traditional self-help and mutual-help mechanisms are still intact.

29. Cities are only now being recognized as engines of growth by policy makers and development partners. However, unless cities and national urban development are carefully planned and managed, economic growth may remain limited to the few larger urban areas, without being properly interlinked with rural areas.

30. The Strategic Framework on Decentralization and Deconcentration, adopted in June 2005, establishes the vision that is supposed to guide governance reform for Phnom Penh (as a municipality at the level of a special province), the 23 other provinces, the newly formed municipalities, and the *khans* (rural districts, within the capital). The framework further strengthens commune and *sangkat* reform, which was launched with commune elections in 2002. To be effective, the principles of democratic development and improvement of service delivery at the subnational level will only be possible if the decentralization and deconcentration reform progresses in parallel with the Public Financial Management Reform Program and the National Program of Administrative Reform.

31. Comprehensive data on urban development have been missing from the national statistics in the past. The National Committee for Sub-National Democratic Development (NCDD) has now made available 2009 district data books, a comprehensive presentation developed by the National Institute of Statistics on all rural and urban districts outside of Phnom Penh.<sup>8</sup> The datasets have been compiled from many different sources, including detailed maps; they appear to be adequately cross-checked and georeferenced. Further, the data collection is comprehensive. This is not a separate urban data management tool, but it has considerable potential for further development as a planning and management tool.

32. A municipal investment facility, the Local Administration Investment Facility, has been proposed in the context of current World Bank assistance to the NCDD, which would enable the cities to receive project-specific fiscal transfers and, in the long term, to borrow funds from a special government fund at appropriate conditions. If realized, this will be a milestone for the development of decentralized municipal project management and funding.

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<sup>8</sup> Phnom Penh, a special province, is not included in this database.

33. The following are examples of recent infrastructure development in Phnom Penh that illustrate the issues outlined in this section.

- (i) **Urban transport.** Recent Japan International Cooperation Agency (JICA)–Agence Française de Développement (AFD) efforts have focused on creating a needed public transport authority in Phnom Penh and setting up a modern system of public transport (Paris City Council 2009). Due to low use of this public transport system, however, the experimental system has been canceled.
- (ii) **Services and land tenure for low-income groups.** The land-sharing and housing scheme at Borei Keila in Phnom Penh, the first of its kind in the country, has attracted much attention because of the personal involvement of the Prime Minister. It has been rated a success, although it will not be easy to replicate. The scheme is a creative, socially responsive solution to the urban land tenure problem for low-income groups. Several other low-income housing areas in Phnom Penh have been successfully upgraded in recent years, with assistance by the Urban Poor Development Fund (UPDF), which has been in operation since 1998. For several years, the UPDF has been receiving important support from the Prime Minister. The UPDF is also operating in 17 provincial towns, including the Tonle Sap region.
- (iii) **Management of environmental infrastructure with participation by private sector and community.** Solid waste management in Phnom Penh has been significantly improved under a JICA-funded program, which has also resulted in an improved public–private partnership for solid waste collection and management (JICA 2006). Another positive experience was the program, Partnerships for a Cleaner City, carried out in close cooperation between the Japan Fund for Poverty Reduction (JFPR) and ADB, with strong and active community involvement. The program was designed in a learning-by-doing manner and implemented in only 32 months (ADB and JFPR 2008). Also, the municipality of Phnom Penh is beginning to experiment with the “3R” concept (i.e., reduce, reuse, recycle) in solid waste management.

### 3. Subsector Constraints

#### *a. Policy Environment, Plans, and Financing*

34. **New national policy.** The recent National Strategic Development Plan (NSDP) is an important policy document; however, it does not yet consider the crucial role of the growing urban sector (Government of Cambodia 2009b). The NSDP touches on urban development only implicitly in its emphasis on governance, economic development, and infrastructure. In contrast, the Ministry of Land Management, Urban Planning and Construction is working on a draft national urban development agenda or strategy, including a policy on housing. The government intends to establish a national institute for urban planning to assist in policy formulation and management.

35. **Limited institutional framework and capacity.** The institutional framework and capacity for urban management are still severely limited, especially at the provincial and local levels, while major efforts are being made at the national level. Given the very short experience with municipalities and their inadequate staffing, it will require years of support and technical assistance by national agencies, down to the provincial level.

36. **New urban master plans.** The Ministry of Land Management, Urban Planning and Construction has recently made efforts to meet the demand for urban development plans (see Section II), which is now urgent because the municipalities need adequate planning documents. The work being carried out by a small but devoted staff in the ministry is commendable but constrained by planning issues. The plan-



making work, which has only recently begun, appears to be technically competent, including advanced mapping techniques and geographic information system applications. For the time being, however, the process is dominated by a few competent planners and technicians at the ministerial level, and the planning products are conventional land-use plans.

37. Urban development requires two sources of funding: largely private investments in buildings and sites (including the infrastructure on the site), and public investments in trunk and distributor lines of infrastructure as well as water treatments plants, wastewater treatment plants, solid waste facilities, ports, and airports. In Cambodia, most infrastructure is funded by donor grants, taking over the roles of national and local capital investment. The distinction between state and municipal funding of infrastructure is not yet well developed.

38. **Financial constraints.** The dependence on central government investments and the lack of funding at local levels, primarily due to lack of revenues, are evident. However, coherent data on municipality-level finance is limited. Figures available for Phnom Penh and Battambang suggest total municipal expenditures at the level of just \$2–\$4 per capita per year (in 2000), but a considerable increase, as of 2009, to about \$40 per capita per year in Phnom Penh only.

39. **Economic infrastructure and partnerships.** Economic infrastructure, such as markets, transport terminals, or industrial estates, is increasingly managed by private sector agencies, but there is more potential to form public–private partnerships for this kind of revenue-generating infrastructure. Evidence from Viet Nam suggests that such public–private partnerships are effective and efficient.<sup>9</sup>

### *b. Institutional Environment, Capacity, and Governance*

40. In some areas of Cambodia, scarcity and low qualification of staff prevails. However, both numbers and qualifications have risen over the past 10 years. Most government staff members work for low remuneration; all rely on additional income elsewhere. With the establishment of municipalities, the institutional environment will experience constraints in gaps of human resources, physical facilities, and imperfect regulations. For the time being, there is no municipal authority (except in Phnom Penh) with full and direct responsibility or capability in urban development and management, including the monitoring and evaluation of projects. Phnom Penh's capability is limited. Due to such institutional constraints, municipalities have to rely on national staff resources at the provincial level (even though these have their own limitations) to be delegated to perform local government tasks. These constraints affect the quality and performance of most tasks in urban management, including construction supervision, building permits, and general development control, including enforcement of environmental standards.

### *c. Physical and Institutional Infrastructure Provision*

41. The uneven distribution of towns and the uneven distribution of services between rural and urban areas are issues that need to be addressed by a national urban development policy. While a more balanced distribution of towns is a challenging long-term objective, it should be possible in the near term to provide urban services in secondary towns located in rural areas more evenly by locating central places for public services in a more organized manner.

42. All urban centers have to meet service distribution functions not only for their own municipal population but also for the rural population within a certain range of access. Access is not only defined as measurable physical distance or time distance but in terms of actual access by social group and gender. Data on this subject are not available, but deficiencies can be assumed to exist across all urban areas.

<sup>9</sup> Examples in Viet Nam are industrial estates, housing, and contracts for urban environmental services. See ADB (2006a).

#### 4. Political Economy Influences

43. Cambodia has experienced a growing divide between the poor, especially in rural areas, and an increasingly affluent, mostly urban, elite. The overall social inequality is reflected by the present Gini coefficient of 0.42, which has been rising. This social inequality raises serious questions as to the conflicting goals of poverty reduction and economic growth, which are to be considered in all urban development programs.

44. Cambodia has ample land resources but also many constraints to put these to good use. Constraints include increasing demographic pressures, insecure land rights, unequal landholdings, increasing landlessness, and low levels of productivity and investment. The Land Reform Law (1992, amended in 2001) contains a provision for “social land concessions,” which are not always handled as intended by the law. This is one reason progress in land management is slow, especially for urban development. An indicator of the inherent problems in this field is the recent termination of the World Bank–funded Land Management and Administration Project in 2009. While GIZ has continued its long-term work land registration work for the project, it has avoided critical urban areas. Future urban projects need to determine how to make land management more socially responsive.<sup>10</sup>

#### 5. Key Constraint and Development Needs

45. The lack of administrative and financial capacity in municipalities, the crucial new layer of local government, is the most important constraint. It is described as the core problem in the urban sector’s problem-tree diagram (Appendix 1). Growing economic disparities, rapid rural–urban migration with a focus on Phnom Penh, and slow implementation of the decentralization and deconcentration policy are the main contributors to the core problem of the urban sector. In turn, the effects are an unorganized urban management system with deficient urban infrastructure, severe underprovision of infrastructure and housing for the urban population, slow progress in realizing the revenue potential from land and other needed taxes, and a public service system with urban development challenges. Despite these institutional constraints, urban development and investment need to proceed, and overcoming the core institutional constraints can be integral to future development interventions.

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<sup>10</sup> A recent nongovernment organization (NGO)-sponsored publication on land registration and management is critical. See Grimsditch and Henderson (2009).

## A. Government Sector Strategy, Policy, and Plans

46. Until 2008 or 2009, there has not been much in terms of an explicit urban legislation or policy in government documents. However, now there are new developments in the form of laws and subdecrees, policy, and strategy statements that will have considerable influence on the emerging urban sector as their implementation begin in 2011. The links among sector issues, government plans, existing gaps, and a summary assessment are in Appendix 3 (Tables A3.1–A3.2).

### 1. Subnational Governance Reform

47. The government has embarked on a wide range of subnational governance reform, recognizing the need to introduce new systems of governance at provincial, municipal, and district levels. There are two strategic goals: to strengthen and expand local democracy, and to promote local development and reduce poverty. The Organic Law (2008) on the Management and Administration of Province/Municipality and *Srok* (Rural District) is meant to improve the effectiveness and efficiency of sector service delivery at the subnational administration through a hierarchical structure.

48. Subdecree no. 216 under the Organic Law defines clear roles and responsibilities of provinces and their districts. The present administration has vertical and horizontal components. The vertical component is the top-down administrative system where the Municipal Council and Executive Board of the Governor are accountable to a higher level of authority, that is, the provincial authority. In the horizontal component, the Executive Board of the Governor works closely with technical line departments of national ministries on various sectors, such as public works and transport; environment; land management, urban planning, and construction; rural development; health; and education.

49. By law, the municipalities are urban districts. At this level, only three ministries are represented by district offices—health, education, and land management, including urban planning and management functions. In practice, this means that an urban district may only have one lower-ranking officer from the Ministry of Land Management, Urban Planning and Construction. To meet the legally stipulated functions, all municipalities are soon to be equipped with urban development offices, as specified by a new PRAKAS under subdecree no. 216.<sup>11</sup>

### 2. New Planning Initiatives

50. In support of the new decentralized structure, the Ministry of Land Management, Urban Planning and Construction has taken several initiatives to set up a framework for urban development

<sup>11</sup> PRAKAS No. 4274 (Government of Cambodia, Ministry of Interior 2009b) states the need for restructuring the offices under the management of the municipalities. Referring to Article 112 of subdecree no. 216, each municipality has to restructure its numerous offices to only three offices called administration and finance; planning; and supporting communes, *sangkats*, and urban development. Battambang and Siem Reap have additional “one-window services offices”.

where the municipalities eventually have to take on the main role in further planning and implementation. The initiatives include the following draft policy documents: (i) spatial development policy (including regional planning), (ii) national housing policy, and (iii) a working program for the preparation of urban land-use plans.

51. Drafts for a national housing policy have been under consideration for nearly 10 years (Government of Cambodia 2009a and 2009b). To some extent, the drafts were supported by the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP). The drafts are comprehensive in outlining a government policy that includes progressive ideas, such as active community involvement and mobilization of dwellers' resources, saving schemes for low-income housing, and regulations for poor communities and their special needs in land and infrastructure management.

52. The working program for preparing urban land-use plans, under the Department of Planning of the ministry, involves all municipalities outside of Phnom Penh. The capital is excluded because it has its own urban planning department. Nine municipalities are being handled in a first batch of plans, ranging from relatively large ones like Kampong Cham and the newly created town of Suong (both with about 40,000 inhabitants) down to Alongveng with about 13,000 inhabitants.<sup>12</sup> The plans are technically competent, including advanced geographic information system mapping techniques, but they lack strategic orientation.

### 3. Government Agencies' Views on Emerging Urban Sector Strategies

53. The Supreme National Economic Council uses the development of economic and urban clusters as a central concept. Designated growth regions are the GMS Southern Economic Corridor; Greater Phnom Penh; and the corridor between Phnom Penh and Sihanoukville, which is part of the GMS North–South Economic Corridor. The council has expressed a regional development vision for corridor development, even though this is not shown in the NSDP update.

54. The Ministry of Public Works and Transport is working toward new border crossings to Viet Nam and the Lao People's Democratic Republic, and the designation of a new corridor connecting Stueng Traeng with Kampong Thom and Siem Reap, opening up a vast agricultural hinterland for industrialized farming activities.

55. The Ministry of Land Management, Urban Planning and Construction has been stepping up its planning and policy efforts to overcome the constraints of a low degree of urban planning and the lack of financial and human resources for plan implementation across the country. This ministry and the Ministry of Economy and Finance have still not agreed on land valuation and taxation, as proposed by the donor-supported Land Management and Administration Project. The absence of adequate revenues makes it difficult for the Ministry of Land Management, Urban Planning and Construction to implement routine activities of urban development control and planning.

56. The municipality of Phnom Penh has made progress in traffic management and resettlement of urban poor communities but continues to require assistance in wastewater treatment and solid waste management. The size of resettlement and upgrading activities is considerable: 569 poor communities were resettled in the outskirts of Phnom Penh, and improvements for another 200 settlements are ongoing. These are only some of the many externally funded projects in the capital city. See Appendix 5 for externally funded urban projects in Phnom Penh.

<sup>12</sup> Alongveng Province is located in Otdar Meanchey, near the Thai border.

## B. Support by Other Development Partners

57. The experiences of major development partners provide relevant lessons (Appendix 4, Tables A4.1–A4.4).

58. Like ADB, the World Bank has supported the investments of the Phnom Penh Water Supply Authority. Despite the fact that the World Bank considers that much of future economic growth will be urban, it has not yet committed to an urban investment program in Cambodia. The World Bank is preparing its country strategy for 2010 in coordination with the ADB Cambodia Resident Mission. The proposed Local Administration Investment Fund, suggested as part of the decentralization and deconcentration reforms, might become an area of engagement and offer options for ADB participation. The World Bank has discontinued its operations in urban land registration after the termination by the government of the Land Management and Administration Project.

59. JICA has a long trajectory of urban infrastructure and technical assistance projects in urban transport, sanitation, and urban roads and bridges. It led the 2004 public bus transport scheme for Phnom Penh, today seen as an experiment ahead of its time. JICA is considering further funding for transport management assistance to Phnom Penh. JICA also intends to support Phnom Penh in the development of a sewage treatment facility. Due to its broad, long-standing engagement in urban infrastructure, JICA may become a prime partner in ADB's urban interventions in Cambodia.

60. The Export–Import Bank of Korea, like JICA, intends to engage in the development of another sewage treatment facility for Phnom Penh. It hopes to develop two such facilities for the capital region. The Export–Import Bank of Korea may become a relevant cofinancing partner for ADB's urban activities.

61. GIZ does not engage in urban programs due to the Government of Germany's focus on rural development, health, and governance in Cambodia. GIZ-supported technical assistance on land titling does include urban areas as the agency continues to implement its part of the Land Management and Administration Program, which also includes donor contributions by other development partners. GIZ, through its support for regional economic development in Siem Reap, could be a partner for strategies for small towns connecting with the hinterland, private sector, and agricultural producers. The intentions of the program (which has been running 2 years, with a perspective to 2015) are to enhance economic links between urban centers and their surrounding rural districts. As a small-scale replica of the well-known European Union Leader Program for developing regional competitiveness, the program is geared to boosting local entrepreneurship and promoting partnerships with private sector players.<sup>13</sup> GIZ's initiative for a multilayer, national, spatial planning framework emphasizes land registration and geoinformation systems, which will become highly relevant for future ADB operations.

62. For several years, the German Development Service (DED) has supported land-use planning in Battambang Municipality, which might soon be replicated at Kampong Chhnang. This experience may benefit proposed ADB projects like the GMS Corridor Towns Development Project (ADB forthcoming) or Sustainable Urban Development in the Tonle Sap Region. DED is interested in partnering with ADB in the urban sector.

63. AFD currently has few projects under preparation. Under the city-to-city program of decentralized cooperation, the municipalities of Paris and Phnom Penh have a long-standing relationship with AFD, which has produced interesting pilot initiatives, including the suggested Phnom Penh Transport Authority.

<sup>13</sup> GIZ <http://www.giz.de>

64. The United Nations Human Settlement Programme (UN-HABITAT) has been engaged for years on issues of secure tenure and shelter for the urban poor and has assisted the municipality of Phnom Penh with the UPDF. UN-HABITAT's work has been reoriented recently toward the GMS Water and Sanitation Initiative, working in small and medium-sized towns in Kampong Cham, Kampong Thom, Pursat, and Svay Rieng provinces.

65. The United Nations Development Programme, with financing from the Department for International Development of the United Kingdom, continues to support the decentralization and deconcentration reforms, through which local governments are gaining experience and decision-making power in planning for capital investments and community development. There are related pilot projects in Siem Reap and Battambang where "one-window services" mark the start of local government self-responsibility.

66. The United Nations Capital Development Fund has recently commenced drafting a program called Local Development Outlook, comprising (i) a review of local development trends, (ii) a close look at policies and regulations for local development, and (iii) recommendations for establishing an urban development policy that is linked with the decentralization and deconcentration reforms.

### C. ADB Sector Support Program and Experience

67. ADB's first urban development strategy for Cambodia was prepared in 1999, but the document was not used as input to ADB country strategies because progress in this sector was slow.<sup>14</sup> The 1999 strategy was oriented in the right direction, but it proved to be too ambitious given prevailing capacity. During the early stages of a country's economic growth, financial resources are scarce, and investments are made where the return is highest, usually in the capital region because the capital city has the important role of nation building. In Cambodia, this phase has passed, and the government now must embark on a more comprehensive and bolder urban development strategy for the entire country in support of sustainable urban development and promotion of economic corridors. ADB's engagement in the urban sector is more feasible from a country needs perspective.

68. ADB's recent urban infrastructure projects are the Phnom Penh Water Supply and Drainage Project (ADB 2010b), community-based solid waste management in Phnom Penh (ADB and JFPR 2008), and the construction of a sewage treatment plant in Siem Reap (ADB 2002). The Phnom Penh Water Supply Authority has established a world-class urban service, with an excellent cost recovery ratio, and has received international recognition. The sewage treatment plant in Siem Reap was funded as part of a regional tourism development project, because tourism is the main driver in the region, and a clean and healthy environment is key to attracting tourists. Other examples of good practices are community-based environmental projects in Phnom Penh, in close cooperation with other partners. In all of these projects, strategic investments have been linked with capacity building of core institutions.

69. ADB's Strategy 2020 (2008a) includes gender equity as one of the five drivers of change toward poverty reduction; improved living standards; and sustainable, inclusive economic growth. All of these are crosscutting objectives for urban development. Urban development projects will offer notable gender mainstreaming opportunities, especially because community-based projects for infrastructure upgrading can explicitly promote a strong role for women. Gender equality issues are an integral component of urban development principles, along with general social development goals.

<sup>14</sup> Appendix 3 provides a detailed assessment of the changes since 1999.

70. The ADB regional study on rural–urban and regional links in the GMS advocated urban engagement (ADB 2008a), because the effects of open borders and macroregional programs, such as the GMS economic corridors, require interventions in small towns as the foundation for pro-poor and pro-rural development. Supporting small towns was seen as essential for the development of the surrounding rural areas where a substantial part of the country’s poverty is located. The four main socioeconomic functions of small and medium-sized towns are (i) markets and transport hubs for agricultural produce from rural areas, (ii) centers for the production and distribution of goods and services to the rural areas, (iii) centers for the growth and consolidation of rural nonfarm activities and employment, and (iv) centers to reduce migration pressure on larger urban centers (Tacoli 2006).

71. The recent ADB experience in Cambodia confirms the principles of selectivity and the need for sector focus. ADB’s Tonle Sap programs in agriculture, natural resources, and sustainable livelihoods are directed at poverty reduction of smallholders and include positive experiences in the use of community block grants.<sup>15</sup> A similar community development approach is being pursued by the UPDF, which operates in the Tonle Sap region and in Phnom Penh. Because of the savings scheme in the UPDF, the poor have become eligible for livelihood and home improvement loans. ADB’s Tonle Sap programs aim at strengthening the rural sector and, along with it, the rural market towns. There is a strong rationale for complementarity between rural and urban development, because small towns are essential for agricultural value-chain development.

## D. ADB Sector Forward Strategy

72. **Matching government and ADB sector strategies.** The rationale for ADB involvement in Cambodia’s urban sector is economic—the increasing economic importance of urban development, which is recognized by the government in its current efforts toward a national urban development strategy. However, the government’s strategies, such as the Rectangular Strategy and the NSDP,<sup>16</sup> are not yet clearly focused on urban development. Nevertheless, some innovative ideas have emerged over the past years, as the initiative of decentralization and deconcentration is translated into a framework of action. Urban interventions will strive to achieve balanced urbanization, that is, a balance of living conditions in rural and urban areas and equal access to those public facilities that are usually distributed from urban centers to rural areas.

73. **Integration of urban and other development agenda.** ADB will integrate its urban interventions with other priority areas, especially those for agriculture and natural resources development, water and sanitation, and transport. The required integration of urban sector needs may be achieved by defining mutually reinforcing objectives. During monitoring and evaluation, the same urban indicators (e.g., percentages of urban population with adequate water supply and other urban services) may be used for measuring urban sector performance and water or transport sector performance. Relevant aspects for an ADB urban program will be the role of (i) private sector participation in service delivery,<sup>17</sup> (ii) good governance and capacity development, and (iii) stakeholder partnerships.

74. **Principles.** ADB’s urban strategy should be innovative and relevant for economic development and poverty reduction. Its interventions will be primarily multisector, incorporating rural–urban links, and their implementation should emphasize cooperation with other development partners (cofinancing

<sup>15</sup> Loan 0018-CAM: Tonle Sap Rural Water Supply and Sanitation Sector Project, Loan 0034/35-CAM: Tonle Sap Sustainable Livelihoods, Loan 2376-CAM: STonle Sap Lowlands Rural Development, and Loan 2599-CAM: Tonle Sap Poverty Reduction and Smallholder Development.

<sup>16</sup> See Government of Cambodia (2003a) for Rectangular Strategy and Government of Cambodia (2009b) for NSDP.

<sup>17</sup> About 90% of employment is in the private sector, and its GDP share is 80%.

and technical assistance grants), and partnerships between local governments and the private sector. The GMS Corridor Towns Development Project reflects these principles. In addition to this, supplementary support should be extended to poor urban communities through small-scale credit and sustainable revolving fund mechanisms.

75. **Objectives.** The objectives of ADB urban interventions in Cambodia are to support and to guide urban development through assistance in infrastructure investments, through policy formation, institutional strengthening, and capacity development, emphasizing the local level. As the new municipalities are particularly disadvantaged in comparison with the capital city, assistance should emphasize cities and towns in the geographical focus area of ADB—along the transport corridors and the Tonle Sap region. The proposed pro-poor and pro-rural urban development orientation supports agricultural productivity through better transport connectivity to urban-based markets and decentralized services from smaller urban centers.

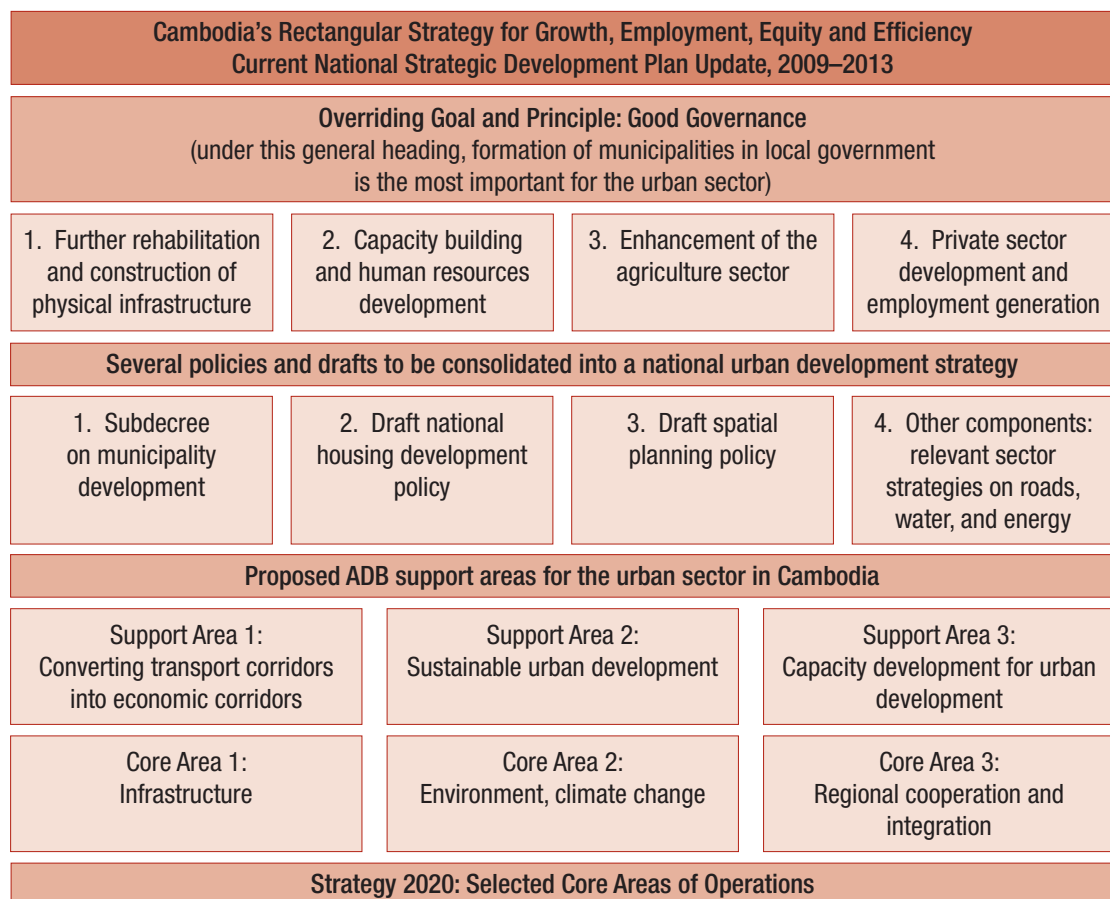


# Sector Road Map and Results Framework

## A. Conceptual Outline of the Road Map

76. The development agendas of the government and ADB's Strategy 2020 form the framework for achieving inclusive economic growth and regional integration, and serve as guiding principles. Figure 2 illustrates the approach to defining the main support areas.

Figure 2 Linking Government Policy and Strategy 2020 in the Proposed Support Areas for Urban Development in Cambodia



ADB = Asian Development Bank.  
Source: ADB.

## B. Proposed ADB Support Areas

77. The proposed support areas shown in Figure 2 are selective and are intended to promote the principles of integrated and sustainable urban development effectively.

- (i) **Converting transport corridors into economic corridors.** The urban sector will play an increasingly important role in implementing the Greater Mekong Subregion (GMS) cooperation and integration programs. As the GMS transport corridors thrive and are converted to full-fledged economic corridors, towns and urban areas along the most active corridors will receive priority attention. This support area aims at developing towns along the Southern Economic Corridor and, possibly, the North–South Economic Corridor that connects the Lao People’s Democratic Republic with Sihanoukville.
- (ii) **Sustainable urban development.** This support area is closely related to ADB’s geographical focus on the Tonle Sap region, including the towns of Battambang, Kampong Chhnang, Pailin, Paoy Paet, Pursat, Samroang, Serei Saophaon, Siem Reap, and Stueng Saen. Priority subsectors are water (treatment and distribution), sanitation, solid waste management, flood control, urban roads, public markets, and sustainable community development.
- (iii) **Capacity development for urban development.** The third support area will address institutional capacity gaps that are apparent in the context of the decentralization and deconcentration reforms. The urban sector requires institutional and policy support at the national and local level, where the newly established municipalities are now playing an increasingly important role. Capacity development will be integrated into ADB-supported investment initiatives and will attempt to ensure not only smooth project implementation but also development of sustainable institutional capacities.

## C. Main Components of the Road Map

78. This selective road map has been drafted to cover a period of about 5 years, with a view toward a rolling plan for about 10 years. ADB strategic objectives in the wider regional context of the GMS were taken into account, in addition to the development agenda of the government.

### 1. Support Area 1: Converting Transport Corridors into Economic Corridors

79. The GMS Corridor Towns Development Project will initially only focus on the Southern Economic Corridor, in which the towns of Battambang, Bavet, Poipet, and Svay Rieng will participate. The project measures will help both the towns and the hinterland grow, because many service functions provided at those towns also serve the surrounding areas. The development approach to corridor towns is a new spatio-economic development approach, comparable with the city-cluster economic development approach that ADB has been promoting elsewhere (Choe and Aprodicio 2008).

80. The project will consist of three main activities: (i) formulation of strategic local economic development plans, (ii) implementation of strategic infrastructure investments, and (iii) implementation of capacity development activities to sustain project implementation and strengthen capacities to liaise with private sector partners.

81. Depending on the respective local demand, priority infrastructure investments will be in (i) urban roads, (ii) water supply, (iii) sewage treatment, (iv) flood control, (v) solid waste management, (vi) public markets, (vii) transport logistics, and possibly (viii) facilities for small and medium-sized enterprise development such as incubation centers. Concurrently, the project can support climate change

impact adaptation and mitigation as part of the infrastructure investments (e.g., solid waste management, sewage treatment, and eco-industrial development).

## 2. Support Area 2: Sustainable Urban Development

82. This support area is geared to the small and medium-sized towns, focused on the Tonle Sap region. Conditions in the rural hinterland will determine urban development needs. This represents a new conceptual approach, linking rural and urban development to meet the goal of balanced urban development that is both pro-poor and pro-rural (ADB 2008a).

83. The Sustainable Urban Development Project in the Tonle Sap Region will provide support for basic infrastructure development, economic infrastructure, and livelihood support. Priority investments will be in (i) urban roads, (ii) water supply, (iii) sewage treatment, (iv) flood control, (v) solid waste management, (vi) public markets, and (vii) microcredit for livelihood support of the urban poor. Local investments will be determined on a demand basis through participatory means.

84. Climate change adaptation and mitigation, environmental improvements, poverty reduction, and gender mainstreaming will be major crosscutting issues and will influence the detailed design of individual subprojects. The support area will encourage the application of the “3R” concept (reduce, reuse, recycle) in waste management. The Local Administration Investment Fund, yet to be established, may be utilized for fund flow and onlending to municipalities.

85. To provide additional livelihood support, a special revolving fund may be established for poor communities to fund (i) small-scale credit facilities, (ii) community infrastructure, and (iii) technical assistance. ADB might partner with the UPDF and UN-HABITAT and finance these activities through the JFPR or other sources.<sup>18</sup>

## 3. Support Area 3: Capacity Development for Urban Development

86. ADB will support institutional and policy development as part of its proposed investment projects. These capacity development components will be tailored to the requirements of subproject preparation and implementation at the level of executing and implementing agencies at both central and local levels. Capacity development activities for project preparation and implementation will deal with subproject feasibility studies, procurement, environmental supervision, social safeguards, operation and maintenance, and project evaluation and monitoring.

87. The capacity development activities will be funded through the loan schemes, but if technical assistance grants are available, such grant funding may be used for complementary projects, such as on sector-related reform issues, an agenda of policy reforms, addressing tariff policies, public-private participation, or community participation.

88. In case of availability of funds for a stand-alone advisory technical assistance project, ADB may finance other training or institutional development activities, which could include (i) a national program for urban management and planning officers (possibly as part of the proposed Urban Development Institute), (ii) special training on climate change impact adaptation and mitigation, (iii) development of the Local Administration Investment Fund, (iv) mainstreaming of the existing urban information system (i.e., district data books), and (v) development of an urban land valuation system.

<sup>18</sup> The UPDF has been in operation for more than 10 years and has successfully demonstrated the viability of community-based, on-site upgrading of poor communities (UPDF 2008).

## D. Assumptions and Risks

89. The key assumption is that the government affords high priority to the emerging urban development program and its implementation, and approves budget and staff resources to fund part of the program from government budgets at the national and local levels. However, both administrative capacity and funding are extremely limited. A second key assumption is that several other development partners are interested in the proposed road map for urban development and that cofinancing options emerge.

90. The main risks are that the support program fails to achieve its objectives because the government's commitment to policy issues waivers or severe resource constraints hinder implementation. Particularly difficult risks include capability of the local authorities in handling projects and in committing limited resources to regular maintenance and operation, inadequacy of user fees and their collection, and lack of motivation among the local communities due to inappropriate handling by local governments. Project design must include proper risk mitigation and management strategies. Donor-funded projects have also to deal with those universal risks stemming from the difficult political economy conditions—corruption and insecure property rights.

91. Table 3 summarizes the Road Map Results Framework.

Table 3 Road Map Results Framework

| Country Sector Outcomes   |   | Country Sector Outputs  |   | ADB Sector Operations  |   |
|---|---|---|---|--|---|
| Outcomes Supported by ADB   | Indicators with Targets and Baselines   | Outputs Supported by ADB  | Output Indicators with Incremental Targets  | Planned and Ongoing ADB Interventions  | ADB Interventions to Address Constraints  |
| <b>Support Area 1: Converting Transport Corridors into Economic Corridors</b> | <ul style="list-style-type: none"> <li>Impacts of subprojects:               <ul style="list-style-type: none"> <li>Improved connectivity</li> <li>Improved health due to reduction in waterborne diseases</li> <li>Improved environment and health due to collected and treated waste</li> <li>Improved local market economy</li> <li>Improved livelihood of farmers</li> <li>Increased and more efficient trade</li> <li>Increased SME startups</li> <li>Achieved climate adaptation and mitigation targets</li> </ul> </li> <li>Enhanced economic development in small and medium-sized municipalities</li> </ul>  | <ul style="list-style-type: none"> <li>Operations combine               <ul style="list-style-type: none"> <li>strategic local economic development planning</li> <li>infrastructure investments</li> <li>capacity development assistance</li> </ul> </li> <li>Cross-border transit agreements</li> </ul> | <p>GMS CTDIP:</p> <ul style="list-style-type: none"> <li>CTDIP I: Southern Economic Corridor in Battambang, Baveit, Poipet, and Svay Rieng prepared and under implementation</li> <li>CTDIP II for the North–South Economic Corridor: Under preparation</li> </ul>  | <p>CTDIP I:</p> <ul style="list-style-type: none"> <li>R-PPTA in 2011</li> <li>CTDIP loan in 2012</li> <li>Loan effective 2012–2018</li> </ul> <p>CTDIP II under preparation, depending on success of CTDIP I</p> <p>Cross-border transit agreements implementation supported by ADB</p> | <p>CTDIP for small and medium-sized towns along the Southern Economic Corridor and, possibly later, the North–South Economic Corridor:</p> <p>CTDIP I: Battambang, Baveit, Poipet, Svay Rieng</p> <p>CTDIP II: Locations to be decided</p>  |
| <b>Support Area 2: Sustainable Environmental Infrastructure</b>               | <ul style="list-style-type: none"> <li>Impacts of subprojects:               <ul style="list-style-type: none"> <li>Improved connectivity</li> <li>Improved health due to reduction in waterborne diseases</li> <li>Improved environment and health due to collected and treated waste</li> <li>Improved local market economy and improved livelihood of farmers</li> <li>Increased and more efficient trade</li> <li>Increased SME startups</li> <li>Achieved climate adaptation and mitigation targets</li> </ul> </li> <li>Number of urban poor families assisted through               <ul style="list-style-type: none"> <li>livelihood loans</li> <li>environmental infrastructure loans</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>ADB agriculture projects, climate change adaptation and mitigation</li> <li>Poverty reduction programs for livelihood of smallholders</li> <li>Rural water and sanitation projects</li> </ul>  | <p>The Sustainable Urban Development Project in the Tonle Sap Region prepared and under implementation. Candidate towns: Battambang, Kampong Chhnang, Pailin, Poipet, Pursat, Samraong, Saophaon, Serei, Siem Reap, and Stueng Saen</p> <p>Special revolving fund for poor communities for livelihood activities and community infrastructure</p> | <p>Absence of financing facility for municipalities</p> <p>Shortage of funding for public sector infrastructure investments</p> <p>JFPR support to assist the UPDF in the Tonle Sap Region</p>   | <p>Sustainable Urban Development Project in the Tonle Sap Region</p> <p>Priority investments:               <ul style="list-style-type: none"> <li>urban roads</li> <li>water supply</li> <li>sewage treatment</li> <li>flood control</li> <li>solid waste management</li> <li>public markets</li> <li>microcredit for livelihood support of the urban poor</li> </ul> </p> <p>Local Administration Investment Fund supported; special revolving fund for poor communities for small-scale livelihood loans, community infrastructure, and technical assistance</p> |

continued on next page

Table 3 *continued*

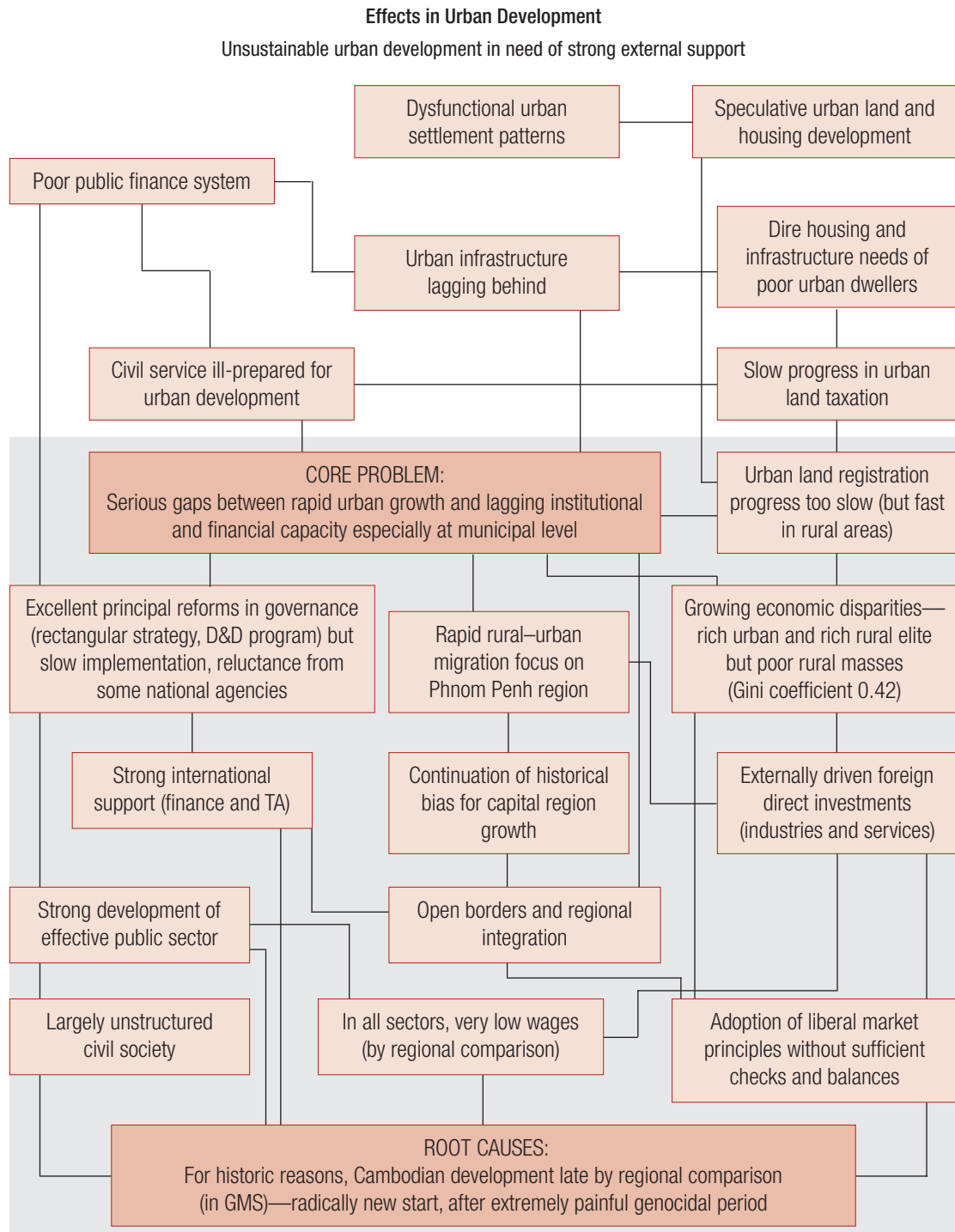
| Country Sector Outcomes   |   | Country Sector Outputs   |  | ADB Sector Operations   |  |
|---|---|--------------------------|--|---|--|
| Outcomes Supported by ADB   | Indicators with Targets and Baselines   | Outputs Supported by ADB | Output Indicators with Incremental Targets   | Planned and Ongoing ADB Interventions   | ADB Interventions to Address Constraints   |
| <b>Support Area 3: Capacity Development for Urban Development</b>   | Trained staff available at all levels (central government, provinces, municipalities)   | None so far              | Capacity building and institutional development activities to be built into proposed loans; 200 local authority officials capacitated  | Capacity building components included in design of investment projects (CTDP I; CTDP II; Sustainable Urban Development Project in the Tonle Sap Region) | Capacity development for subproject feasibility studies, procurement, environmental supervision, social safeguards, operation and maintenance, project evaluation, and monitoring.   |
| <b>Medium- to long-term support, as part of proposed investment projects, and possibly as stand-alone advisory TA</b> | <ul style="list-style-type: none"> <li>— time requirement for administrative steps</li> <li>— reduction of environmental issues</li> <li>— reduction of safeguards issues</li> </ul> Training program for climate change impact adaptation and mitigation embedded in other training programs<br>Improved data management<br>Urban land valuation tested and adopted in municipalities<br>Enhanced revenue collection of municipalities |                          | Stand-alone advisory TA at national level (executing agency to be decided)<br>Specific component on climate change added to environmental investment projects<br>Enhanced urban data management system established and supporting ongoing projects<br>Hardware and software for land valuation developed | Advisory TA for urban sector  | Other training or institutional development activities: <ul style="list-style-type: none"> <li>— national program for urban management and planning officers (possibly as part of the proposed Urban Development Institute)</li> <li>— special training on climate change impact adaptation and mitigation</li> <li>— development of the Local Administration Investment Fund</li> <li>— mainstreaming of the existing urban information system (district data books)</li> <li>— development of urban land valuation system</li> </ul> |

ADB = Asian Development Bank, CTDP = Corridor Towns Development Project, GMS = Greater Mekong Subregion, JFPR = Japan Fund for Poverty Reduction, R-PPTA = regional project preparatory technical assistance, SMES = small and medium-sized enterprises, TA = technical assistance, UPDF = Urban Poor Development Fund.

Source: ADB (2010a).

# Appendix 1

## Problem Tree: Urban Development in Cambodia



D&D = decentralization and deconcentration, GMS = Greater Mekong Subregion, TA = technical assistance.  
Source: ADB (2010a).

## Appendix 2

# Sector Statistics

### A. Introduction

1. The data tables are largely from the Population Census Report 2008, but also from 2004 population projections and other sources, such as the Commune Database, as summarized in the district data books. In many cases, it was possible to use data from the 1998 Population Census to provide a direct comparison with data for 2008. The tables on urban subsector performance were compiled from a mix of data as described in the overview at the end of this text. In addition to presenting the data in the greatest possible detail, that is, by municipality wherever possible, the data were further analyzed, which had not been done in the 1999 tables.
2. Data on municipalities are not easily obtained from the line agencies in charge of water, electricity, and roads, nor from the municipalities themselves because they typically have only commune data and, recently, district data books. For this study, it was thus necessary to look for recent data on urban areas from any source that could be tapped without too much administrative effort.
3. The data analysis aims at demonstrating the use of index figures for comparison across municipalities and across different time periods (usually 1998–2008 comparisons, based on population census results). This method can be used for setting targets or benchmarks for monitoring the performance of each municipality and would be part of the urban information database that could be developed from the district data books.
4. The compilation of subsector tables follows a systematic order, in presenting
  - (i) the original tables, in most cases from the 2008 Population Census Report;
  - (ii) newly formatted tables (version 1) on urban and rural areas by province; and
  - (iii) specifically formatted tables (version 2) on municipalities.
5. The specially prepared tables contain the essential data and analysis in terms of index figures for the 1998–2008 comparison as well as indices linking the performance of each province (or municipality) to the national or regional average.
6. In this context, reference is made to the new district data tables that provide detailed data for each district and, thus, implicitly on each municipality, on several infrastructure categories. The information is not available by municipality.



Table A2.1 Gross Domestic Product by Economic Activity in Cambodia, 2002–2007

|   | Percent Distribution at Current Prices |              |                   |              |                   |              |              | Percent Distribution at Constant 2000 Prices |                   |              |                   |              |              |                   |              |                   |
|---|--|--------------|-------------------|--------------|-------------------|--------------|--------------|--|-------------------|--------------|-------------------|--------------|--------------|-------------------|--------------|-------------------|
|   | 2003 <sup>a</sup>                      | 2004         | 2005 <sup>b</sup> | 2006         | 2007 <sup>b</sup> | 2002         | 2003         | 2004   | 2005 <sup>b</sup> | 2006         | 2007 <sup>b</sup> | 2003         | 2004         | 2005 <sup>b</sup> | 2006         | 2007 <sup>b</sup> |
| Agriculture, fisheries, and forestry    | 32.0                                   | 29.4         | 30.7              | 30.1         | 29.7              | 31.5         | 32.0         | 28.8   | 29.4              | 28.0         | 26.7              | 32.0         | 28.8         | 29.4              | 28.0         | 26.7              |
| Crops                                   | 14.5                                   | 13.6         | 15.7              | 15.1         | 15.5              | 13.4         | 15.0         | 13.3   | 15.0              | 14.2         | 14.0              | 15.0         | 13.3         | 15.0              | 14.2         | 14.0              |
| Paddy                                   | 7.5                                    | 6.5          | 8.7               | 7.7          | 8.6               | 7.2          | 8.2          | 6.5  | 8.2               | 7.8          | 7.6               | 8.2          | 6.5          | 8.2               | 7.8          | 7.6               |
| Other crops                             | 7.0                                    | 7.1          | 7.0               | 7.4          | 7.0               | 6.1          | 6.8          | 6.8  | 6.7               | 6.5          | 6.4               | 6.8          | 6.8          | 6.7               | 6.5          | 6.4               |
| Livestock and poultry                   | 4.8                                    | 4.4          | 4.7               | 4.6          | 4.4               | 5.3          | 5.2          | 4.9  | 4.5               | 4.4          | 4.2               | 5.2          | 4.9          | 4.5               | 4.4          | 4.2               |
| Fisheries                               | 9.3                                    | 8.2          | 7.3               | 7.2          | 6.9               | 9.9          | 9.3          | 8.3  | 7.7               | 7.3          | 6.6               | 9.3          | 8.3          | 7.7               | 7.3          | 6.6               |
| Forestry and logging                    | 3.4                                    | 3.2          | 3.0               | 3.1          | 2.9               | 2.9          | 2.6          | 2.3  | 2.2               | 2.1          | 1.9               | 2.6          | 2.3          | 2.2               | 2.1          | 1.9               |
| <b>Industry</b>                         | <b>25.0</b>                            | <b>25.6</b>  | <b>25.0</b>       | <b>26.2</b>  | <b>24.9</b>       | <b>24.7</b>  | <b>25.5</b>  | <b>26.9</b>                                  | <b>26.8</b>       | <b>28.6</b>  | <b>28.1</b>       | <b>25.5</b>  | <b>26.9</b>  | <b>26.8</b>       | <b>28.6</b>  | <b>28.1</b>       |
| Mining                                  | 0.3                                    | 0.3          | 0.4               | 0.4          | 0.4               | 0.3          | 0.3          | 0.4  | 0.4               | 0.4          | 0.4               | 0.3          | 0.4          | 0.4               | 0.4          | 0.4               |
| Manufacturing                           | 18.2                                   | 18.8         | 17.8              | 18.6         | 17.3              | 18.3         | 18.9         | 20.2   | 19.6              | 20.8         | 20.5              | 18.9         | 20.2         | 19.6              | 20.8         | 20.5              |
| Food, beverages, and tobacco            | 2.6                                    | 2.4          | 2.4               | 2.2          | 2.2               | 2.8          | 2.7          | 2.3  | 2.2               | 2.1          | 1.9               | 2.7          | 2.3          | 2.2               | 2.1          | 1.9               |
| Textiles, apparel, and footwear         | 12.4                                   | 13.3         | 12.3              | 13.0         | 12.1              | 12.5         | 13.4         | 15.2   | 14.6              | 15.9         | 15.9              | 13.4         | 15.2         | 14.6              | 15.9         | 15.9              |
| Wood, paper, and publishing             | 0.6                                    | 0.6          | 0.6               | 0.6          | 0.6               | 0.6          | 0.5          | 0.4  | 0.4               | 0.4          | 0.4               | 0.5          | 0.4          | 0.4               | 0.4          | 0.4               |
| Rubber manufacturing                    | 0.6                                    | 0.6          | 0.5               | 0.6          | 0.4               | 0.4          | 0.4          | 0.3  | 0.2               | 0.2          | 0.2               | 0.4          | 0.3          | 0.2               | 0.2          | 0.2               |
| Other manufacturing                     | 2.0                                    | 2.0          | 2.1               | 2.2          | 2.1               | 2.1          | 2.1          | 2.0  | 2.1               | 2.2          | 2.1               | 2.1          | 2.0          | 2.1               | 2.2          | 2.1               |
| Nonmetallic manufacturing               | 0.5                                    | 0.5          | 0.5               | 0.6          | 0.5               | 0.5          | 0.5          | 0.5  | 0.5               | 0.6          | 0.6               | 0.5          | 0.5          | 0.5               | 0.6          | 0.6               |
| Basic metal and metal products          | 0.2                                    | 0.2          | 0.2               | 0.3          | 0.3               | 0.2          | 0.2          | 0.2  | 0.2               | 0.2          | 0.2               | 0.2          | 0.2          | 0.2               | 0.2          | 0.2               |
| Other manufacturing                     | 1.4                                    | 1.3          | 1.3               | 1.4          | 1.3               | 1.4          | 1.4          | 1.3  | 1.3               | 1.4          | 1.3               | 1.4          | 1.3          | 1.3               | 1.4          | 1.3               |
| Electricity, gas, and water             | 0.5                                    | 0.5          | 0.5               | 0.6          | 0.6               | 0.5          | 0.5          | 0.5  | 0.5               | 0.6          | 0.6               | 0.5          | 0.5          | 0.5               | 0.6          | 0.6               |
| Construction                            | 6.0                                    | 6.0          | 6.3               | 6.7          | 6.7               | 5.6          | 5.8          | 5.9  | 6.4               | 6.9          | 6.7               | 5.8          | 5.9          | 6.4               | 6.9          | 6.7               |
| <b>Services</b>                         | <b>38.2</b>                            | <b>39.3</b>  | <b>39.1</b>       | <b>38.7</b>  | <b>38.5</b>       | <b>38.6</b>  | <b>37.6</b>  | <b>38.6</b>                                  | <b>38.5</b>       | <b>38.3</b>  | <b>38.3</b>       | <b>37.6</b>  | <b>38.6</b>  | <b>38.5</b>       | <b>38.3</b>  | <b>38.3</b>       |
| Trade                                   | 9.5                                    | 9.4          | 9.2               | 8.9          | 8.9               | 9.9          | 9.5          | 9.1  | 8.7               | 8.4          | 8.4               | 9.5          | 9.1          | 8.7               | 8.4          | 8.4               |
| Hotel and restaurants                   | 3.9                                    | 4.2          | 4.3               | 4.4          | 4.3               | 4.7          | 3.6          | 4.0  | 4.3               | 4.4          | 4.4               | 3.6          | 4.0          | 4.3               | 4.4          | 4.4               |
| Transport and communications            | 6.7                                    | 7.1          | 7.4               | 7.1          | 6.9               | 7.1          | 6.8          | 6.7  | 6.8               | 6.2          | 6.1               | 6.8          | 6.7          | 6.8               | 6.2          | 6.1               |
| Finance                                 | 1.0                                    | 1.1          | 1.1               | 1.3          | 1.4               | 1.0          | 1.0          | 1.1  | 1.1               | 1.3          | 1.4               | 1.0          | 1.1          | 1.1               | 1.3          | 1.4               |
| Public administration                   | 2.2                                    | 2.0          | 1.8               | 1.7          | 1.9               | 2.2          | 1.9          | 1.6  | 1.5               | 1.4          | 1.2               | 1.9          | 1.6          | 1.5               | 1.4          | 1.2               |
| Real estate and business                | 7.0                                    | 7.2          | 6.6               | 6.5          | 6.3               | 6.4          | 7.3          | 8.0  | 7.6               | 7.6          | 7.6               | 7.3          | 8.0          | 7.6               | 7.6          | 7.6               |
| Other services                          | 8.0                                    | 8.5          | 8.6               | 8.8          | 8.8               | 7.2          | 7.6          | 8.1  | 8.5               | 9.0          | 9.1               | 7.6          | 8.1          | 8.5               | 9.0          | 9.1               |
| <b>Taxes on products less subsidies</b> | <b>5.7</b>                             | <b>6.6</b>   | <b>6.2</b>        | <b>6.0</b>   | <b>8.0</b>        | <b>6.2</b>   | <b>5.7</b>   | <b>6.6</b>                                   | <b>6.2</b>        | <b>6.0</b>   | <b>8.0</b>        | <b>5.7</b>   | <b>6.6</b>   | <b>6.2</b>        | <b>6.0</b>   | <b>8.0</b>        |
| Taxes on products                       | 6.1                                    | 6.9          | 27.8              | 31.9         | 46.8              | 6.5          | 6.1          | 6.9  | 6.5               | 6.5          | 8.1               | 6.1          | 6.9          | 6.5               | 6.5          | 8.1               |
| Less: Subsidies                         | 0.3                                    | 0.3          | 1.4               | 2.3          | 0.8               | 0.3          | 0.3          | 0.3  | 0.3               | 0.5          | 0.1               | 0.3          | 0.3          | 0.3               | 0.5          | 0.1               |
| Less: FISIM                             | 0.9                                    | 1.0          | 1.0               | 1.0          | 1.1               | 0.9          | 0.9          | 1.0  | 1.0               | 1.0          | 1.1               | 0.9          | 1.0          | 1.0               | 1.0          | 1.1               |
| <b>Gross domestic product</b>           | <b>100.0</b>                           | <b>100.0</b> | <b>100.0</b>      | <b>100.0</b> | <b>100.0</b>      | <b>100.0</b> | <b>100.0</b> | <b>100.0</b>                                 | <b>100.0</b>      | <b>100.0</b> | <b>100.0</b>      | <b>100.0</b> | <b>100.0</b> | <b>100.0</b>      | <b>100.0</b> | <b>100.0</b>      |

FISIM = financial intermediation services indirectly measured.

<sup>a</sup> Revised estimates.<sup>b</sup> Preliminary estimates.

Source: Government of Cambodia, NIS (2008a), p. 363.

**Table A2.2** Population by Main Employment Status, Sex, and Region in Cambodia, 2004 (%)

|       |            | Employment Status |          |               |                    |                      |       |
|-------|------------|-------------------|----------|---------------|--------------------|----------------------|-------|
|       |            | Total             | Employer | Paid Employee | Own Account Worker | Unpaid Family Worker | Other |
| Total | Both sexes | 100.0             | 0.2      | 12.9          | 41.0               | 45.7                 | 0.2   |
|       | Male       | 100.0             | 0.3      | 16.8          | 53.1               | 29.6                 | 0.2   |
|       | Female     | 100.0             | 0.2      | 9.3           | 29.7               | 60.7                 | 0.1   |
| Urban | Both sexes | 100.0             | 0.5      | 30.8          | 40.7               | 27.6                 | 0.4   |
|       | Male       | 100.0             | 0.6      | 39.2          | 43.1               | 16.6                 | 0.5   |
|       | Female     | 100.0             | 0.4      | 21.9          | 38.2               | 39.2                 | 0.3   |
| Rural | Both sexes | 100.0             | 0.2      | 10.2          | 41.0               | 48.5                 | 0.1   |
|       | Male       | 100.0             | 0.2      | 13.1          | 54.9               | 31.7                 | 0.1   |
|       | Female     | 100.0             | 0.2      | 7.5           | 28.5               | 63.7                 | 0.1   |

Source: Government of Cambodia, NIS (2008b) p.105.

**Table A2.3** Employed Population in Cambodia by Sector, 1998 and 2004 (%)

| Sectors   | 1998 | 2004 |
|---|------|------|
| Primary Sector (agriculture, hunting, forestry, and fishing)  | 77.5 | 74.2 |
| Secondary Sector (mining and quarrying, electricity, gas and water supply, and construction)                | 4.3  | 7.0  |
| Tertiary Sector (trade, hotels and restaurants, transport, business, and administration service activities) | 18.2 | 18.8 |

Source: Government of Cambodia, NIS (2008b) p.105.

**Table A2.4** Gross Domestic Product and Per Capita Gross Domestic Product, 1993–2007

|   | At Current Prices  |                   |                   |                   |                   |                   |                   |                   |                   |         |
|---|--------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|---------|
|   | 1993 <sup>a</sup>  | 1995 <sup>a</sup> | 2000 <sup>a</sup> | 2001 <sup>a</sup> | 2002 <sup>a</sup> | 2003 <sup>b</sup> | 2004 <sup>b</sup> | 2005 <sup>a</sup> | 2006 <sup>b</sup> | 2006    |
| GDP (KR billion)  | 7,105              | 8,434             | 14,083            | 15,617            | 16,756            | 18,508            | 21,343            | 25,693            | 29,809            | 33,952  |
| Growth rate (%)   | 4.3                | 18.7              | 5.3               | 10.9              | 7.3               | 10.5              | 15.3              | 20.4              | 16.0              | 13.9    |
| Per capita GDP (KR '000)                                  | 637                | 733               | 1,111             | 1,212             | 1,279             | 1,389             | 1,575             | 1,868             | 2,105             | 2,341   |
| Growth rate (%)   | 1.1                | 15.2              | 3.6               | 9.1               | 5.5               | 8.6               | 13.4              | 18.0              | 13.3              | 11.2    |
| GDP (\$ million)  | 765                | 3,419             | 3,649             | 3,980             | 4,273             | 4,656             | 5,315             | 6,278             | 7,265             | 8,332   |
| Growth rate (%)   | 11.5               | 23.7              | 4.1               | 9.1               | 7.4               | 9.0               | 14.2              | 18.1              | 15.7              | 14.7    |
| Per capita GDP (\$)                                       | 248                | 297               | 288               | 309               | 326               | 349               | 392               | 454               | 513               | 575     |
| Growth rate (%)   | 8.1                | 20.0              | 2.4               | 7.3               | 5.6               | 7.1               | 12.3              | 15.7              | 13.0              | 12.0    |
| HFCE (KR billion)   | 6,713              | 7,812             | 12,211            | 12,950            | 13,715            | 15,059            | 17,753            | 21,104            | 23,515            | 26,016  |
| Per capita HFCE (KR '000)                                 | 620                | 679               | 963               | 1,005             | 1,047             | 1,130             | 1,310             | 1,526             | 1,660             | 1,794   |
| Monthly per capita HFCE (KR)                              | 51,661             | 56,606            | 80,250            | 83,731            | 87,221            | 94,169            | 109,185           | 127,178           | 138,359           | 149,495 |
|   | At Constant Prices |                   |                   |                   |                   |                   |                   |                   |                   |         |
| GDP (KR billion)  | 9,297              | 9,896             | 14,083            | 15,215            | 16,210            | 17,589            | 19,351            | 21,956            | 24,334            | 26,587  |
| Growth rate (%)   | 9.1                | 6.4               | 8.8               | 8.0               | 6.5               | 8.5               | 10.0              | 13.5              | 10.8              | 9.3     |
| Per capita GDP (KR '000)                                  | 833                | 861               | 1,111             | 1,180             | 1,237             | 1,320             | 1,426             | 1,588             | 1,718             | 1,833   |
| Growth rate (%)   | 5.6                | 3.3               | 7.0               | 6.3               | 4.8               | 6.7               | 8.2               | 11.2              | 8.2               | 6.7     |
| GDP (\$ million)  | 3,617              | 4,011             | 3,649             | 3,877             | 4,134             | 4,425             | 4,819             | 5,365             | 5,931             | 6,525   |
| Growth rate (%)   | 16.6               | 10.9              | 7.5               | 6.2               | 6.6               | 7.0               | 8.9               | 11.3              | 10.5              | 10.0    |
| Per capita GDP (\$)                                       | 324                | 349               | 286               | 301               | 315               | 332               | 356               | 388               | 419               | 450     |
| Growth rate (%)   | 13.1               | 7.6               | 5.8               | 4.5               | 4.9               | 5.2               | 7.1               | 9.1               | 7.9               | 7.4     |
| HFCE  | 8,476              | 9,206             | 12,211            | 12,499            | 13,194            | 14,232            | 16,019            | 17,981            | 19,211            | 20,376  |
| Per capita HFCE (KR '000)                                 | 759                | 801               | 963               | 970               | 1,007             | 1,066             | 1,182             | 1,300             | 1,356             | 1,405   |
| Monthly per capita HFCE (KR)                              | 63,284             | 66,710            | 80,250            | 80,815            | 83,909            | 88,998            | 98,517            | 108,357           | 113,036           | 117,099 |
| Population estimate<br>NIS population predictions<br>2004 | 11,161             | 11,500            | 12,680            | 12,889            | 13,104            | 13,326            | 13,550            | 13,828            | 14,163            | 14,502  |
| Official exchange rate (KR–\$)                            | 2,570              | 2,467             | 3,859             | 3,924             | 3,921             | 3,975             | 4,016             | 4,092             | 4,103             | 4,075   |

GDP = gross domestic product, HFCE = household final consumption expenditure, NIS = National Institute of Statistics.

<sup>a</sup> Revised estimates.

<sup>b</sup> Preliminary estimates.

Source: Government of Cambodia, NIS (2008b) p. 360.

Table A2.5 Urban Growth in Cambodia, 1998–2008 ('000 persons)

| City or Town                     | Rank (1998) | Population 1998, Urban Reclassification <sup>a</sup> | Population 1998, Urban by Province <sup>b</sup> | Population 2008, Urban by Province | Remarks on Municipality Status                            |
|----------------------------------|-------------|--|---|------------------------------------|---|
| Phnom Penh                       | 1           | 1,078.0  | 950.4   | 1,243.0                            | Capital city municipality                                 |
| Battambang                       | 2           | 124.3  | 177.0   | 180.8                              | Municipality population of only 144,000 in 2008           |
| Siem Reap                        | 3           | 97.1   | 102.7   | 174.3                              |   |
| Mongkol Borei (Banteay Meanchey) | 4           | 85.4   | 135.4   | 181.4                              | Includes two municipalities, Srisopon and Poipet          |
| Sihanoukville                    | 5           | 66.7   | 66.7  | 89.4                               | "Old municipality" (pre-2008)                             |
| Kampong Cham                     | 6           | 45.3   | 117.6   | 118.2                              | Includes Suong  |
| Suong                            | 7           | 44.6   | Included in Kampong Cham                        | 50.0                               | Municipality established in 2008                          |
| Poipet                           | 8           | 43.4   | Included in Banteay Meanchey                    | 107.0                              | Municipality established in 2008                          |
| Kampong Chhnang                  | 9           | 41.7   | 41.7  | 43.1                               |   |
| Kampong Speu                     | 10          | 41.5   | 48.0  | 54.5                               |   |
| Kampot                           | 11          | 36.0   | 45.2  | 48.3                               |   |
| Kampong Thom                     | 12          | 31.4   | 31.4  | 31.9                               |   |
| Kratie                           | 13          | 28.9   | 36.3  | 36.0                               |   |
| Pursat                           | 14          | 27.2   | 27.2  | 25.6                               |   |
| Smach Meanchey (Koh Kong)        | 15          | 26.8   | 41.8  | 36.0                               |   |
| Prey Veang                       | 16          | 20.4   | 35.3  | 33.1                               |   |
| Svay Rieng                       | 17          | 17.0   | 17.0  | 17.0                               |   |
| Kandal                           | 18          | 15.5   | 146.0   | 195.9                              | Urban Kandal part of Phnom Penh                           |
| Stueng Traeng                    | 19          | 15.1   | 15.1  | 17.0                               |   |
| Srae Ambel (Koh Kong)            | 20          | 15.0   | ...   | ...                                | Included in Koh Kong                                      |
| Kampong Leav (Prey Veang)        | 21          | 14.9   | ...   | ...                                | Included in Prey Veang                                    |
| Takeo                            | 22          | 13.6   | 13.7  | 14.4                               |   |
| Samroang (Outd Mean)             | 23          | 12.1   | 12.1  | 18.7                               |   |
| Labansiek (Rotan Kiri)           | 24          | 11.2   | 11.2  | 19.3                               |   |
| Pailin                           |             | ...  | 8.5   | 15.7                               | "Old municipality" (pre-2008)                             |
| Bavet (Svay Rieng)               |             | ...  | ...   | ...                                | Municipality established in 2009                          |
| Alongveng (Outd Mean)            |             | ...  | ....  | ...                                | Town without municipality, estimated population of 15,000 |
| Kep                              |             | ...  | 4.0   | 4.7                                | "Old municipality" (pre-2008)                             |
| <b>Total Urban Population</b>    |             |  | <b>2,095.1</b>                                  | <b>2,614.0</b>                     |   |

... = data not available.

<sup>a</sup> Urban reclassification (2004) of the 1998 population figures.

<sup>b</sup> Urban population as per 1998 population figures in 2008 census report.

Note: Nonstandard spelling of cities and towns from the 1962 records used.

Source: ADB (2010a).

**Table A2.6 Long-Term Urban Population Change in Cambodia, 1962–1998**  
('000 persons)

| A: Population 1962 <sup>a</sup>   |  |              | B: Population 1998 <sup>b</sup>                  |                   |   | Urban Growth (Ratio B/A) |
|---|--|--------------|--|-------------------|---|--------------------------|
| Place Name  | 1962 <sup>a</sup>  | Rank         | Rank   | 1998 <sup>b</sup> | Place Name                                |                          |
| Phnom Penh  | 393.9  | 1            | 1  | 1,078.0           | Phnom Penh                                | 2.74 o                   |
| Battambang  | 38.8   | 2            | 2  | 124.3             | Battambang                                | 3.20 +                   |
| Kampong Cham  | 28.5   | 3            | 3  | 97.1              | Siem Reap                                 | 9.52 !                   |
| Pursat  | 14.5   | 4            | 4  | 85.4              | Mongkol Borei                             | Probably > 10!           |
| Kampong Chhnang   | 13.0   | 5            | 5  | 66.7              | Sihanoukville                             | 9.39 !                   |
| Kampot  | 12.7   | 6            | 6  | 45.3              | Kampong Cham                              | 1.59 –                   |
| Kratie  | 12.1   | 7            | 7  | 44.6              | Suong                                     | Probably > 10!           |
| Svay Rieng  | 11.3   | 8            | 8  | 43.4              | Poipet                                    | Probably > 10!           |
| Siem Reap   | 10.2   | 9            | 9  | 41.7              | Kampong Chhnang                           | 3.21 +                   |
| Kampong Thom  | 9.5  | 10           | 10   | 41.5              | Kampong Speu                              | 5.53 !                   |
| Prey Veang  | 8.8  | 11           | 11   | 36.0              | Kampot                                    | 2.83 o                   |
| Kep   | 7.7  | 12           | 12   | 31.4              | Kampong Thom                              | 3.30 +                   |
| Kampong Speu  | 7.5  | 13           | 13   | 28.9              | Kratie                                    | 2.39 –                   |
| Takeo   | 7.3  | 14           | 14   | 27.2              | Pursat                                    | 1.88 –                   |
| Sihanoukville   | 7.1  | 15           | 15   | 26.8              | Smach Meanchey                            | Probably fast!           |
| Mongkol Borei   | No comparable data are available, as none of these places were classified as urban in 1962. Presumably, the size of each place is less than 5,000 inhabitants. |              | 16   | 20.4              | Prey Veang                                | 2.32 –                   |
| Suong   |  | 17           | 17.0   | Svay Rieng        | 1.50 –                                    |                          |
| Poipet  |  | 18           | 15.5   | Kandal            | Probably all small towns with fast growth |                          |
| Smach Meanchey  |  | 19           | 15.1   | Stueng Traeng     |   |                          |
| Kandal  |  | 20           | 15.0   | Srae Ambel        |   |                          |
| Stueng Traeng   |  | 21           | 14.9   | Kampong Leav      | 1.86 –                                    |                          |
| Srae Ambel  |  | 22           | 13.6   | Takeo             |   |                          |
| Kampong Leav  |  | 23           | 12.1   | Samroang          | Fast !                                    |                          |
| Sampang Labansiek   |  | 24           | 11.2   | Labansiek         | Fast !                                    |                          |
|   |  |              |  | (33)              | 4.0                                       | Kep <sup>c</sup>         |
| <b>Total (A): 15 Urban Areas (1962)</b>                                       |  | <b>582.9</b> | <b>Total (B): The same 15 urban areas (1998)</b> |                   | <b>1,672.8</b>                            |                          |
| <b>All 15 Towns with Data for 1962 and 1998 (Mean Factor of Urban Growth)</b> |  |              |  |                   |   | <b>2.87</b>              |

o = average growth (around the value of 2.87), + = above average (3.20–3.30), ! = much above average (5.50–9.50), – = below average (as low as 1.50).

<sup>a</sup> All 15 “urban” areas as per the 1962 census.

<sup>b</sup> Urban areas as per an “urban study” (Government of Cambodia, NIS 2004c), which interpreted the figures of the 1998 census (listing for places with more than 10,000 people only).

<sup>c</sup> Kep constitutes a special problem of the “urban” definition. In 1962, a large part of the total population would have been rated as “urban,” while in 1998, only 4,000 of the total population of 28,000 was rated as living in an “urban” area.

Note: The dark gray shading indicates no comparable data for 1962.

Source: ADB (2006a) p. 95.

**Table A2.7** Urbanization, Urban Growth Rate, and Gross National Income per Capita in Cambodia

|                                  | Population in 2010 |              |           | Urban Annual Growth Rate, 2010–2015 | Gross National Income per Capita, 2008 (\$) <sup>a</sup> |
|----------------------------------|--------------------|--------------|-----------|-------------------------------------|--|
|                                  | Urban ('000)       | Total ('000) | Urban (%) |                                     |  |
| Brunei Darussalam                | 313                | 414          | 75.7      | 2.32                                | 50,200   |
| Cambodia                         | 3,470              | 15,224       | 22.8      | 4.48                                | 1,820  |
| Indonesia                        | 128,634            | 239,600      | 53.7      | 2.70                                | 3,830  |
| Lao People's Democratic Republic | 2,049              | 6,173        | 33.2      | 4.80                                | 2,040  |
| Malaysia                         | 20,150             | 27,920       | 72.2      | 2.44                                | 13,740   |
| Myanmar                          | 16,973             | 50,051       | 33.9      | 2.70                                | 1,290  |
| Philippines                      | 61,731             | 93,001       | 66.4      | 2.60                                | 3,900  |
| Singapore                        | 4,592              | 4,592        | 100.0     | 0.92                                | 46,940   |
| Thailand                         | 22,118             | 65,125       | 34.0      | 1.75                                | 5,990  |
| Viet Nam                         | 26,190             | 90,845       | 28.8      | 3.02                                | 2,700  |
| Timor-Leste                      | 357                | 1,271        | 28.1      | 4.99                                | 4,690  |
| Southeast Asia                   | 286,577            | 594,216      | 48.2      | 2.63                                |  |

<sup>a</sup> Purchasing power parity, current international US dollar.

Sources: United Nations Development Programme (2008) and World Bank (2009).

**Table A2.8** Urbanization in Southeast Asia, 1950–2050  
(% population in urban areas)

| Country                          | 1950 | 1975  | 2000  | 2025  | 2050  |
|----------------------------------|------|-------|-------|-------|-------|
| Brunei Darussalam                | 26.8 | 62.0  | 71.1  | 80.9  | 87.2  |
| Cambodia                         | 10.2 | 4.4   | 16.9  | 33.2  | 53.2  |
| Indonesia                        | 12.4 | 19.3  | 42.0  | 65.9  | 79.4  |
| Lao People's Democratic Republic | 7.2  | 11.1  | 22.0  | 49.0  | 68.0  |
| Malaysia                         | 20.4 | 37.7  | 62.0  | 80.5  | 87.9  |
| Myanmar                          | 16.2 | 23.9  | 28.0  | 44.6  | 63.1  |
| Philippines                      | 27.1 | 35.6  | 58.5  | 74.6  | 83.9  |
| Singapore                        | 99.4 | 100.0 | 100.0 | 100.0 | 100.0 |
| Thailand                         | 16.5 | 23.8  | 31.1  | 42.2  | 60.0  |
| Viet Nam                         | 11.6 | 18.8  | 24.3  | 38.1  | 57.0  |

Source: Yap (unpublished) p. 8, Tables 1 and 2.

**Table A2.9** Population Projection by Province in Cambodia, 1998–2020

|                  | 1998              | 2008              | 2009              | 2014              | 2020              |
|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Banteay Meanchey | 638,892           | 839,037           | 862,314           | 987,529           | 1,152,152         |
| Battambang       | 887,507           | 1,057,263         | 1,078,923         | 1,198,694         | 1,358,445         |
| Kampong Cham     | 1,691,798         | 1,944,031         | 1,974,976         | 2,142,407         | 2,358,926         |
| Kampong Chhnang  | 440,144           | 551,472           | 565,337           | 642,623           | 749,791           |
| Kampong Speu     | 630,782           | 779,910           | 797,956           | 896,468           | 1,026,473         |
| Kampong Thom     | 599,695           | 722,338           | 736,642           | 813,138           | 911,441           |
| Kampot           | 557,322           | 627,974           | 637,303           | 689,443           | 759,162           |
| Kandal           | 1,129,876         | 1,300,974         | 1,321,841         | 1,435,326         | 1,582,712         |
| Kep              | 30,123            | 41,589            | 42,928            | 50,249            | 60,002            |
| Kratie           | 276,706           | 360,691           | 370,010           | 419,025           | 482,725           |
| Mondul Kiri      | 34,406            | 46,210            | 47,543            | 54,843            | 65,394            |
| Otdar Meanchey   | 82,345            | 105,488           | 108,232           | 123,448           | 144,242           |
| Preah Vihear     | 126,389           | 164,764           | 169,073           | 192,245           | 223,613           |
| Prey Veang       | 995,211           | 1,073,917         | 1,084,872         | 1,145,482         | 1,223,193         |
| Pursat           | 390,004           | 451,141           | 459,822           | 510,104           | 579,665           |
| Ratanak Kiri     | 99,703            | 131,835           | 135,695           | 157,065           | 187,401           |
| Siem Reap        | 734,126           | 924,923           | 947,487           | 1,069,044         | 1,229,432         |
| Sihanoukville    | 163,303           | 231,184           | 238,954           | 280,420           | 335,186           |
| Stueng Traeng    | 85,602            | 112,684           | 115,739           | 132,129           | 154,126           |
| Svay Rieng       | 503,080           | 557,058           | 563,958           | 602,190           | 651,073           |
| Takeo            | 833,381           | 937,556           | 950,957           | 1,025,659         | 1,125,349         |
| <b>Cambodia</b>  | <b>12,132,172</b> | <b>14,655,950</b> | <b>14,957,752</b> | <b>16,589,047</b> | <b>18,724,315</b> |

Source: Government of Cambodia, NIS (2004b) p. 40–41.

Table A2.10 Overview of 27 Municipalities and Urbanized Sangkats in District Data Books

| No.                                      | Municipal Code | Province         | Municipality    | Total Urban Population (2008 census) | Population in Most Urbanized Sangkat (2009 data book) | Remarks   |
|--|----------------|------------------|-----------------|--------------------------------------|---|---|
| <b>Cambodia</b>                          |                |                  |                 | <b>2,651,150</b>                     | <b>1,069,719</b>                                      | The remaining 1.5 million are in less urbanized <i>sangkats</i> . |
| <b>A. Plain Region</b>                   |                |                  |                 | <b>1,658,819</b>                     | <b>682,218</b>  |   |
| 1  |                | Phnom Penh       | Phnom Penh      | 1,242,992                            | 571,649   |   |
| 2  | 811            | Kandal           | Ta Khmao        | 195,898                              | 18,381  |   |
| 3  | 305            | Kampong Cham     | Kampong Cham    | 82,346                               | 13,423  |   |
| 4  | 317            | Kampong Cham     | Suong           | 35,896                               | 22,730  |   |
| 5  | 2006           | Svay Rieng       | Svay Rieng      | 17,029                               | 13,253  |   |
| 6  | 2008           | Svay Rieng       | Bavet           | 37,123                               | 11,201  |   |
| 7  | 1413           | Prey Veng        | Svay Antor      | 33,079                               | 13,713  | Contradiction in statistical records                              |
| 8  | 2108           | Takeo            | Daun Keo        | 14,456                               | 17,868  | Contradiction in statistical records                              |
| <b>B. Tonle Sap Lake Region</b>          |                |                  |                 | <b>671,533</b>                       | <b>268,234</b>  |   |
| 9  | 106            | Banteay Meanchey | Serei Saophaon  | 73,407                               | 22,362  |   |
| 10                                       | 110            | Banteay Meanchey | Poipet          | 107,989                              | 92,143  |   |
| 11                                       | 203            | Battambang       | Battambang      | 180,853                              | 26,202  |   |
| 12                                       | 403            | Kampong Chhnang  | Kampong Chhnang | 43,130                               | 17,289  |   |
| 13                                       | 603            | Kampong Thom     | Stueng Saen     | 31,871                               | 18,548  |   |
| 14                                       | 1710           | Siem Reap        | Siem Reap       | 174,265                              | 40,473  |   |
| 15                                       | 2401           | Pailin           | Pailin          | 15,674                               | 11,402  |   |
| 16                                       | 1505           | Pursat           | Pursat          | 25,650                               | 21,069  |   |
| 17                                       | 2204           | Otdar Meanchey   | Samroang        | 18,694                               | 18,746  | Nearly identical numbers  |
| <b>C. Coastal Region</b>                 |                |                  |                 | <b>178,452</b>                       | <b>50,308</b>   |   |
| 18                                       | 48274          | Kampot           | Kampot          | 48,274                               | 11,567  |   |
| 19                                       | 36053          | Koh Kong         | Khemara Phumin  | 36,053                               | 12,745  |   |
| 20                                       | 4678           | Kep              | Kep             | 4,678                                | 4,235   |   |
| 21                                       | 89447          | Preah Sihanouk   | Preah Sihanouk  | 89,447                               | 21,761  |   |
| <b>D. Plateau and Mountainous Region</b> |                |                  |                 | <b>142,346</b>                       | <b>68,959</b>   |   |
| 22                                       | 54505          | Kampong Speu     | Chbar Mon       | 54,505                               | 15,223  |   |
| 23                                       | 35964          | Kratie           | Kratie          | 35,964                               | 11,894  |   |
| 24                                       | 4859           | Mondul Kiri      | Saem Monourom   | 4,859                                | 3,661   |   |
| 25                                       | 10679          | Preah Vihear     | Preah Vihear    | 10,679                               | 9,151   |   |
| 26                                       | 19317          | Ratanak Kiri     | Ban Lung        | 19,317                               | 15,665  |   |
| 27                                       | 17022          | Stung Treng      | Stung Treng     | 17,022                               | 13,265  |   |

Source: Government of Cambodia, National Committee for Subnational Democratic Development (2009).



Table A2.11 General Population Census of Cambodia, 2008

|  | Total<br>Households | Both Sexes        | Male             | Female           | Sex Ratio   | Average<br>Household<br>Size |
|--|---------------------|-------------------|------------------|------------------|-------------|------------------------------|
| <b>Cambodia</b>                              | <b>2,832,691</b>    | <b>13,388,910</b> | <b>6,211,908</b> | <b>6,591,892</b> | <b>94.2</b> | <b>4.7</b>                   |
| <b>A. Plain Region</b>                       | <b>1,410,507</b>    | <b>6,545,533</b>  | <b>3,142,061</b> | <b>3,403,472</b> | <b>92.3</b> | <b>4.6</b>                   |
| Phnom Penh                                   | 257,828             | 1,325,681         | 622,197          | 703,484          | 88.4        | 5.1                          |
| Kandal                                       | 257,857             | 1,265,085         | 609,810          | 655,275          | 93.1        | 4.9                          |
| Kampong Cham                                 | 368,871             | 1,680,694         | 817,251          | 863,443          | 94.7        | 4.6                          |
| Svay Rieng                                   | 115,282             | 482,785           | 231,129          | 251,656          | 91.8        | 4.2                          |
| Prey Veng                                    | 226,764             | 947,357           | 451,875          | 495,482          | 91.2        | 4.2                          |
| Takeo  | 183,905             | 843,931           | 409,799          | 434,132          | 94.4        | 4.6                          |
| <b>B. Tonle Sap Lake Region</b>              | <b>906,979</b>      | <b>4,354,456</b>  | <b>2,128,895</b> | <b>2,225,561</b> | <b>95.7</b> | <b>4.8</b>                   |
| Banteay Meanchey                             | 144,400             | 678,033           | 331,289          | 346,744          | 95.5        | 4.7                          |
| Battambang                                   | 210,327             | 1,024,663         | 504,974          | 519,689          | 97.2        | 4.9                          |
| Kampong Chhnang                              | 101,122             | 471,616           | 226,357          | 245,259          | 92.3        | 4.7                          |
| Kampong Thom                                 | 134,123             | 630,803           | 306,547          | 324,256          | 94.5        | 4.7                          |
| Siem Reap                                    | 180,097             | 896,309           | 437,994          | 458,315          | 95.6        | 5.0                          |
| Otdar Meanchey                               | 38,642              | 185,443           | 93,193           | 92,250           | 101.0       | 4.8                          |
| Pailin                                       | 14,753              | 70,482            | 36,187           | 34,295           | 105.5       | 4.8                          |
| Pursat                                       | 83,515              | 397,107           | 192,354          | 204,753          | 93.9        | 4.8                          |
| <b>C. Coastal Region</b>                     | <b>206,310</b>      | <b>960,487</b>    | <b>471,098</b>   | <b>489,389</b>   | <b>99.8</b> | <b>4.7</b>                   |
| Kampot                                       | 129,745             | 585,110           | 283,604          | 301,506          | 94.1        | 4.5                          |
| Koh Kong                                     | 28,853              | 139,722           | 70,665           | 69,057           | 102.3       | 4.8                          |
| Kep  | 7,234               | 35,753            | 17,603           | 18,150           | 97.0        | 4.9                          |
| Sihanoukville                                | 40,478              | 199,902           | 99,226           | 100,676          | 98.6        | 4.9                          |
| <b>D. Plateau and<br/>Mountainous Region</b> | <b>308,895</b>      | <b>1,528,434</b>  | <b>753,458</b>   | <b>774,976</b>   | <b>97.2</b> | <b>4.9</b>                   |
| Kampong Speu                                 | 149,132             | 716,517           | 347,594          | 368,923          | 94.2        | 4.8                          |
| Kratie                                       | 65,632              | 318,523           | 158,365          | 160,158          | 98.9        | 4.9                          |
| Mondul Kiri                                  | 12,296              | 60,811            | 31,128           | 29,683           | 104.9       | 4.9                          |
| Preah Vihear                                 | 33,260              | 170,852           | 84,909           | 85,943           | 98.8        | 5.1                          |
| Ratanak Kiri                                 | 27,396              | 149,997           | 75,827           | 74,170           | 102.2       | 5.5                          |
| Stung Treng                                  | 21,179              | 111,734           | 55,635           | 56,099           | 99.2        | 5.3                          |

Note: Data based on preliminary report of provisional population totals.

Source: Government of Cambodia, NIS (2008b) p. 52.

**Table A2.12 Distribution of Residential and Partly Residential Buildings According to Nature of Construction, 1998 and 2008 (%)**

| Code | Province         | Year | Residence | Total Number<br>of Buildings | Percentage of Buildings by Nature of Construction |                    |           |
|------|------------------|------|-----------|------------------------------|---|--------------------|-----------|
|      |                  |      |           |                              | Permanent   | Semi-<br>Permanent | Temporary |
|      | Cambodia         | 2008 | Total     | 2,637,654                    | 56.97   | 24.56              | 18.47     |
|      |                  |      | Urban     | 450,345                      | 86.48   | 9.33               | 4.19      |
|      |                  |      | Rural     | 2,187,309                    | 50.90   | 27.69              | 21.41     |
|      |                  | 1998 | Total     | 1,989,828                    | 34.10   | 21.40              | 44.50     |
|      |                  |      | Urban     | 295,148                      | 69.06   | 14.11              | 16.83     |
|      |                  |      | Rural     | 1,694,680                    | 28.01   | 22.67              | 49.32     |
| 01   | Banteay Meanchey | 2008 | Total     | 135,354                      | 57.21   | 26.05              | 16.74     |
|      |                  |      | Urban     | 34,491                       | 69.96   | 19.31              | 10.73     |
|      |                  |      | Rural     | 100,863                      | 52.84   | 28.36              | 18.80     |
|      |                  | 1998 | Total     | 102,574                      | 30.97   | 22.64              | 46.39     |
|      |                  |      | Urban     | 235,38                       | 48.98   | 15.61              | 35.41     |
|      |                  |      | Rural     | 79,036                       | 25.60   | 27.74              | 49.66     |
| 02   | Battambang       | 2008 | Total     | 198,577                      | 51.91   | 26.55              | 21.54     |
|      |                  |      | Urban     | 33,789                       | 77.86   | 18.15              | 3.99      |
|      |                  |      | Rural     | 164,788                      | 46.59   | 28.27              | 25.14     |
|      |                  | 1998 | Total     | 134,828                      | 30.69   | 25.29              | 44.02     |
|      |                  |      | Urban     | 29,197                       | 58.61   | 24.04              | 17.36     |
|      |                  |      | Rural     | 105,631                      | 22.98   | 25.63              | 51.39     |
| 03   | Kampong Cham     | 2008 | Total     | 344,091                      | 55.10   | 26.76              | 18.15     |
|      |                  |      | Urban     | 23,345                       | 78.97   | 15.11              | 5.92      |
|      |                  |      | Rural     | 320,746                      | 53.36   | 27.60              | 19.04     |
|      |                  | 1998 | Total     | 287,254                      | 35.06   | 24.57              | 40.38     |
|      |                  |      | Urban     | 19,398                       | 65.54   | 17.17              | 17.29     |
|      |                  |      | Rural     | 267,856                      | 32.85   | 25.10              | 42.05     |
| 04   | Kampong Chhnang  | 2008 | Total     | 97,421                       | 39.17   | 29.02              | 31.81     |
|      |                  |      | Urban     | 7,831                        | 62.43   | 22.76              | 14.81     |
|      |                  |      | Rural     | 89,590                       | 37.14   | 29.57              | 33.29     |
|      |                  | 1998 | Total     | 78,118                       | 21.91   | 19.21              | 58.88     |
|      |                  |      | Urban     | 6,552                        | 39.00   | 18.57              | 42.43     |
|      |                  |      | Rural     | 71,566                       | 20.35   | 19.27              | 60.38     |
| 05   | Kampong Speu     | 2008 | Total     | 142,924                      | 63.01   | 19.02              | 17.97     |
|      |                  |      | Urban     | 10,182                       | 83.96   | 10.36              | 5.68      |
|      |                  |      | Rural     | 132,742                      | 61.41   | 19.68              | 18.91     |
|      |                  | 1998 | Total     | 110,951                      | 34.83   | 18.71              | 46.45     |
|      |                  |      | Urban     | 8,116                        | 63.01   | 17.98              | 19.01     |
|      |                  |      | Rural     | 102,835                      | 32.61   | 18.77              | 48.62     |
| 06   | Kampong Thom     | 2008 | Total     | 127,995                      | 48.51   | 22.13              | 29.36     |
|      |                  |      | Urban     | 6,333                        | 78.49   | 13.69              | 7.82      |
|      |                  |      | Rural     | 121,662                      | 46.95   | 22.57              | 30.48     |
|      |                  | 1998 | Total     | 100,567                      | 32.57   | 18.67              | 48.76     |
|      |                  |      | Urban     | 53,28                        | 55.01   | 20.14              | 24.85     |
|      |                  |      | Rural     | 95,239                       | 31.31   | 18.59              | 50.10     |
| 07   | Kampot           | 2008 | Total     | 126,689                      | 56.65   | 24.53              | 18.82     |
|      |                  |      | Urban     | 9,321                        | 81.72   | 11.13              | 7.16      |
|      |                  |      | Rural     | 117,368                      | 54.65   | 25.59              | 19.75     |
|      |                  | 1998 | Total     | 101,565                      | 33.91   | 21.07              | 45.03     |
|      |                  |      | Urban     | 7,555                        | 60.60   | 15.20              | 24.21     |
|      |                  |      | Rural     | 94,010                       | 31.76   | 21.54              | 46.70     |

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Table A2.12 *continued*

| Code | Province     | Year | Residence | Total Number<br>of Buildings | Percentage of Buildings by Nature of Construction |                    |           |
|------|--------------|------|-----------|------------------------------|---|--------------------|-----------|
|      |              |      |           |                              | Permanent   | Semi-<br>Permanent | Temporary |
| 08   | Kandal       | 2008 | Total     | 237,190                      | 65.41   | 25.22              | 9.37      |
|      |              |      | Urban     | 34,342                       | 87.99   | 9.30               | 2.71      |
|      |              |      | Rural     | 202,848                      | 61.59   | 27.92              | 10.49     |
|      |              | 1998 | Total     | 186,278                      | 41.10   | 22.35              | 36.54     |
|      |              |      | Urban     | 23,036                       | 70.82   | 14.53              | 14.66     |
|      |              |      | Rural     | 163,242                      | 36.91   | 23.46              | 39.63     |
| 09   | Koh Kong     | 2008 | Total     | 23,108                       | 77.23   | 11.65              | 11.13     |
|      |              |      | Urban     | 6,998                        | 92.80   | 5.17               | 2.03      |
|      |              |      | Rural     | 16,110                       | 70.47   | 14.46              | 15.08     |
|      |              | 1998 | Total     | 19,995                       | 56.84   | 26.54              | 16.62     |
|      |              |      | Urban     | 6,784                        | 68.01   | 22.88              | 9.11      |
|      |              |      | Rural     | 13,211                       | 51.10   | 28.42              | 20.48     |
| 10   | Kratie       | 2008 | Total     | 60,021                       | 48.84   | 19.63              | 31.53     |
|      |              |      | Urban     | 6,992                        | 70.94   | 17.71              | 11.36     |
|      |              |      | Rural     | 53,029                       | 45.92   | 19.88              | 34.19     |
|      |              | 1998 | Total     | 44,245                       | 29.43   | 19.70              | 50.86     |
|      |              |      | Urban     | 5,647                        | 48.73   | 18.04              | 33.22     |
|      |              |      | Rural     | 38,598                       | 26.61   | 19.94              | 53.45     |
| 11   | Mondul Kiri  | 2008 | Total     | 10,689                       | 57.37   | 16.00              | 26.63     |
|      |              |      | Urban     | 937                          | 93.49   | 4.59               | 1.92      |
|      |              |      | Rural     | 9,752                        | 53.90   | 17.09              | 29.01     |
|      |              | 1998 | Total     | 5,228                        | 15.28   | 11.13              | 73.58     |
|      |              |      | Urban     | 460                          | 71.74   | 20.65              | 7.61      |
|      |              |      | Rural     | 4,768                        | 9.84  | 10.21              | 79.95     |
| 12   | Phnom Penh   | 2008 | Total     | 214,043                      | 94.97   | 3.58               | 1.45      |
|      |              |      | Urban     | 198,082                      | 95.91   | 3.02               | 1.06      |
|      |              |      | Rural     | 15,961                       | 83.19   | 10.50              | 6.31      |
|      |              | 1998 | Total     | 116,418                      | 83.68   | 8.13               | 8.19      |
|      |              |      | Urban     | 107,570                      | 85.07   | 7.56               | 7.38      |
|      |              |      | Rural     | 8,848                        | 66.82   | 15.08              | 18.11     |
| 13   | Preah Vihear | 2008 | Total     | 31,930                       | 48.02   | 20.66              | 31.32     |
|      |              |      | Urban     | 1,982                        | 70.74   | 20.59              | 8.68      |
|      |              |      | Rural     | 29,948                       | 46.52   | 20.67              | 32.82     |
|      |              | 1998 | Total     | 19,891                       | 14.69   | 20.36              | 64.95     |
|      |              |      | Urban     | 1,320                        | 47.05   | 25.00              | 27.95     |
|      |              |      | Rural     | 18,571                       | 12.39   | 20.03              | 67.58     |
| 14   | Prey Veng    | 2008 | Total     | 212,552                      | 39.01   | 37.69              | 23.30     |
|      |              |      | Urban     | 6,663                        | 75.46   | 16.42              | 8.12      |
|      |              |      | Rural     | 205,889                      | 37.83   | 38.38              | 23.79     |
|      |              | 1998 | Total     | 181,647                      | 19.94   | 26.39              | 53.68     |
|      |              |      | Urban     | 6,325                        | 51.27   | 16.00              | 32.73     |
|      |              |      | Rural     | 175,322                      | 18.81   | 26.76              | 54.43     |
| 15   | Pursat       | 2008 | Total     | 79,828                       | 52.79   | 21.26              | 25.95     |
|      |              |      | Urban     | 5,020                        | 81.02   | 12.83              | 6.16      |
|      |              |      | Rural     | 74,808                       | 50.90   | 21.82              | 27.28     |
|      |              | 1998 | Total     | 64,643                       | 28.99   | 20.11              | 50.90     |
|      |              |      | Urban     | 4,769                        | 64.25   | 15.66              | 20.09     |
|      |              |      | Rural     | 59,874                       | 26.18   | 20.46              | 53.36     |
| 16   | Ratanak Kiri | 2008 | Total     | 22,451                       | 58.60   | 10.80              | 30.60     |
|      |              |      | Urban     | 3,279                        | 93.38   | 4.76               | 1.86      |
|      |              |      | Rural     | 19,172                       | 52.65   | 11.83              | 35.51     |

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Table A2.12 *continued*

| Code | Province       | Year | Residence    | Total Number<br>of Buildings | Percentage of Buildings by Nature of Construction |                    |           |       |       |
|------|----------------|------|--------------|------------------------------|---|--------------------|-----------|-------|-------|
|      |                |      |              |                              | Permanent   | Semi-<br>Permanent | Temporary |       |       |
| 17   | Siem Reap      | 1998 | Total        | 12,111                       | 22.35   | 10.44              | 67.21     |       |       |
|      |                |      | Urban        | 1,866                        | 74.76   | 15.33              | 9.91      |       |       |
|      |                |      | Rural        | 10,245                       | 12.81   | 9.55               | 77.65     |       |       |
|      |                | 2008 | Total        | 167,827                      | 50.24   | 25.41              | 24.34     |       |       |
|      |                |      | Urban        | 28,013                       | 72.22   | 17.07              | 10.70     |       |       |
|      |                |      | Rural        | 139,814                      | 45.84   | 27.09              | 27.08     |       |       |
|      |                | 1998 | Total        | 119,468                      | 22.54   | 17.16              | 60.30     |       |       |
|      |                |      | Urban        | 16,081                       | 51.82   | 14.43              | 33.75     |       |       |
|      |                |      | Rural        | 103,387                      | 17.98   | 17.59              | 64.43     |       |       |
| 18   | Preah Sihanouk | 2008 | Total        | 41,093                       | 79.63   | 11.69              | 8.69      |       |       |
|      |                |      | Urban        | 16,264                       | 93.09   | 5.13               | 1.78      |       |       |
|      |                |      | Rural        | 24,829                       | 70.81   | 15.98              | 13.21     |       |       |
|      |                | 1998 | Total        | 28,289                       | 59.93   | 22.10              | 17.97     |       |       |
|      |                |      | Urban        | 10,098                       | 81.34   | 10.38              | 8.28      |       |       |
|      |                |      | Rural        | 18,191                       | 48.04   | 28.61              | 23.35     |       |       |
|      |                | 19   | Stung Traeng | 2008                         | Total   | 19,366             | 54.37     | 16.37 | 29.26 |
|      |                |      |              |                              | Urban   | 3,008              | 91.76     | 5.95  | 2.29  |
|      |                |      |              |                              | Rural   | 16,358             | 47.50     | 18.28 | 34.22 |
| 1998 | Total          |      |              | 13,479                       | 28.18   | 21.65              | 50.17     |       |       |
|      | Urban          |      |              | 2,456                        | 60.88   | 35.91              | 3.21      |       |       |
|      | Rural          |      |              | 11,020                       | 20.89   | 18.47              | 60.64     |       |       |
| 20   | Svay Rieng     |      |              | 2008                         | Total   | 108,974            | 40.45     | 39.89 | 19.65 |
|      |                |      |              |                              | Urban   | 3,383              | 82.26     | 13.98 | 3.75  |
|      |                |      |              |                              | Rural   | 105,591            | 39.11     | 40.72 | 20.16 |
|      |                | 1998 | Total        | 93,428                       | 14.33   | 20.78              | 64.89     |       |       |
|      |                |      | Urban        | 2,901                        | 62.84   | 15.65              | 22.51     |       |       |
|      |                |      | Rural        | 90,527                       | 12.77   | 20.97              | 66.25     |       |       |
|      |                | 21   | Takeo        | 2008                         | Total   | 177,998            | 57.87     | 30.18 | 11.95 |
|      |                |      |              |                              | Urban   | 2,651              | 81.52     | 13.20 | 5.28  |
|      |                |      |              |                              | Rural   | 175,347            | 57.52     | 30.43 | 12.05 |
| 1998 | Total          |      |              | 148,611                      | 36.12   | 22.43              | 41.45     |       |       |
|      | Urban          |      |              | 2,360                        | 70.34   | 10.81              | 18.86     |       |       |
|      | Rural          |      |              | 146,251                      | 35.57   | 22.62              | 41.81     |       |       |
| 22   | Otdar Meanchey |      |              | 2008                         | Total   | 36,857             | 49.81     | 31.25 | 18.95 |
|      |                |      |              |                              | Urban   | 3,441              | 67.42     | 21.59 | 10.99 |
|      |                |      |              |                              | Rural   | 33,416             | 47.99     | 32.24 | 19.77 |
|      |                | 1998 | Total        | 11,235                       | 31.03   | 54.17              | 14.80     |       |       |
|      |                |      | Urban        | 1,751                        | 45.40   | 53.11              | 1.48      |       |       |
|      |                |      | Rural        | 9,484                        | 28.37   | 54.37              | 17.26     |       |       |
|      |                | 23   | Kep          | 2008                         | Total   | 6,888              | 63.55     | 22.14 | 14.31 |
|      |                |      |              |                              | Urban   | 939                | 73.16     | 14.38 | 12.46 |
|      |                |      |              |                              | Rural   | 5,949              | 62.03     | 23.37 | 14.61 |
| 1998 | Total          |      |              | 5,118                        | 31.20   | 16.71              | 52.09     |       |       |
|      | Urban          |      |              | 761                          | 40.47   | 14.06              | 45.47     |       |       |
|      | Rural          |      |              | 4,657                        | 29.58   | 17.17              | 53.25     |       |       |
| 24   | Pailin         |      |              | 2008                         | Total   | 13,788             | 57.88     | 16.17 | 25.95 |
|      |                |      |              |                              | Urban   | 3,059              | 77.90     | 10.85 | 11.25 |
|      |                |      |              |                              | Rural   | 10,729             | 52.18     | 17.68 | 30.14 |
|      |                | 1998 | Total        | 3,887                        | 55.78   | 18.55              | 25.68     |       |       |
|      |                |      | Urban        | 1,276                        | 63.95   | 19.75              | 16.30     |       |       |
|      |                |      | Rural        | 2,611                        | 51.78   | 17.96              | 30.26     |       |       |

Source: Government of Cambodia, NIS (2008a). pp. 264–267.

**Table A2.13 Housing Conditions by Province and Rural and Urban Sectors, 1998–2008:  
Combined Amenities**

| Code            | Province         | Residence    | Percentage of Households with Combined Amenities |              |
|-----------------|------------------|--------------|--|--------------|
|                 |                  |              | 1998   | 2008         |
| <b>Cambodia</b> |                  | <b>Total</b> | <b>8.00</b>                                      | <b>17.41</b> |
|                 |                  | <b>Urban</b> | <b>42.92</b>                                     | <b>72.49</b> |
|                 |                  | <b>Rural</b> | <b>0.92</b>                                      | <b>5.34</b>  |
| 01              | Banteay Meanchey | Total        | 4.48   | 17.79        |
|                 |                  | Urban        | 17.59  | 56.92        |
|                 |                  | Rural        | 0.53   | 4.25         |
| 02              | Battambang       | Total        | 6.95   | 14.37        |
|                 |                  | Urban        | 26.43  | 51.78        |
|                 |                  | Rural        | 1.52   | 6.70         |
| 03              | Kampong Cham     | Total        | 2.44   | 8.31         |
|                 |                  | Urban        | 20.75  | 48.36        |
|                 |                  | Rural        | 1.08   | 5.38         |
| 04              | Kampong Chhnang  | Total        | 1.81   | 6.67         |
|                 |                  | Urban        | 16.66  | 52.99        |
|                 |                  | Rural        | 0.35   | 2.52         |
| 05              | Kampong Speu     | Total        | 1.39   | 5.54         |
|                 |                  | Urban        | 13.76  | 45.09        |
|                 |                  | Rural        | 0.39   | 2.53         |
| 06              | Kampong Thom     | Total        | 1.27   | 5.22         |
|                 |                  | Urban        | 19.31  | 50.19        |
|                 |                  | Rural        | 0.27   | 2.86         |
| 07              | Kampot           | Total        | 3.08   | 7.25         |
|                 |                  | Urban        | 32.89  | 57.00        |
|                 |                  | Rural        | 0.51   | 3.17         |
| 08              | Kandal           | Total        | 4.38   | 19.46        |
|                 |                  | Urban        | 21.62  | 64.43        |
|                 |                  | Rural        | 1.82   | 11.99        |
| 09              | Koh Kong         | Total        | 9.68   | 26.64        |
|                 |                  | Urban        | 17.92  | 50.53        |
|                 |                  | Rural        | 5.16   | 16.11        |
| 10              | Kratie           | Total        | 4.79   | 8.56         |
|                 |                  | Urban        | 24.97  | 48.19        |
|                 |                  | Rural        | 1.66   | 3.47         |
| 11              | Mondul Kiri      | Total        | 2.15   | 9.68         |
|                 |                  | Urban        | 13.35  | 62.79        |
|                 |                  | Rural        | 1.09   | 5.29         |
| 12              | Phnom Penh       | Total        | 66.16  | 86.17        |
|                 |                  | Urban        | 70.12  | 89.85        |
|                 |                  | Rural        | 1.55   | 36.90        |
| 13              | Preah Vihear     | Total        | 1.04   | 5.33         |
|                 |                  | Urban        | 13.12  | 58.13        |
|                 |                  | Rural        | 0.19   | 1.83         |
| 14              | Prey Veang       | Total        | 1.68   | 4.00         |
|                 |                  | Urban        | 35.51  | 65.33        |
|                 |                  | Rural        | 0.46   | 2.04         |

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Table A2.13 *continued*

| Code | Province       | Residence | Percentage of Households with Combined Amenities |       |
|------|----------------|-----------|--|-------|
|      |                |           | 1998   | 2008  |
| 15   | Pursat         | Total     | 3.68   | 7.14  |
|      |                | Urban     | 32.88  | 56.45 |
|      |                | Rural     | 1.32   | 3.73  |
| 16   | Ratanak Kiri   | Total     | 1.61   | 12.28 |
|      |                | Urban     | 10.58  | 72.72 |
|      |                | Rural     | 0.35   | 2.75  |
| 17   | Siem Reap      | Total     | 3.41   | 16.69 |
|      |                | Urban     | 22.15  | 68.59 |
|      |                | Rural     | 0.32   | 4.51  |
| 18   | Preah Sihanouk | Total     | 10.34  | 36.46 |
|      |                | Urban     | 21.58  | 68.25 |
|      |                | Rural     | 3.50   | 14.28 |
| 19   | Stung Treng    | Total     | 6.05   | 10.93 |
|      |                | Urban     | 28.13  | 56.71 |
|      |                | Rural     | 0.74   | 2.53  |
| 20   | Svay Rieng     | Total     | 1.56   | 7.87  |
|      |                | Urban     | 26.77  | 85.65 |
|      |                | Rural     | 0.72   | 5.37  |
| 21   | Takeo          | Total     | 1.17   | 5.02  |
|      |                | Urban     | 22.98  | 59.67 |
|      |                | Rural     | 0.84   | 4.21  |
| 22   | Otdar Meanchey | Total     | 0.62   | 8.47  |
|      |                | Urban     | 3.02   | 23.36 |
|      |                | Rural     | 0.15   | 6.93  |
| 23   | Kep            | Total     | 0.42   | 5.17  |
|      |                | Urban     | 1.04   | 13.83 |
|      |                | Rural     | 0.31   | 3.84  |
| 24   | Pailin         | Total     | 5.60   | 22.91 |
|      |                | Urban     | 15.57  | 47.76 |
|      |                | Rural     | 0.49   | 15.78 |

Note: Combined amenities denote improved water supply, electric power, and toilet facilities within residence.

Source: Government of Cambodia, NIS (2008a) pp. 257–258.

**Table A2.14** Type of Roof for Houses and Use in All Cities and Provinces, 2002

| City or Province        | Thatch    | Tile      | Fiber<br>Cement | Corrugated<br>Iron | Concrete | Total<br>Houses | Total<br>Families |
|-------------------------|-----------|-----------|-----------------|--------------------|----------|-----------------|-------------------|
| Banteay Meanchey        | 58,760    | 3,914     | 2,199           | 53,867             | 1,907    | 120,647         | 128,854           |
| Battambang              | 77,433    | 8,531     | 4,013           | 74,946             | 2,129    | 167,052         | 174,807           |
| Kampong Cham            | 123,539   | 128,510   | 10,906          | 44,972             | 2,624    | 310,551         | 351,108           |
| Kampong Chhnang         | 41,076    | 21,679    | 7,117           | 13,011             | 624      | 83,507          | 88,115            |
| Kampong Speu            | 53,541    | 34,239    | 8,055           | 27,491             | 548      | 123,874         | 127,953           |
| Kampong Thom            | 56,491    | 43,443    | 1,247           | 7,365              | 486      | 109,032         | 118,638           |
| Kampot                  | 41,304    | 37,444    | 12,923          | 16,255             | 1,548    | 109,474         | 111,728           |
| Kandal                  | 52,015    | 61,428    | 14,364          | 71,716             | 3,801    | 203,324         | 225,163           |
| Koh Kong                | 9,114     | 311       | 2,453           | 12,273             | 117      | 24,268          | 24,620            |
| Kratie                  | 26,306    | 15,027    | 789             | 7,048              | 385      | 49,555          | 54,863            |
| Mondolkiri              | 5,311     | 315       | 53              | 2,035              | 14       | 7,728           | 8,784             |
| Phnom Penh              | 8,022     | 22,192    | 20,278          | 65,968             | 48,984   | 165,444         | 182,464           |
| Preah Vihear            | 15,701    | 1,322     | 536             | 6,788              | 20       | 24,367          | 26,491            |
| Prey Veang              | 92,098    | 63,265    | 3,918           | 34,719             | 677      | 194,677         | 218,989           |
| Pursat                  | 39,418    | 14,724    | 1,141           | 15,696             | 488      | 71,467          | 73,219            |
| Ratanak Kiri            | 13,226    | 945       | 94              | 4,030              | 100      | 18,395          | 22,395            |
| Siem Reap               | 68,369    | 34,893    | 4,200           | 22,782             | 678      | 130,922         | 135,405           |
| Sihanoukville           | 7,691     | 638       | 2,881           | 15,973             | 1,144    | 28,327          | 30,120            |
| Stueng Traeng           | 8,664     | 337       | 228             | 6,265              | 133      | 15,627          | 17,231            |
| Svay Rieng              | 48,605    | 21,050    | 1,526           | 29,654             | 735      | 101,570         | 107,758           |
| Takeo                   | 47,951    | 66,610    | 5,977           | 37,369             | 1,134    | 159,041         | 165,878           |
| Udor Meanchey           | 16,076    | 345       | 318             | 7,428              | 5        | 24,172          | 25,915            |
| Kep                     | 2,995     | 805       | 733             | 1,266              | 84       | 5,883           | 6,392             |
| Pailin                  | 4,298     | 27        | 1,277           | 2,680              | 80       | 8,362           | 9,312             |
| <b>Total Percentage</b> | <b>40</b> | <b>26</b> | <b>5</b>        | <b>26</b>          | <b>3</b> | <b>100</b>      |                   |

Source: Government of Cambodia, NIS (2004a).

Table A2.15 Changes in Residential Buildings by Standard of Construction, 1998–2008

| Code and Province Name |      |       | Buildings | %  | Permanent (%) | Change (1998 = 1.00) | Index: Speed of Change |        |        |
|------------------------|------|-------|-----------|----|---------------|----------------------|------------------------|--------|--------|
|                        |      |       |           |    |               |                      | Fast                   | Medium | Slow   |
| Cambodia               | 2008 | Total | 2,637,654 |    | 57            | 1.68                 | > 1.71                 |        | < 1.65 |
|                        |      | Urban | 450,345   | 17 | 86            | 1.25                 | > 1.27                 |        | < 1.23 |
|                        |      | Rural | 2,187,309 |    | 51            |                      |                        |        |        |
|                        | 1998 | Total | 1,989,828 |    | 34            |                      |                        |        |        |
|                        |      | Urban | 295,148   | 15 | 69            |                      |                        |        |        |
|                        |      | Rural | 1,694,680 |    | 28            |                      |                        |        |        |
| 01 Banteay Meanchey    | 2008 | Total | 135,354   |    | 57            | 1.84                 | fast                   |        |        |
|                        |      | Urban | 34,491    | 25 | 70            | 1.43                 | fast                   |        |        |
|                        |      | Rural | 100,863   |    | 53            |                      |                        |        |        |
|                        | 1998 | Total | 102,574   |    | 31            |                      |                        |        |        |
|                        |      | Urban | 23,538    | 23 | 49            |                      |                        |        |        |
|                        |      | Rural | 79,036    |    | 26            |                      |                        |        |        |
| 02 Battambang          | 2008 | Total | 198,577   |    | 52            | 1.68                 |                        | medium |        |
|                        |      | Urban | 33,789    | 17 | 78            | 1.32                 | fast                   |        |        |
|                        |      | Rural | 164,788   |    | 46            |                      |                        |        |        |
|                        | 1998 | Total | 134,828   |    | 31            |                      |                        |        |        |
|                        |      | Urban | 29,197    | 22 | 59            |                      |                        |        |        |
|                        |      | Rural | 105,631   |    | 23            |                      |                        |        |        |
| 03 Kampong Cham        | 2008 | Total | 344,091   |    | 55            | 1.57                 |                        |        | slow   |
|                        |      | Urban | 23,345    | 7  | 79            | 1.22                 |                        |        | slow   |
|                        |      | Rural | 320,746   |    | 53            |                      |                        |        |        |
|                        | 1998 | Total | 287,254   |    | 35            |                      |                        |        |        |
|                        |      | Urban | 19,398    | 7  | 65            |                      |                        |        |        |
|                        |      | Rural | 267,856   |    | 33            |                      |                        |        |        |
| 04 Kampong Chhnang     | 2008 | Total | 97,421    |    | 39            | 1.77                 | fast                   |        |        |
|                        |      | Urban | 7,831     | 8  | 62            | 1.59                 | fast                   |        |        |
|                        |      | Rural | 89,590    |    | 37            |                      |                        |        |        |
|                        | 1998 | Total | 78,118    |    | 22            |                      |                        |        |        |
|                        |      | Urban | 6,552     | 8  | 39            |                      |                        |        |        |
|                        |      | Rural | 71,566    |    | 20            |                      |                        |        |        |
| 05 Kampong Speu        | 2008 | Total | 142,924   |    | 63            | 1.80                 | fast                   |        |        |
|                        |      | Urban | 10,182    | 7  | 83            | 1.32                 | fast                   |        |        |
|                        |      | Rural | 132,742   |    | 61            |                      |                        |        |        |
|                        | 1998 | Total | 110,951   |    | 35            |                      |                        |        |        |
|                        |      | Urban | 8,116     | 7  | 63            |                      |                        |        |        |
|                        |      | Rural | 102,835   |    | 32            |                      |                        |        |        |
| 06 Kampong Thom        | 2008 | Total | 127,995   |    | 48            | 1.45                 |                        |        | slow   |
|                        |      | Urban | 6,333     | 5  | 78            | 1.42                 | fast                   |        |        |
|                        |      | Rural | 121,662   |    | 47            |                      |                        |        |        |
|                        | 1998 | Total | 100,567   |    | 33            |                      |                        |        |        |
|                        |      | Urban | 5,328     | 5  | 55            |                      |                        |        |        |
|                        |      | Rural | 95,239    |    | 31            |                      |                        |        |        |
| 07 Kampot              | 2008 | Total | 126,689   |    | 57            | 1.68                 |                        | medium |        |
|                        |      | Urban | 9,321     | 7  | 82            | 1.34                 | fast                   |        |        |
|                        |      | Rural | 117,368   |    | 55            |                      |                        |        |        |
|                        | 1998 | Total | 101,565   |    | 34            |                      |                        |        |        |
|                        |      | Urban | 7,555     | 7  | 61            |                      |                        |        |        |
|                        |      | Rural | 94,010    |    | 32            |                      |                        |        |        |
| 08 Kandal              | 2008 | Total | 237,190   |    | 65            | 1.59                 |                        |        | slow   |
|                        |      | Urban | 34,342    | 14 | 88            | 1.24                 |                        | medium |        |
|                        |      | Rural | 202,848   |    | 62            |                      |                        |        |        |

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Table A2.15 *continued*

| Code and Province Name |      | Buildings | %       | Permanent (%) | Change (1998 = 1.00) | Index: Speed of Change |        |        |
|------------------------|------|-----------|---------|---------------|----------------------|------------------------|--------|--------|
|                        |      |           |         |               |                      | Fast                   | Medium | Slow   |
|                        | 1998 | Total     | 186,278 |               | 41                   |                        |        |        |
|                        |      | Urban     | 23,036  | 12            | 71                   |                        |        |        |
|                        |      | Rural     | 163,242 |               | 37                   |                        |        |        |
| 09 Koh Kong            | 2008 | Total     | 23,108  |               | 77                   | 1.35                   |        | slow   |
|                        |      | Urban     | 6,998   | 30            | 93                   | 1.37                   | fast   |        |
|                        |      | Rural     | 16,110  |               | 70                   |                        |        |        |
|                        | 1998 | Total     | 19,995  |               | 57                   |                        |        |        |
|                        |      | Urban     | 6,784   | 34            | 68                   |                        |        |        |
|                        |      | Rural     | 13,211  |               | 51                   |                        |        |        |
| 10 Kratie              | 2008 | Total     | 60,021  | 12            | 49                   | 1.69                   |        | medium |
|                        |      | Urban     | 6,992   |               | 71                   | 1.45                   | fast   |        |
|                        |      | Rural     | 53,029  |               | 46                   |                        |        |        |
|                        | 1998 | Total     | 44,245  |               | 29                   |                        |        |        |
|                        |      | Urban     | 5,647   | 13            | 49                   |                        |        |        |
|                        |      | Rural     | 38,598  |               | 27                   |                        |        |        |
| 11 Mondul Kiri         | 2008 | Total     | 10,689  |               | 57                   | 3.80                   | fast   |        |
|                        |      | Urban     | 937     | 9             | 93                   | 1.29                   | fast   |        |
|                        |      | Rural     | 9,754   |               | 54                   |                        |        |        |
|                        | 1998 | Total     | 5,228   |               | 15                   |                        |        |        |
|                        |      | Urban     | 460     | 9             | 72                   |                        |        |        |
|                        |      | Rural     | 4,768   |               | 10                   |                        |        |        |
| 12 Phnom Penh          | 2008 | Total     | 217,043 |               | 95                   | 1.13                   |        | slow   |
|                        |      | Urban     | 198,082 | 93            | 96                   | 1.13                   |        | slow   |
|                        |      | Rural     | 15,961  |               | 83                   |                        |        |        |
|                        | 1998 | Total     | 116,418 |               | 84                   |                        |        |        |
|                        |      | Urban     | 107,570 | 92            | 85                   |                        |        |        |
|                        |      | Rural     | 8,848   |               | 67                   |                        |        |        |
| 13 Preah Vihear        | 2008 | Total     | 31,930  |               | 48                   | 3.20                   | fast   |        |
|                        |      | Urban     | 1,982   | 6             | 71                   | 1.51                   | fast   |        |
|                        |      | Rural     | 29,948  |               | 47                   |                        |        |        |
|                        | 1998 | Total     | 19,891  |               | 15                   |                        |        |        |
|                        |      | Urban     | 1,320   | 7             | 47                   |                        |        |        |
|                        |      | Rural     | 18,571  |               | 12                   |                        |        |        |
| 14 Prey Veang          | 2008 | Total     | 112,552 | 6             | 39                   | 1.95                   | fast   |        |
|                        |      | Urban     | 6,663   |               | 75                   | 1.47                   | fast   |        |
|                        |      | Rural     | 105,889 |               | 38                   |                        |        |        |
|                        | 1998 | Total     | 81,647  |               | 20                   |                        |        |        |
|                        |      | Urban     | 6,325   | 8             | 51                   |                        |        |        |
|                        |      | Rural     | 75,322  |               | 19                   |                        |        |        |
| 15 Pursat              | 2008 | Total     | 79,828  |               | 53                   | 1.83                   | fast   |        |
|                        |      | Urban     | 5,020   | 6             | 81                   | 1.27                   |        | medium |
|                        |      | Rural     | 74,808  |               | 51                   |                        |        |        |
|                        | 1998 | Total     | 64,643  |               | 29                   |                        |        |        |
|                        |      | Urban     | 47,769  | 7             | 64                   |                        |        |        |
|                        |      | Rural     | 59,874  |               | 26                   |                        |        |        |
| 16 Ratanak Kiri        | 2008 | Total     | 22,451  |               | 59                   | 2.68                   | fast   |        |
|                        |      | Urban     | 3,279   | 15            | 93                   | 1.24                   |        | medium |
|                        |      | Rural     | 19,172  |               | 53                   |                        |        |        |
|                        | 1998 | Total     | 12,111  |               | 22                   |                        |        |        |
|                        |      | Urban     | 1,866   | 15            | 75                   |                        |        |        |
|                        |      | Rural     | 10,245  |               | 13                   |                        |        |        |
| 17 Siem Reap           | 2008 | Total     | 167,827 |               | 50                   | 2.17                   | fast   |        |
|                        |      | Urban     | 28,013  | 17            | 72                   | 1.38                   | fast   |        |
|                        |      | Rural     | 139,814 |               | 46                   |                        |        |        |

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Table A2.15 *continued*

| Code and Province Name             |      |       | Buildings | %  | Permanent (%) | Change (1998 = 1.00) | Index: Speed of Change |          |          |
|------------------------------------|------|-------|-----------|----|---------------|----------------------|------------------------|----------|----------|
|                                    |      |       |           |    |               |                      | Fast                   | Medium   | Slow     |
|                                    | 1998 | Total | 119,468   |    | 23            |                      |                        |          |          |
|                                    |      | Urban | 16,081    | 13 | 52            |                      |                        |          |          |
|                                    |      | Rural | 103,387   |    | 18            |                      |                        |          |          |
| 18 Preah Sihanouk                  | 2008 | Total | 41,093    |    | 80            | 1.33                 |                        |          | slow     |
|                                    |      | Urban | 16,264    | 40 | 93            | 1.15                 |                        |          | slow     |
|                                    |      | Rural | 24,829    |    | 71            |                      |                        |          |          |
|                                    | 1998 | Total | 28,289    |    | 60            |                      |                        |          |          |
|                                    |      | Urban | 10,098    | 35 | 81            |                      |                        |          |          |
|                                    |      | Rural | 18,191    |    | 48            |                      |                        |          |          |
| 19 Stung Treng                     | 2008 | Total | 19,366    |    | 54            | 1.93                 | fast                   |          |          |
|                                    |      | Urban | 3,008     | 16 | 92            | 1.51                 | fast                   |          |          |
|                                    |      | Rural | 16,358    |    | 47            |                      |                        |          |          |
|                                    | 1998 | Total | 13,479    |    | 28            |                      |                        |          |          |
|                                    |      | Urban | 2,459     | 18 | 61            |                      |                        |          |          |
|                                    |      | Rural | 11,020    |    | 21            |                      |                        |          |          |
| 20 Svay Rieng                      | 2008 | Total | 108,974   |    | 40            | 2.86                 | fast                   |          |          |
|                                    |      | Urban | 3,383     | 3  | 82            | 1.30                 | fast                   |          |          |
|                                    |      | Rural | 105,591   |    | 40            |                      |                        |          |          |
|                                    | 1998 | Total | 93,428    |    | 14            |                      |                        |          |          |
|                                    |      | Urban | 2,901     | 3  | 63            |                      |                        |          |          |
|                                    |      | Rural | 90,527    |    | 13            |                      |                        |          |          |
| 21 Takeo                           | 2008 | Total | 177,998   |    | 58            | 1.61                 |                        |          | slow     |
|                                    |      | Urban | 2,651     | 1  | 81            | 1.16                 |                        |          | slow     |
|                                    |      | Rural | 175,347   |    | 57            |                      |                        |          |          |
|                                    | 1998 | Total | 148,611   |    | 36            |                      |                        |          |          |
|                                    |      | Urban | 2,360     | 2  | 70            |                      |                        |          |          |
|                                    |      | Rural | 146,251   |    | 36            |                      |                        |          |          |
| 22 Otdar Meanchey                  | 2008 | Total | 36,857    |    | 50            | 1.61                 |                        |          | slow     |
|                                    |      | Urban | 3,441     | 9  | 67            | 1.49                 | fast                   |          |          |
|                                    |      | Rural | 33,416    |    | 48            |                      |                        |          |          |
|                                    | 1998 | Total | 11,235    |    | 31            |                      |                        |          |          |
|                                    |      | Urban | 1,751     | 16 | 45            |                      |                        |          |          |
|                                    |      | Rural | 9,484     |    | 28            |                      |                        |          |          |
| 23 Kep                             | 2008 | Total | 6,888     |    | 64            | 2.06                 | fast                   |          |          |
|                                    |      | Urban | 939       | 14 | 73            | 1.83                 | fast                   |          |          |
|                                    |      | Rural | 5,949     |    | 62            |                      |                        |          |          |
|                                    | 1998 | Total | 5,118     |    | 31            |                      |                        |          |          |
|                                    |      | Urban | 761       | 15 | 40            |                      |                        |          |          |
|                                    |      | Rural | 4,357     |    | 30            |                      |                        |          |          |
| 24 Pailin                          | 2008 | Total | 13,788    |    | 58            | 1.04                 |                        |          | slow     |
|                                    |      | Urban | 3,059     | 22 | 78            | 1.24                 |                        | medium   |          |
|                                    |      | Rural | 10,729    |    | 52            |                      |                        |          |          |
|                                    | 1998 | Total | 3,887     |    | 56            |                      |                        |          |          |
|                                    |      | Urban | 1,276     | 33 | 63            |                      |                        |          |          |
|                                    |      | Rural | 2,611     |    | 52            |                      |                        |          |          |
| <b>Overall Change in Provinces</b> |      |       |           |    |               |                      | <b>12</b>              | <b>3</b> | <b>9</b> |
| <b>Urban Change in Provinces</b>   |      |       |           |    |               |                      | <b>16</b>              | <b>4</b> | <b>4</b> |

Notes:

1. Analysis based on index of change.
2. National mean value for overall change 1998–2008: factor 1.68 or midpoint in rate 1.65–1.71. Therefore, change over 1.71 is rated as fast, and change under 1.65 is rated as slow. Similarly, the national value for urban change 1998–2008: factor 1.25 or midpoint in range 1.23–1.71. Therefore, change over 1.27 is rated as fast, and change under 1.23 is rated as slow.

Source: Data from Government of Cambodia, NIS (2008a) pp. 264–267. Interpretation by means of statistical analysis by the authors.

**Table A2.16** Changes in Residential Buildings with Combined Amenities, 1998–2008

| Code and Province Name |      |       | %     | Change<br>(1998 = 1.00) | Index: Speed of Change   |        |      |
|------------------------|------|-------|-------|-------------------------|--|--------|------|
|                        |      |       |       |                         | Fast   | Medium | Slow |
| Cambodia               | 2008 | Total | 17.41 | 2.18                    | Range from 1.30 to 13.66<br>Range from 1.28 to 13.30<br>Range from 2.30 to 46.20 |        |      |
|                        |      | Urban | 72.49 | 1.69                    |  |        |      |
|                        |      | Rural | 5.34  | 5.45                    |  |        |      |
|                        | 1998 | Total | 8.00  |                         |  |        |      |
|                        |      | Urban | 42.92 |                         |  |        |      |
|                        |      | Rural | 0.98  |                         |  |        |      |
| 01 Banteay Meanchey    | 2008 | Total | 17.79 | 3.97                    | fast<br>fast<br>fast   |        |      |
|                        |      | Urban | 56.92 | 3.24                    |  |        |      |
|                        |      | Rural | 4.52  | 8.53                    |  |        |      |
|                        | 1998 | Total | 4.48  |                         |  |        |      |
|                        |      | Urban | 17.59 |                         |  |        |      |
|                        |      | Rural | 0.53  |                         |  |        |      |
| 02 Battambang          | 2008 | Total | 14.37 | 2.07                    | fast medium<br>slow  |        |      |
|                        |      | Urban | 51.78 | 1.96                    |  |        |      |
|                        |      | Rural | 6.70  | 4.41                    |  |        |      |
|                        | 1998 | Total | 6.95  |                         |  |        |      |
|                        |      | Urban | 26.43 |                         |  |        |      |
|                        |      | Rural | 1.52  |                         |  |        |      |
| 03 Kampong Cham        | 2008 | Total | 8.31  | 3.41                    | fast<br>fast<br>slow   |        |      |
|                        |      | Urban | 48.36 | 2.33                    |  |        |      |
|                        |      | Rural | 5.38  | 4.98                    |  |        |      |
|                        | 1998 | Total | 2.44  |                         |  |        |      |
|                        |      | Urban | 20.75 |                         |  |        |      |
|                        |      | Rural | 1.08  |                         |  |        |      |
| 04 Kampong Chhnang     | 2008 | Total | 6.67  | 3.69                    | fast<br>fast<br>fast   |        |      |
|                        |      | Urban | 52.99 | 3.18                    |  |        |      |
|                        |      | Rural | 2.52  | 7.20                    |  |        |      |
|                        | 1998 | Total | 1.81  |                         |  |        |      |
|                        |      | Urban | 16.66 |                         |  |        |      |
|                        |      | Rural | 0.35  |                         |  |        |      |
| 05 Kampong Speu        | 2008 | Total | 5.54  | 3.99                    | fast<br>fast<br>fast   |        |      |
|                        |      | Urban | 45.09 | 3.28                    |  |        |      |
|                        |      | Rural | 2.53  | 6.49                    |  |        |      |
|                        | 1998 | Total | 1.39  |                         |  |        |      |
|                        |      | Urban | 13.76 |                         |  |        |      |
|                        |      | Rural | 0.39  |                         |  |        |      |
| 06 Kampong Thom        | 2008 | Total | 5.22  | 4.11                    | fast<br>fast<br>fast   |        |      |
|                        |      | Urban | 50.19 | 2.60                    |  |        |      |
|                        |      | Rural | 2.86  | 10.59                   |  |        |      |
|                        | 1998 | Total | 1.27  |                         |  |        |      |
|                        |      | Urban | 19.31 |                         |  |        |      |
|                        |      | Rural | 0.27  |                         |  |        |      |
| 07 Kampot              | 2008 | Total | 7.25  | 2.35                    | medium<br>medium<br>fast   |        |      |
|                        |      | Urban | 57.00 | 1.73                    |  |        |      |
|                        |      | Rural | 3.17  | 6.22                    |  |        |      |
|                        | 1998 | Total | 3.08  |                         |  |        |      |
|                        |      | Urban | 32.89 |                         |  |        |      |
|                        |      | Rural | 0.51  |                         |  |        |      |
| 08 Kandal              | 2008 | Total | 19.46 | 4.44                    | fast<br>fast<br>fast   |        |      |
|                        |      | Urban | 64.43 | 2.98                    |  |        |      |
|                        |      | Rural | 11.99 | 6.59                    |  |        |      |

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Table A2.16 *continued*

| Code and Province Name |      |       | %     | Change<br>(1998 = 1.00) | Index: Speed of Change |        |      |
|------------------------|------|-------|-------|-------------------------|------------------------|--------|------|
|                        |      |       |       |                         | Fast                   | Medium | Slow |
|                        | 1998 | Total | 4.38  |                         |                        |        |      |
|                        |      | Urban | 21.62 |                         |                        |        |      |
|                        |      | Rural | 1.82  |                         |                        |        |      |
| 09 Koh Kong            | 2008 | Total | 26.64 | 2.75                    | fast                   |        |      |
|                        |      | Urban | 50.53 | 2.82                    | fast                   |        |      |
|                        |      | Rural | 16.11 | 3.12                    |                        |        | slow |
|                        | 1998 | Total | 9.68  |                         |                        |        |      |
|                        |      | Urban | 17.92 |                         |                        |        |      |
|                        |      | Rural | 5.16  |                         |                        |        |      |
| 10 Kratie              | 2008 | Total | 8.56  | 1.79                    |                        |        | slow |
|                        |      | Urban | 48.19 | 1.93                    | fast                   |        |      |
|                        |      | Rural | 3.47  | 2.09                    |                        |        | slow |
|                        | 1998 | Total | 4.79  |                         |                        |        |      |
|                        |      | Urban | 24.97 |                         |                        |        |      |
|                        |      | Rural | 1.66  |                         |                        |        |      |
| 11 Mondul Kiri         | 2008 | Total | 9.68  | 4.50                    | fast                   |        |      |
|                        |      | Urban | 62.79 | 4.70                    | fast                   |        |      |
|                        |      | Rural | 5.29  | 4.85                    |                        |        | slow |
|                        | 1998 | Total | 2.15  |                         |                        |        |      |
|                        |      | Urban | 13.35 |                         |                        |        |      |
|                        |      | Rural | 1.09  |                         |                        |        |      |
| 12 Phnom Penh          | 2008 | Total | 86.17 | 1.30                    |                        |        | slow |
|                        |      | Urban | 89.85 | 1.28                    |                        |        | slow |
|                        |      | Rural | 36.90 | 23.81                   | fast                   |        |      |
|                        | 1998 | Total | 66.16 |                         |                        |        |      |
|                        |      | Urban | 70.12 |                         |                        |        |      |
|                        |      | Rural | 1.55  |                         |                        |        |      |
| 13 Preah Vihear        | 2008 | Total | 5.33  | 5.13                    | fast                   |        |      |
|                        |      | Urban | 58.13 | 4.43                    | fast                   |        |      |
|                        |      | Rural | 1.83  | 9.63                    | fast                   |        |      |
|                        | 1998 | Total | 1.04  |                         |                        |        |      |
|                        |      | Urban | 13.12 |                         |                        |        |      |
|                        |      | Rural | 0.19  |                         |                        |        |      |
| 14 Prey Veang          | 2008 | Total | 4.00  | 2.38                    | fast                   |        |      |
|                        |      | Urban | 65.33 | 1.84                    | fast                   |        |      |
|                        |      | Rural | 2.04  | 4.43                    |                        |        | slow |
|                        | 1998 | Total | 1.68  |                         |                        |        |      |
|                        |      | Urban | 35.51 |                         |                        |        |      |
|                        |      | Rural | 0.46  |                         |                        |        |      |
| 15 Pursat              | 2008 | Total | 7.14  | 1.94                    | fast                   |        |      |
|                        |      | Urban | 56.45 | 1.72                    |                        | medium |      |
|                        |      | Rural | 3.73  | 2.83                    |                        |        | slow |
|                        | 1998 | Total | 3.68  |                         |                        |        |      |
|                        |      | Urban | 32.88 |                         |                        |        |      |
|                        |      | Rural | 1.32  |                         |                        |        |      |
| 16 Ratanak Kiri        | 2008 | Total | 12.28 | 7.63                    | fast                   |        |      |
|                        |      | Urban | 72.72 | 6.87                    | fast                   |        |      |
|                        |      | Rural | 2.75  | 7.86                    | fast                   |        |      |
|                        | 1998 | Total | 1.61  |                         |                        |        |      |
|                        |      | Urban | 10.58 |                         |                        |        |      |
|                        |      | Rural | 0.35  |                         |                        |        |      |
| 17 Siem Reap           | 2008 | Total | 16.69 | 4.89                    | fast                   |        |      |
|                        |      | Urban | 68.59 | 3.10                    | fast                   |        |      |
|                        |      | Rural | 4.51  | 14.09                   | fast                   |        |      |

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Table A2.16 *continued*

| Code and Province Name |      |       | %     | Change<br>(1998 = 1.00) | Index: Speed of Change |        |      |
|------------------------|------|-------|-------|-------------------------|------------------------|--------|------|
|                        |      |       |       |                         | Fast                   | Medium | Slow |
|                        | 1998 | Total | 3.41  |                         |                        |        |      |
|                        |      | Urban | 22.15 |                         |                        |        |      |
|                        |      | Rural | 0.32  |                         |                        |        |      |
| 18 Preah Sihanouk      | 2008 | Total | 36.46 | 3.53                    | fast                   |        |      |
|                        |      | Urban | 68.25 | 3.16                    | fast                   |        |      |
|                        |      | Rural | 14.28 | 4.08                    |                        |        | slow |
|                        | 1998 | Total | 10.34 |                         |                        |        |      |
|                        |      | Urban | 21.58 |                         |                        |        |      |
|                        |      | Rural | 3.50  |                         |                        |        |      |
| 19 Stung Traeng        | 2008 | Total | 10.93 | 1.81                    |                        |        | slow |
|                        |      | Urban | 56.71 | 2.02                    | fast                   |        |      |
|                        |      | Rural | 2.53  | 3.42                    |                        |        | slow |
|                        | 1998 | Total | 6.05  |                         |                        |        |      |
|                        |      | Urban | 28.13 |                         |                        |        |      |
|                        |      | Rural | 0.74  |                         |                        |        |      |
| 20 Svay Rieng          | 2008 | Total | 7.87  | 5.04                    | fast                   |        |      |
|                        |      | Urban | 85.65 | 3.20                    | fast                   |        |      |
|                        |      | Rural | 5.37  | 7.46                    | fast                   |        |      |
|                        | 1998 | Total | 1.56  |                         |                        |        |      |
|                        |      | Urban | 26.77 |                         |                        |        |      |
|                        |      | Rural | 0.72  |                         |                        |        |      |
| 21 Takeo               | 2008 | Total | 5.02  | 4.29                    | fast                   |        |      |
|                        |      | Urban | 59.67 | 2.60                    | fast                   | medium |      |
|                        |      | Rural | 4.21  | 5.01                    |                        |        |      |
|                        | 1998 | Total | 1.17  |                         |                        |        |      |
|                        |      | Urban | 22.98 |                         |                        |        |      |
|                        |      | Rural | 0.84  |                         |                        |        |      |
| 22 Otdar Meanchey      | 2008 | Total | 8.47  | 13.66                   | fast                   |        |      |
|                        |      | Urban | 23.36 | 7.74                    | fast                   |        |      |
|                        |      | Rural | 6.93  | 46.20                   | fast                   |        |      |
|                        | 1998 | Total | 0.62  |                         |                        |        |      |
|                        |      | Urban | 3.02  |                         |                        |        |      |
|                        |      | Rural | 0.15  |                         |                        |        |      |
| 23 Kep                 | 2008 | Total | 5.17  | 12.31                   | fast                   |        |      |
|                        |      | Urban | 13.83 | 13.30                   | fast                   |        |      |
|                        |      | Rural | 3.84  | 12.39                   | fast                   |        |      |
|                        | 1998 | Total | 0.42  |                         |                        |        |      |
|                        |      | Urban | 1.04  |                         |                        |        |      |
|                        |      | Rural | 0.31  |                         |                        |        |      |
| 24 Pailin              | 2008 | Total | 22.91 | 4.09                    | fast                   |        |      |
|                        |      | Urban | 47.76 | 3.07                    | fast                   |        |      |
|                        |      | Rural | 15.78 | 32.20                   | fast                   |        |      |
|                        | 1998 | Total | 5.60  |                         |                        |        |      |
|                        |      | Urban | 15.57 |                         |                        |        |      |
|                        |      | Rural | 0.49  |                         |                        |        |      |

## Notes:

1. Combined amenities denote improved water source, electric power, and toilet facility within residence.
2. Analysis is based on an index of change: (i) overall change: mostly fast, very few slow; (ii) urban change: mostly fast; and (iii) rural change: mostly fast.
3. National mean value for overall change 1998–2008: factor 2.18 or midpoint in a range of 2.00–2.36. Therefore, change over 2.36 is rated as fast, and change under 2.00 is rated as slow. Similarly, the national value for urban change 1998–2008: factor 1.69 or midpoint in a range of 1.60–1.78. The national value for rural change 5.45 or midpoint in a range of 5.00–5.90.

Source: Government of Cambodia, NIS (2008a) pp. 257–258.

Table A2.17 Changes in City Power and Kerosene Use, 1998–2008

| Code and Province   |             | City Power   | Kerosene     | Change<br>(1998 = 1.00) |             | Remarks  |
|---------------------|-------------|--------------|--------------|-------------------------|-------------|--|
|                     |             |              |              | City Power              | Kerosene    |  |
| <b>Cambodia</b>     | <b>2008</b> | <b>22.47</b> | <b>38.62</b> | <b>1.79</b>             | <b>0.48</b> | <b>Complementary trends, electrification still low</b>     |
|                     | <b>1998</b> | <b>12.56</b> | <b>79.86</b> |                         |             |  |
| 01 Banteay Meanchey | 2008        | 26.19        | 50.82        | 3.20                    | 0.60        |  |
|                     | 1998        | 8.19         | 83.19        |                         |             |  |
| 02 Battambang       | 2008        | 21.13        | 55.34        | 2.11                    | 0.67        |  |
|                     | 1998        | 10.01        | 83.19        |                         |             |  |
| 03 Kampong Cham     | 2008        | 14.19        | 34.54        | 1.53                    | 0.42        |  |
|                     | 1998        | 9.25         | 82.70        |                         |             |  |
| 04 Kampong Chhnang  | 2008        | 9.13         | 54.65        | 1.98                    | 0.61        |  |
|                     | 1998        | 4.62         | 89.93        |                         |             |  |
| 05 Kampong Speu     | 2008        | 9.13         | 40.43        | 3.55                    | 0.43        |  |
|                     | 1998        | 2.57         | 94.92        |                         |             |  |
| 06 Kampong Thom     | 2008        | 9.17         | 54.86        | 1.72                    | 0.61        |  |
|                     | 1998        | 5.32         | 89.39        |                         |             |  |
| 07 Kampot           | 2008        | 10.83        | 54.14        | 2.21                    | 0.59        |  |
|                     | 1998        | 4.91         | 92.48        |                         |             |  |
| 08 Kandal           | 2008        | 27.12        | 14.79        | 2.88                    | 0.19        |  |
|                     | 1998        | 9.42         | 78.11        |                         |             |  |
| 09 Koh Kong         | 2008        | 40.04        | 42.85        | 1.40                    | 0.76        |  |
|                     | 1998        | 28.70        | 56.22        |                         |             |  |
| 10 Kratie           | 2008        | 12.44        | 48.84        | 1.31                    | 0.60        |  |
|                     | 1998        | 9.51         | 80.83        |                         |             |  |
| 11 Mondul Kiri      | 2008        | 13.17        | 53.16        | 4.65                    | 1.11        | More kerosene use in 2008, very low electrification        |
|                     | 1998        | 2.83         | 47.93        |                         |             |  |
| 12 Phnom Penh       | 2008        | 89.82        | 1.74         | 1.19                    | 0.10        | By far the highest ratio of city power                     |
|                     | 1998        | 75.50        | 17.52        |                         |             |  |
| 13 Preah Vihear     | 2008        | 7.61         | 55.30        | 4.53                    | 1.21        | More kerosene use in 2008, very low electrification        |
|                     | 1998        | 1.68         | 45.85        |                         |             |  |
| 14 Prey Veang       | 2008        | 6.30         | 28.22        | 2.13                    | 0.31        |  |
|                     | 1998        | 2.96         | 89.83        |                         |             |  |
| 15 Pursat           | 2008        | 13.71        | 71.06        | 1.71                    | 0.81        |  |
|                     | 1998        | 8.00         | 88.11        |                         |             |  |
| 16 Ratanak Kiri     | 2008        | 15.54        | 55.92        | 1.22                    | 1.33        | More kerosene use in 2008, very low electrification        |
|                     | 1998        | 12.77        | 42.09        |                         |             |  |
| 17 Siem Reap        | 2008        | 20.09        | 57.90        | 2.64                    | 0.65        |  |
|                     | 1998        | 7.61         | 88.81        |                         |             |  |
| 18 Preah Sihanouk   | 2008        | 51.08        | 32.97        | 1.47                    | 0.55        |  |
|                     | 1998        | 34.79        | 59.50        |                         |             |  |
| 19 Stung Treang     | 2008        | 16.59        | 59.48        | 1.42                    | 0.98        | Similar to mountain provinces Mondul Kiri and Ratanak Kiri |
|                     | 1998        | 11.67        | 60.47        |                         |             |  |
| 20 Svay Rieng       | 2008        | 10.49        | 32.67        | 3.00                    | 0.36        |  |
|                     | 1998        | 3.50         | 91.35        |                         |             |  |
| 21 Takeo            | 2008        | 9.59         | 34.52        | 2.86                    | 0.37        |  |
|                     | 1998        | 3.35         | 92.72        |                         |             |  |
| 22 Otdar Meanchey   | 2008        | 12.77        | 58.22        | 7.02                    | 0.61        |  |
|                     | 1998        | 1.82         | 96.20        |                         |             |  |
| 23 Kep              | 2008        | 14.33        | 64.10        | 2.91                    | 0.71        |  |
|                     | 1998        | 4.92         | 89.68        |                         |             |  |
| 24 Pailin           | 2008        | 37.69        | 38.02        | 3.39                    | 0.54        | Fast electrification                                       |
|                     | 1998        | 11.13        | 69.83        |                         |             |  |

## Notes:

1. The analysis is based on two factors: (i) city power is mostly applicable in urban areas, and (ii) there is a significant increase in all provinces.
2. Kerosene is used everywhere but more in rural than in urban areas. The decline in kerosene use is mostly due to introduction of electricity in urban areas.
3. Main sources of light covered by statistics include city power, generator, both city power and generator, kerosene, candles, battery, and other sources.

Source: Data from Government of Cambodia, NIS (2008a) pp. 253–254. Interpretation by means of statistical analysis by the authors.

Table A2.18 Urban Infrastructure Data, 2008—Urban Roads

| No.                                      | Municipal Code | Province         | Municipality            | Total Urban Population (2008 census) | Population in Most Urbanized Sangkat (2009 data book) | Bituminous Road, Total by Municipality in 2008 (m) | DBST, Total by Municipality in 2008 (m) | Total DBST and Bituminous Roads (m) | Urban Population Served (per m of DBST and bituminous) | Index |
|--|----------------|------------------|-------------------------|--------------------------------------|---|--|---|-------------------------------------|--|-------|
| <b>Cambodia</b>                          |                |                  |                         |                                      |   |  |   |                                     |  |       |
| <b>A. Plain Region</b>                   |                |                  |                         |                                      |   |  |   |                                     |  |       |
| 1  |                | Phnom Penh       | Phnom Penh <sup>a</sup> | 2,651,150                            | 1,069,719   | 79,959   | 243,288                                 | 771,947                             | 3.4  | 1.0   |
| 2  | 811            | Kandal           | Ta Khmao                | 1,658,819                            | 682,218   | 7113   | 63,036                                  | 518,849                             | 3.2  | 1.1   |
| 3  | 305            | Kampong Cham     | Kampong Cham            | 1,242,992                            | 571,649   | ...  | ...                                     | 448,700                             | 2.8  | 1.2   |
| 4  | 317            | Kampong Cham     | Suong                   | 195,898                              | 18,381  | 0  | 5,278                                   | 5,278                               | 37.1   | 0.1   |
| 5  | 2006           | Svay Rieng       | Svay Rieng              | 82,346                               | 13,423  | 3,463  | 37,132                                  | 40,595                              | 2.0  | 1.7   |
| 6  | 2008           | Svay Rieng       | Bavet                   | 35,896                               | 22,730  | 0  | 13,000                                  | 13,000                              | 2.8  | 1.2   |
| 7  | 1413           | Prey Veng        | Svay Antor              | 17,029                               | 13,253  | 0  | 626                                     | 626                                 | 27.2   | 0.1   |
| 8  | 2108           | Takeo            | Daun Keo                | 37,123                               | 11,201  | 0  | 0                                       | 0                                   | 0.0  | 0.0   |
| <b>B. Tonle Sap Lake Region</b>          |                |                  |                         |                                      |   |  |   |                                     |  |       |
| 9  | 106            | Banteay Meanchey | Serei Saophaon          | 33,079                               | 13,713  | 0  | 0                                       | 0                                   | 0.0  | 0.0   |
| 10                                       | 110            | Banteay Meanchey | Poipet                  | 14,456                               | 17,868  | 3,650  | 7,000                                   | 10,650                              | 1.4  | 2.5   |
| 11                                       | 203            | Battambang       | Battambang              | 674,533                              | 268,234   | 29,203   | 117,215                                 | 146,418                             | 4.6  | 0.7   |
| 12                                       | 403            | Kampong Chhnang  | Kampong Chhnang         | 73,407                               | 22,362  | 0  | 1,180                                   | 1,180                               | 62.2   | 0.1   |
| 13                                       | 603            | Kampong Thom     | Kampong Thom            | 107,989                              | 92,143  | 0  | 0                                       | 0                                   | 0.0  | 0.0   |
| 14                                       | 1710           | Siem Reap        | Siem Reap               | 180,853                              | 26,202  | 16,203   | 11,230                                  | 27,433                              | 6.6  | 0.5   |
| 15                                       | 2401           | Pailin           | Pailin                  | 43,130                               | 17,289  | 0  | 0                                       | 0                                   | 0.0  | 0.0   |
| 16                                       | 1505           | Pursat           | Pursat                  | 31,871                               | 18,548  | 0  | 21,228                                  | 21,228                              | 1.5  | 2.3   |
| 17                                       | 2204           | Otdar Meanchey   | Samroang                | 174,265                              | 40,473  | 9,000  | 78,438                                  | 87,438                              | 2.0  | 0.6   |
| 18                                       | 708            | Kampot           | Kampot                  | 15,674                               | 11,402  | 0  | 5,139                                   | 5,139                               | 3.1  | 1.1   |
| 19                                       | 904            | Koh Kong         | Khemara Phumin          | 25,650                               | 21,069  | 0  | 0                                       | 0                                   | 0.0  | 0.0   |
| 20                                       | 2302           | Kep              | Kep                     | 18,694                               | 18,746  | 4,000  | 0                                       | 4,000                               | 4.7  | 0.7   |
| 21                                       | 1801           | Preah Sihanouk   | Preah Sihanouk          | 178,452                              | 50,308  | 42,143   | 46,962                                  | 89,105                              | 2.0  | 1.7   |
| <b>D. Plateau and Mountainous Region</b> |                |                  |                         |                                      |   |  |   |                                     |  |       |
| 22                                       | 502            | Kampong Speu     | Chbar Mon               | 48,274                               | 11,567  | 0  | 8,667                                   | 8,667                               | 5.6  | 0.6   |
| 23                                       | 1002           | Kratie           | Kratie                  | 36,053                               | 12,745  | 23,558   | 0                                       | 23,558                              | 1.5  | 2.2   |
| 24                                       | 1105           | Mondul Kiri      | Saem Monourom           | 4,678                                | 4,235   | 0  | 15,000                                  | 15,000                              | 0.3  | 11.0  |
| 25                                       | 1308           | Preah Vihear     | Preah Vihear            | 89,447                               | 21,761  | 18,585   | 23,295                                  | 41,880                              | 2.1  | 1.6   |
| 26                                       | 1602           | Ratanak Kiri     | Bang Lung               | 142,346                              | 68,959  | 1,500  | 16,075                                  | 17,575                              | 8.1  | 0.4   |
| 27                                       | 1904           | Stung Treng      | Stung Treng             | 54,505                               | 15,223  | 1,500  | 0                                       | 1,500                               | 36.6   | 0.1   |
|  |                |                  |                         | 35,964                               | 11,894  | 0  | 10,500                                  | 10,500                              | 3.4  | 1.0   |
|  |                |                  |                         | 4,859                                | 3,661   | 0  | 1,000                                   | 1,000                               | 4.9  | 0.7   |
|  |                |                  |                         | 10,679                               | 9,151   | 0  | 0                                       | 0                                   | 0.0  | 0.0   |
|  |                |                  |                         | 19,317                               | 15,665  | 0  | 3,395                                   | 3,395                               | 5.7  | 0.6   |
|  |                |                  |                         | 17,022                               | 13,365  | 0  | 1,180                                   | 1,180                               | 14.4   | 0.2   |

... = data not available, DBST = double bituminous surface treatment, m = meter.

<sup>a</sup> Roads in Phnom Penh include all kinds of paved and concrete roads.

Source: Government of Cambodia, National Committee of Subnational Democratic Development (2009).

Table A2.19 Urban Infrastructure Data, 2008—Water Supply

| No.                                      | Municipal Code | Province         | Municipality            | Total Urban Population (2008 census) | Population in Most Urbanized Sangkat (2009 databook) | Piped Water <sup>a</sup> (% covered) | Pump and Mixed Wells <sup>b</sup> (% covered) | Population Served by Piped Water in Urbanized Sangkat | Index Piped Water |
|--|----------------|------------------|-------------------------|--------------------------------------|--|--------------------------------------|---|---|-------------------|
| <b>Cambodia</b>                          |                |                  |                         |                                      |  |                                      |   |   |                   |
| <b>A. Plain Region</b>                   |                |                  |                         | <b>2,651,150</b>                     | <b>1,069,719</b>                                     | <b>76.1</b>                          |   | <b>814,274</b>  | <b>1.0</b>        |
| 1  |                | Phnom Penh       | Phnom Penh <sup>c</sup> | 1,242,992                            | 682,218  | 90.6                                 | not applicable                                | 618,034   | 1.2               |
| 2  | 811            | Kandal           | Ta Khmao                | 195,898                              | 18,381   | 80.3                                 | 19.7  | 14,760  | 1.3               |
| 3  | 305            | Kampong Cham     | Kampong Cham            | 82,346                               | 13,423   | 98.6                                 | 0.2   | 13,235  | 1.1               |
| 4  | 317            | Kampong Cham     | Suong                   | 35,896                               | 22,730   | 1.7                                  | 73.7  | 386   | 1.3               |
| 5  | 2006           | Svay Rieng       | Svay Rieng              | 17,029                               | 13,253   | 28.7                                 | 68.1  | 3,804   | 0.0               |
| 6  | 2008           | Svay Rieng       | Bavet                   | 37,123                               | 11,201   | 9.9                                  | 89.3  | 1,109   | 0.4               |
| 7  | 1413           | Prey Veng        | Svay Antor              | 33,079                               | 13,713   | 46.2                                 | 53.8  | 6,335   | 0.1               |
| 8  | 2108           | Takeo            | Daun Keo                | 14,456                               | 17,868   | 69.8                                 | 14.6  | 12,472  | 0.6               |
| <b>B. Tonle Sap Lake Region</b>          |                |                  |                         | <b>674,533</b>                       | <b>268,234</b>                                       | <b>48.0</b>                          |   | <b>128,681</b>  | <b>0.6</b>        |
| 9  | 106            | Banteay Meanchey | Serei Saophaon          | 73,407                               | 22,362   | 68.1                                 | 24.9  | 15,229  | 0.9               |
| 10                                       | 110            | Banteay Meanchey | Poipet                  | 107,989                              | 92,143   | 21.9                                 | 45.9  | 20,179  | 0.3               |
| 11                                       | 203            | Battambang       | Battambang              | 180,853                              | 26,202   | 81.4                                 | 0.5   | 21,328  | 0.3               |
| 12                                       | 403            | Kampong Chhnang  | Kampong Chhnang         | 43,130                               | 17,289   | 41.1                                 | 42.2  | 7,106   | 1.1               |
| 13                                       | 603            | Kampong Thom     | Stueng Saen             | 31,871                               | 18,548   | 98.7                                 | 0.2   | 18,307  | 0.5               |
| 14                                       | 1710           | Siem Reap        | Siem Reap               | 174,265                              | 40,473   | 36.5                                 | 62.0  | 14,773  | 1.3               |
| 15                                       | 2401           | Pailin           | Pailin                  | 15,674                               | 11,402   | 27.5                                 | 32.7  | 3,136   | 0.5               |
| 16                                       | 1505           | Pursat           | Pursat                  | 25,650                               | 21,069   | 75.0                                 | 8.0   | 15,802  | 0.4               |
| 17                                       | 2204           | Otdar Meanchey   | Samroang                | 18,694                               | 18,746   | 68.4                                 | 18.1  | 12,822  | 1.0               |
| <b>C. Coastal Region</b>                 |                |                  |                         | <b>178,452</b>                       | <b>50,308</b>  | <b>66.0</b>                          |   | <b>33,346</b>   | <b>0.9</b>        |
| 18                                       | 708            | Kampot           | Kampot                  | 48,274                               | 11,567   | 100.0                                | 0.0   | 11,567  | 1.3               |
| 19                                       | 904            | Koh Kong         | Khemara Phumin          | 36,053                               | 12,745   | 82.9                                 | 0.0   | 10,566  | 1.1               |
| 20                                       | 2302           | Kep              | Kep                     | 4,678                                | 4,235  | 39.2                                 | 52.1  | 1,660   | 0.5               |
| 21                                       | 1801           | Preah Sihanouk   | Preah Sihanouk          | 89,447                               | 21,761   | 43.9                                 | 11.9  | 9,553   | 0.5               |
| <b>D. Plateau and Mountainous Region</b> |                |                  |                         | <b>142,346</b>                       | <b>68,959</b>  | <b>50.0</b>                          |   | <b>34,214</b>   | <b>0.7</b>        |
| 22                                       | 502            | Kampong Speu     | Chbar Mon               | 54,505                               | 15,223   | 75.1                                 | 10.8  | 11,432  | 1.0               |
| 23                                       | 1002           | Kratie           | Kratie                  | 35,964                               | 11,894   | 96.5                                 | 0.0   | 11,478  | 1.3               |
| 24                                       | 1105           | Mondul Kiri      | Saem Monourom           | 4,859                                | 3,661  | 0.0                                  | 11.4  | 0   | 0.0               |
| 25                                       | 1308           | Preah Vihear     | Preah Vihear            | 10,679                               | 9,151  | 32.8                                 | 45.0  | 3,002   | 0.4               |
| 26                                       | 1602           | Ratanak Kir      | Bang Lung               | 19,317                               | 15,665   | 12.3                                 | 18.2  | 1,927   | 0.2               |
| 27                                       | 1904           | Stung Treng      | Stung Treng             | 17,022                               | 13,365   | 47.7                                 | 15.6  | 6,375   | 0.6               |

<sup>a</sup> Coverage of piped water services in percent of most urbanized sangkat only.

<sup>b</sup> Pump and mixed wells are still common in areas not served by piped water.

<sup>c</sup> Phnom Penh information is from the municipality, not from the data books.

Source: Government of Cambodia, National Committee of Subnational Democratic Development (2009).



Table A2.20 Solid Waste Collection, 2008

| No.                                      | Municipal Code | Province         | Municipality            | Total Urban Population<br>(2008 census) | Population in Most<br>Urbanized Sangkat<br>(2009 data book) | % of Households with Access<br>to Garbage Collection in<br>Urbanized Sangkat<br>(2009 data book) | Population Served<br>in Most Urbanized<br>Sangkat | Index <sup>a</sup> |
|--|----------------|------------------|-------------------------|---|---|--|---|--------------------|
| <b>Cambodia</b>                          |                |                  |                         |   |   |  |   |                    |
| <b>A. Plain Region</b>                   |                |                  |                         | <b>2,651,150</b>                        | <b>1,069,719</b>  | <b>58.6</b>  | <b>627,089</b>                                    | <b>1.0</b>         |
| 1  |                | Phnom Penh       | Phnom Penh <sup>b</sup> | 1,658,819                               | 682,218   | 78.1   | 532,986   | 1.3                |
| 2  | 811            | Kandal           | Ta Khmao                | 1,242,992                               | 571,649   | 90.0   | 514,484   | 1.5                |
| 3  | 305            | Kampong Cham     | Kampong Cham            | 195,898                                 | 18,381  | 38.4   | 7,058   | 0.7                |
| 4  | 317            | Kampong Cham     | Suong                   | 82,346                                  | 13,423  | 45.2   | 6,067   | 0.8                |
| 5  | 2006           | Svay Rieng       | Svay Rieng              | 35,896                                  | 22,730  | 7.2  | 1,637   | 0.1                |
| 6  | 2008           | Svay Rieng       | Bavet                   | 17,029                                  | 13,253  | 15.9   | 2,107   | 0.3                |
| 7  | 1413           | Prey Veng        | Svay Antor              | 37,123                                  | 11,201  | 0.0  | 0   | 0.0                |
| 8  | 2108           | Takeo            | Daun Keo                | 33,079                                  | 13,713  | 3.7  | 507   | 0.1                |
| <b>B. Tonle Sap Lake Region</b>          |                |                  |                         | <b>674,533</b>                          | <b>268,234</b>  | <b>23.9</b>  | <b>63,991</b>                                     | <b>0.4</b>         |
| 9  | 106            | Banteay Meanchey | Serei Saophaon          | 73,407                                  | 22,362  | 20.8   | 4,651   | 0.4                |
| 10                                       | 110            | Banteay Meanchey | Poipet                  | 107,989                                 | 92,143  | 18.4   | 16,954  | 0.3                |
| 11                                       | 203            | Battambang       | Battambang              | 180,853                                 | 26,202  | 54.2   | 14,201  | 0.9                |
| 12                                       | 403            | Kampong Chhnang  | Kampong Chhnang         | 43,130                                  | 17,289  | 5.8  | 1,003   | 0.1                |
| 13                                       | 603            | Kampong Thom     | Stueng Saen             | 31,871                                  | 18,548  | 47.5   | 8,810   | 0.8                |
| 14                                       | 1710           | Siem Reap        | Siem Reap               | 174,265                                 | 40,473  | 29.2   | 11,818  | 0.5                |
| 15                                       | 2401           | Pailin           | Pailin                  | 15,674                                  | 11,402  | 0.1  | 11  | 0.0                |
| 16                                       | 1505           | Pursat           | Pursat                  | 25,650                                  | 21,069  | 29.0   | 6,110   | 0.5                |
| 17                                       | 2204           | Otdar Meanchey   | Samroang                | 18,694                                  | 18,746  | 2.3  | 431   | 0.0                |
| <b>C. Coastal Region</b>                 |                |                  |                         | <b>178,452</b>                          | <b>50,308</b>   | <b>46.4</b>  | <b>23,339</b>                                     | <b>0.8</b>         |
| 18                                       | 708            | Kampot           | Kampot                  | 48,274                                  | 11,567  | 72.0   | 8,328   | 1.2                |
| 19                                       | 904            | Koh Kong         | Khemara Phumin          | 36,053                                  | 12,745  | 26.6   | 3,390   | 0.5                |
| 20                                       | 2302           | Kep              | Kep                     | 4,678                                   | 4,235   | 0.0  | 0   | 0.0                |
| 21                                       | 1801           | Preah Sihanouk   | Preah Sihanouk          | 89,447                                  | 21,761  | 53.4   | 11,620  | 0.9                |
| <b>D. Plateau and Mountainous Region</b> |                |                  |                         | <b>142,346</b>                          | <b>68,959</b>   | <b>9.8</b>   | <b>6,773</b>                                      | <b>0.2</b>         |
| 22                                       | 502            | Kampong Speu     | Chbar Mon               | 54,505                                  | 15,223  | 16.5   | 2,512   | 0.3                |
| 23                                       | 1002           | Kratie           | Kratie                  | 35,964                                  | 11,894  | 3.5  | 416   | 0.1                |
| 24                                       | 1105           | Mondul Kiri      | Saem Monuorum           | 4,859                                   | 3,661   | 0.0  | 0   | 0.0                |
| 25                                       | 1308           | Preah Vihear     | Preah Vihear            | 10,679                                  | 9,151   | 0.0  | 0   | 0.0                |
| 26                                       | 1602           | Ratanak Kiri     | Bang Lung               | 19,317                                  | 15,665  | 19.0   | 2,976   | 0.3                |
| 27                                       | 1904           | Stung Treng      | Stung Treng             | 17,022                                  | 13,365  | 6.5  | 869   | 0.1                |

<sup>a</sup> The index relates only to the most urbanized sangkats.

<sup>b</sup> Phnom Penh information from interviews.

Source: Government of Cambodia, National Committee for Subnational Democratic Development (2009).

**Table A2.21** Changes in Households with Toilets, 1998–2008  
(connected to sewerage and septic tanks)

| Code and Province Name | Year  | % Urban Forms of Sanitation |         |          |                  | % Change (1998 = 1.00) |         | Urban Sanitation Index<br>(Cambodia = 1.00) | Remarks                     |
|------------------------|-------|-----------------------------|---------|----------|------------------|------------------------|---------|---|-----------------------------|
|                        |       | No Toilets                  | Toilets | Sewerage | Septic Tanks     | Urban Sanitation       | Toilets |   |                             |
| Cambodia               | 2008  | 66.29                       | 33.71   | 13.50    | 14.51            | 28.01                  | 2.33    | 1.00  |                             |
|                        | 1998  | 85.52                       | 14.48   |          | no data for 1998 |                        |         |   |                             |
| 01 Banteay Meanchey    | 2008  | 65.00                       | 35.00   | 14.51    | 17.07            | 31.58                  | 3.37    | 1.07  |                             |
| 1998                   | 89.61 | 10.39                       |         |          |                  |                        |         |   |                             |
| 02 Battambang          | 2008  | 56.05                       | 43.95   | 14.33    | 21.37            | 35.70                  | 2.21    | 1.06  |                             |
| 1998                   | 80.14 | 19.86                       |         |          |                  |                        |         |   |                             |
| 03 Kampong Cham        | 2008  | 74.44                       | 25.56   | 4.92     | 14.16            | 19.08                  | 2.65    | 0.36  |                             |
| 1998                   | 90.35 | 9.65                        |         |          |                  |                        |         |   |                             |
| 04 Kampong Chhnang     | 2008  | 81.24                       | 18.76   | 5.86     | 9.19             | 15.05                  | 3.11    | 0.43  |                             |
| 1998                   | 93.96 | 6.04                        |         |          |                  |                        |         |   |                             |
| 05 Kampong Speu        | 2008  | 82.51                       | 17.49   | 6.36     | 8.43             | 14.79                  | 4.54    | 0.47  | Rapid progress at low level |
| 1998                   | 96.15 | 3.85                        |         |          |                  |                        |         |   |                             |
| 06 Kampong Thom        | 2008  | 72.19                       | 27.81   | 4.27     | 8.89             | 13.16                  | 2.12    | 0.32  |                             |
| 1998                   | 86.87 | 13.13                       |         |          |                  |                        |         |   |                             |
| 07 Kampot              | 2008  | 73.82                       | 26.18   | 6.49     | 9.85             | 16.34                  | 3.27    | 0.48  |                             |
| 1998                   | 92.00 | 8.00                        |         |          |                  |                        |         |   |                             |
| 08 Kandal              | 2008  | 54.25                       | 45.75   | 13.47    | 25.70            | 39.17                  | 3.73    | 1.00  |                             |
| 1998                   | 87.72 | 12.28                       |         |          |                  |                        |         |   |                             |
| 09 Koh Kong            | 2008  | 61.38                       | 38.62   | 13.10    | 18.46            | 31.56                  | 2.38    | 0.97  |                             |
| 1998                   | 83.80 | 16.20                       |         |          |                  |                        |         |   |                             |
| 10 Kratie              | 2008  | 73.97                       | 26.07   | 3.23     | 14.25            | 17.48                  | 1.94    | 0.24  |                             |
| 1998                   | 86.56 | 13.44                       |         |          |                  |                        |         |   |                             |
| 11 Mondul Kiri         | 2008  | 83.44                       | 16.56   | 3.55     | 7.87             | 11.42                  | 1.46    | 0.26  |                             |
| 1998                   | 88.64 | 11.36                       |         |          |                  |                        |         |   |                             |
| 12 Phnom Penh          | 2008  | 9.31                        | 90.96   | 66.39    | 22.99            | 89.38                  | 1.22    | 4.92  | By far the best conditions  |
| 1998                   | 25.14 | 74.86                       |         |          |                  |                        |         |   |                             |
| 13 Preah Vihear        | 2008  | 89.18                       | 10.82   | 2.65     | 4.70             | 7.35                   | 2.21    | 0.20  | Worst conditions            |
| 1998                   | 95.10 | 4.90                        |         |          |                  |                        |         |   |                             |

continued on next page

Table A2.21 *continued*

| Code and Province Name | Year | % Urban Forms of Sanitation |         |          | % Urban Forms of Sanitation |                  | Urban Sanitation Index<br>(Cambodia = 1.00) | Remarks |
|------------------------|------|-----------------------------|---------|----------|-----------------------------|------------------|---|---------|
|                        |      | No Toilets                  | Toilets | Sewerage | Septic Tanks                | Urban Sanitation |   |         |
| 14 Prey Veang          | 2008 | 83.20                       | 16.80   | 4.97     | 5.67                        | 10.64            | 0.37  |         |
|                        | 1998 | 95.73                       | 4.27    |          |                             |                  |   |         |
| 15 Pursat              | 2008 | 81.64                       | 18.36   | 5.04     | 8.61                        | 13.65            | 0.37  |         |
|                        | 1998 | 91.48                       | 8.52    |          |                             |                  |   |         |
| 16 Ratanak Kiri        | 2008 | 78.92                       | 21.08   | 4.50     | 8.06                        | 12.56            | 0.33  |         |
|                        | 1998 | 90.80                       | 9.20    |          |                             |                  |   |         |
| 17 Siem Reap           | 2008 | 72.90                       | 27.10   | 12.09    | 11.85                       | 23.94            | 0.90  |         |
|                        | 1998 | 93.37                       | 6.63    |          |                             |                  |   |         |
| 18 Preah Sihanouk      | 2008 | 50.39                       | 49.61   | 17.19    | 28.26                       | 45.45            | 1.27  |         |
|                        | 1998 | 76.78                       | 23.22   |          |                             |                  |   |         |
| 19 Stueng Traeng       | 2008 | 66.79                       | 33.03   | 11.08    | 16.67                       | 27.75            | 0.82  |         |
|                        | 1998 | 86.17                       | 13.83   |          |                             |                  |   |         |
| 20 Sray Rieng          | 2008 | 78.73                       | 21.27   | 6.05     | 8.34                        | 14.39            | 0.45  |         |
|                        | 1998 | 91.82                       | 8.18    |          |                             |                  |   |         |
| 21 Takeo               | 2008 | 76.28                       | 23.72   | 7.82     | 12.10                       | 19.92            | 0.58  |         |
|                        | 1998 | 95.72                       | 4.28    |          |                             |                  |   |         |
| 22 Otdar Meanchey      | 2008 | 78.62                       | 21.38   | 7.82     | 12.10                       | 19.92            | 0.58  |         |
|                        | 1998 | 95.72                       | 4.28    |          |                             |                  |   |         |
| 23 Kep                 | 2008 | 73.95                       | 26.05   | 9.87     | 11.90                       | 21.77            | 0.73  |         |
|                        | 1998 | 96.69                       | 3.31    |          |                             |                  |   |         |
| 24 Pailin              | 2008 | 60.67                       | 39.33   | 10.45    | 17.79                       | 28.24            | 0.77  |         |
|                        | 1998 | 80.25                       | 19.75   |          |                             |                  |   |         |

## Notes:

- The analysis is based on two factors: (i) progress 1998–2008 (measured by percentage of households with toilets) and (ii) provincial ratios of urban sanitation. No separate data are available for urban areas; therefore, the analysis is based on proxies.
- Assuming that the relatively few toilets available in most provinces are concentrated on urban areas, the changes from 1998–2008 provide a first impression of the progress in sanitation. Even though many provinces now have relatively high ratios of toilets, Phnom Penh is at the top at about 90%.
- Using the two categories of "connected to sewerage" and "septic tanks" from the original table as a proxy for urban sanitation, the conditions are analyzed in relation to the national mean value. Again, Phnom Penh has the highest value, 89% of the municipality equipped, that is, about five times (4.92) the national index (1.00).

Source: Data from Government of Cambodia, NIS (2008a) pp. 255–256. Interpretation by means of statistical analysis by the authors.

**Table A2.22** Distribution of Households in Provinces by Toilet Facility Availability and Category of Toilet Facility, 1998<sup>a</sup> and 2008  
(data inputs for Table A2.21)  
(%)

| Code            | Province         | Year        | No. of Households | Households without Toilets | Households with Toilet Facilities <sup>b</sup> |                    |              |             |             |
|-----------------|------------------|-------------|-------------------|----------------------------|--|--------------------|--------------|-------------|-------------|
|                 |                  |             |                   |                            | Total  | Connected Sewerage | Septic Tank  | Pit Latrine | Other       |
| <b>Cambodia</b> |                  | <b>2008</b> | <b>2,817,637</b>  | <b>66.29</b>               | <b>33.71</b>                                   | <b>13.50</b>       | <b>14.41</b> | <b>4.91</b> | <b>0.88</b> |
|                 |                  | <b>1998</b> | <b>2,162,086</b>  | <b>85.52</b>               | <b>14.48</b>                                   |                    |              |             |             |
| 01              | Banteay Meanchey | 2008        | 144,658           | 65.00                      | 35.00  | 14.51              | 17.07        | 3.05        | 0.38        |
|                 |                  | 1998        | 110,994           | 89.61                      | 10.39  |                    |              |             |             |
| 02              | Battambang       | 2008        | 209,702           | 56.05                      | 43.95  | 14.33              | 21.37        | 7.11        | 1.15        |
|                 |                  | 1998        | 146,661           | 80.14                      | 19.86  |                    |              |             |             |
| 03              | Kampong Cham     | 2008        | 368,114           | 74.44                      | 25.56  | 4.92               | 14.16        | 5.78        | 0.71        |
|                 |                  | 1998        | 311,151           | 90.35                      | 9.65   |                    |              |             |             |
| 04              | Kampong Chhnang  | 2008        | 100,801           | 81.24                      | 18.76  | 5.86               | 9.19         | 2.71        | 0.96        |
|                 |                  | 1998        | 81,201            | 93.96                      | 6.04   |                    |              |             |             |
| 05              | Kampong Speu     | 2008        | 149,270           | 82.51                      | 17.49  | 6.36               | 8.43         | 2.39        | 0.30        |
|                 |                  | 1998        | 114,959           | 96.15                      | 3.85   |                    |              |             |             |
| 06              | Kampong Thom     | 2008        | 133,878           | 72.19                      | 27.81  | 4.27               | 8.98         | 13.27       | 1.29        |
|                 |                  | 1998        | 105,583           | 86.87                      | 13.13  |                    |              |             |             |
| 07              | Kampot           | 2008        | 129,646           | 73.82                      | 26.18  | 6.49               | 9.85         | 9.29        | 0.55        |
|                 |                  | 1998        | 104,498           | 92.00                      | 8.00   |                    |              |             |             |
| 08              | Kandal           | 2008        | 255,029           | 54.25                      | 45.75  | 13.47              | 25.70        | 5.97        | 0.62        |
|                 |                  | 1998        | 203,357           | 87.72                      | 12.28  |                    |              |             |             |
| 09              | Koh Kong         | 2008        | 24,166            | 61.38                      | 38.62  | 13.10              | 18.46        | 2.95        | 4.11        |
|                 |                  | 1998        | 21,401            | 83.80                      | 16.20  |                    |              |             |             |
| 10              | Kratie           | 2008        | 65,323            | 73.93                      | 26.07  | 3.23               | 14.25        | 6.50        | 2.09        |
|                 |                  | 1998        | 48,761            | 86.56                      | 13.44  |                    |              |             |             |
| 11              | Mondul Kiri      | 2008        | 12,270            | 83.44                      | 16.56  | 3.55               | 7.87         | 4.78        | 0.36        |
|                 |                  | 1998        | 5,615             | 88.64                      | 11.36  |                    |              |             |             |
| 12              | Phnom Penh       | 2008        | 250,597           | 9.31                       | 90.69  | 66.39              | 22.99        | 0.90        | 0.42        |
|                 |                  | 1998        | 167,758           | 25.14                      | 74.86  |                    |              |             |             |
| 13              | Preah Vihear     | 2008        | 33,115            | 89.18                      | 10.82  | 2.65               | 4.70         | 2.73        | 0.75        |
|                 |                  | 1998        | 21,007            | 95.10                      | 4.90   |                    |              |             |             |
| 14              | Prey Veang       | 2008        | 226,312           | 83.20                      | 16.80  | 4.97               | 5.67         | 4.98        | 1.18        |
|                 |                  | 1998        | 192,735           | 95.73                      | 4.27   |                    |              |             |             |
| 15              | Pursat           | 2008        | 83,412            | 81.64                      | 18.36  | 5.04               | 8.61         | 2.99        | 1.72        |
|                 |                  | 1998        | 67,022            | 91.48                      | 8.52   |                    |              |             |             |
| 16              | Ratanak Kiri     | 2008        | 27,485            | 78.92                      | 21.08  | 4.50               | 8.06         | 5.40        | 3.11        |
|                 |                  | 1998        | 16,646            | 90.80                      | 9.20   |                    |              |             |             |
| 17              | Siem Reap        | 2008        | 179,754           | 72.90                      | 27.10  | 12.09              | 11.85        | 2.59        | 0.57        |
|                 |                  | 1998        | 125,387           | 93.37                      | 6.63   |                    |              |             |             |
| 18              | Preah Sihanouk   | 2008        | 44,656            | 50.39                      | 49.61  | 17.19              | 28.26        | 3.12        | 1.04        |
|                 |                  | 1998        | 30,075            | 76.78                      | 23.22  |                    |              |             |             |
| 19              | Stueng Traeng    | 2008        | 20,922            | 66.97                      | 33.03  | 11.08              | 16.67        | 3.83        | 1.45        |
|                 |                  | 1998        | 14,126            | 86.17                      | 13.83  |                    |              |             |             |
| 20              | Svay Rieng       | 2008        | 114,758           | 78.73                      | 21.27  | 6.05               | 8.34         | 6.03        | 0.85        |
|                 |                  | 1998        | 97,796            | 91.82                      | 8.18   |                    |              |             |             |
| 21              | Takeo            | 2008        | 183,742           | 76.28                      | 23.72  | 7.82               | 12.10        | 2.99        | 0.80        |
|                 |                  | 1998        | 153,863           | 95.72                      | 4.28   |                    |              |             |             |
| 22              | Otdar Meanchey   | 2008        | 38,398            | 78.62                      | 21.38  | 6.58               | 9.36         | 4.51        | 0.93        |
|                 |                  | 1998        | 12,208            | 97.97                      | 2.03   |                    |              |             |             |
| 23              | Kep              | 2008        | 7,193             | 73.95                      | 26.05  | 9.87               | 11.90        | 2.18        | 2.10        |
|                 |                  | 1998        | 5,282             | 96.69                      | 3.31   |                    |              |             |             |
| 24              | Pailin           | 2008        | 14,436            | 60.67                      | 39.33  | 10.45              | 17.79        | 9.59        | 1.50        |
|                 |                  | 1998        | 4,000             | 80.25                      | 19.75  |                    |              |             |             |

<sup>a</sup> In 1998, information on type of toilet was not obtained.

<sup>b</sup> The percent distribution of categories of toilet is for total households.

Source: Government of Cambodia, NIS (2008a) pp. 255–256.

## Appendix 3

# Sector Issues

**Table A3.1** Links between Sector Issues, Government Plan, Gaps, and ADB Summary Assessment

| Core Sector and Subsector Issues<br>(Constraints and Problems)   | Government Plan  | Policy, Institutional, Investment Action, and Resource Gap Needs  | Overview of Plan Relevance and Feasibility   |
|--|--|---|--|
| <p><b>Close service gaps in infrastructure services.</b> Despite improved services in urban areas—water services (76% with piped water) and sanitation (34%), electricity (22%), solid waste collection (58%), and road access—much investment is needed in the future. Since service levels are best in Phnom Penh, other urban centers deserve priority.</p> | Improved infrastructure services in major towns and capital city | Investments in growth centers along transport corridors and Tonle Sap region; multisector investment packages | Highly relevant and consistent with government’s strategy and country partnership strategy                 |
| <p><b>Improved and permanent housing.</b> The quality of housing stock, tenure conditions, and service levels must be improved.</p>  | National Housing Policy encourages private sector investments    | Housing finance; land tenure policy   | Institutional setup for housing finance not yet clarified, and land tenure policy needs articulation       |
| <p><b>Capacity of national institutions dealing with urban sector.</b> Most capacities are limited to sector ministries, provincial centers, and the capital city. The capacity of municipalities to plan and manage services must be increased.</p>   | Decentralization and deconcentration policy reform               | Need to strengthen municipalities and communes  | Reform program highly relevant for future urban sector programs and capacity development of municipalities |
| <p><b>Developing and utilizing specialized information.</b> The planning and monitoring of urbanization processes requires data in formats and combinations that are currently unavailable, although an early version of a special set of data has now become available.</p>   | Rectangular Development Strategy and district data books         | Need to strengthen information base for policy decisions and planning   | Urban statistics deficient and a drawback to any developmental work  |
| <p><b>Urban development finance system.</b> There is no financing system available to municipalities other than central government grants.</p>   | Decentralization and deconcentration policy reform               | Proposed Local Administration Investment Fund to require resources and operational guidelines                 | Could be built into ADB’s Sustainable Urban Development Project for the Tonle Sap Region                   |

ADB = Asian Development Bank.

Source: ADB.

**Table A3.2 Summary of Sector Issues, Government Action, and Development Partner and ADB Support**

| Core Issue and Government Action   | Other Development Partner Support   | ADB Support  |
|--|---|--|
| <b>Close service gaps in infrastructure services.</b> Invest in growth centers along transport corridors and Tonle Sap region.   | JICA, KEXIM, Government of PRC support for various infrastructure projects  | Greater Mekong Subregion: Corridor Towns Development Project (I and II) and Integrated Urban Environmental Management in the Tonle Sap Basin |
| <b>Improved and permanent housing.</b> The government is working on its housing policy.  | Bill & Melinda Gates Foundation and ACHR support for Urban Poor Development Fund  | None so far  |
| <b>Capacity of national institutions dealing with urban sector.</b> Initiate decentralization and deconcentration reforms, and decide on future of capacity development of municipalities. | World Bank and United Nations support decentralization and deconcentration reforms                                      | To be addressed by urban investment projects, and, possibly, by a stand-alone capacity development technical assistance project              |
| <b>Specialized information.</b> Develop urban statistics as policy and planning tools.   | United Nations  | Could be built into ADB's Integrated Urban Environmental Management in the Tonle Sap Basin   |
| <b>Urban development finance system.</b> Establish Local Administration Investment Fund.   | Government to seek official development assistance from ADB, United Nations Capital Development Fund, or the World Bank | Could be built into ADB's Integrated Urban Environmental Management in the Tonle Sap Basin   |

ACHR = Asian Coalition for Housing Rights, ADB = Asian Development Bank, JICA = Japan International Cooperation Agency, KEXIM = Export-Import Bank of Korea, PRC = People's Republic of China.

Source: ADB.

**Table A4.1 ADB and Other Development Partner Sector Support, Loans and Grants**

| Grant/Loan No.              | Project or Program Name   | Approved Amount (\$ million) | Approval Date | Signing Date | Effective Date | Closing Date |             | Current Status |
|-----------------------------|---|------------------------------|---------------|--------------|----------------|--------------|-------------|----------------|
|                             |   |                              |               |              |                | Original     | Revised     |                |
| 1725-CAM                    | Provincial Towns Improvement Project                            | 20.00                        | 17 Dec 1999   | 2 Feb 2000   | 11 Apr 2000    | 31 Dec 2005  | 31 Mar 2007 | Closed         |
| 1969-CAM(SF)                | GMS: Mekong Tourism Development Project                         | 15.60                        | 12 Dec 2002   | 7 Feb 2003   | 6 Aug 2003     | 30 Jun 2008  | 30 Jun 2010 | Closed         |
| 2013-CAM                    | Provincial Towns Improvement (Supplementary Loan)               | 6.26                         | 28 Oct 2003   | 18 Dec 2003  | 2 Jan 2004     | 30 Jun 2006  | 31 Mar 2007 | Closed         |
| 2023-CAM                    | Agricultural Sector Development Project                         | 4.70                         | 26 Nov 2003   | 10 Nov 2004  | 2 Dec 2004     | 30 Jun 2009  | 30 Jun 2010 | Closed         |
| 2035-CAM (SF)               | Northwest Irrigation Sector                                     | 18.00                        | 9 Dec 2003    | –            | –              | 31 Dec 2010  | –           | Active         |
| 2052-CAM                    | Greater Mekong Subregion Transmission Project                   | 44.30                        | 15 Dec 2003   | –            | –              | 31 Dec 2008  | 31 Dec 2010 | Closed         |
| 2122-CAM                    | Second Education Sector Development                             | 25.00                        | 9 Dec 2004    | –            | –              | 30 Jun 2010  | –           | Closed         |
| 2455-CAM                    | Emergency Food Assistance Project                               | 17.50                        | 2 Oct 2008    | –            | –              | –            | –           | Active         |
| 2373-CAM(SF)                | GMS: Southern Coastal Corridor Project                          | 7.00                         | 28 Nov 2007   | 18 Feb 2008  | 12 Aug 2008    | 31 Dec 2012  | –           | Active         |
| 2376-CAM                    | Tonle Sap Lowlands Rural Development Project                    | 10.10                        | 5 Dec 2007    | 18 Feb 2008  | 5 Nov 2008     | 30 Jun 2015  | –           | Active         |
| 2599-CAM                    | Tonle Sap Poverty Reduction and Smallholder Development Project | 3.40                         | 8 Dec 2009    | 27 Dec 2009  | 31 Mar 2010    | 28 Feb 2018  | –           | Active         |
| <b>Subtotal Loans</b>       |   | <b>171.86</b>                |               |              |                |              |             |                |
| 0018-CAM                    | Tonle Sap Rural Water Supply and Sanitation Sector              | 18.00                        | 20 Oct 2005   | –            | –              | 30 Jun 2012  | –           | Closed         |
| 0034(SF) and 0035-CAM       | Tonle Sap Sustainable Livelihoods Project                       | 19.74                        | 21 Dec 2005   | –            | –              | 30 Jun 2010  | –           | Closed         |
| 0066-CAM(SF)                | Commune Council Development Project 2                           | 7.80                         | 12 Dec 2006   | –            | –              | 31 Dec 2009  | –           | Closed         |
| 0116-CAM(SF)                | Emergency Food Assistance Project                               | 17.50                        | 2 Oct 2008    | –            | –              | 30 Sep 2011  | –           | Active         |
| <b>Subtotal Grants</b>      |   | <b>63.04</b>                 |               |              |                |              |             |                |
| <b>Total Loans + Grants</b> |   | <b>234.90</b>                |               |              |                |              |             |                |

– = data not available, GMS = Greater Mekong Subregion.  
Source: ADB Cambodia Resident Mission.

## Appendix 4

# Sector Support: ADB and Other Development Partners

Table A4.2 ADB and Other Development Partner Activities in Cambodia

| Agency  | Area and Activities in Urban Development  | Status   |
|---|---|--|
| ACHR (1988–1998)  | Support for strengthening urban community-based initiatives in Phnom Penh (1994, Training and Advisory Program) through exchanges and learning process from other countries<br><br>Surveyed activities of urban poor communities<br><br>Presented and discussed with all relevant stakeholders, especially MPP and the government | Significant changes observed since 1998 in savings and credit, community organization, and Solidarity for the Urban Poor Federation and Urban Sector Group   |
| ADB   | Water supply for PPWSA in Phnom Penh<br><br>Solid waste management through JFPR in Phnom Penh<br><br>Wastewater treatment plant in Siem Reap<br><br>Corridor towns development<br><br>Cities Initiative for Asia in Battambang municipality   | Solid waste management project completed in 2007<br><br>Developing its country partnership strategy, 2010–2013 in which more attention is given to the urban sector  |
| AFD   | Rehabilitation of Phnom Penh Central Market (protection of patrimonies)<br><br>Urban drainage system in Siem Reap<br><br>Possibility for streetlight project with MPP (to be discussed with MPP)<br><br>Support for study on establishment of urban transport authority   | AFD funding completed since June 2009 (has already lasted for 5 years)   |
| CDIA (prefeasibility study from November 2009–April 2010) | Study being carried out in Battambang. First secondary cities project supported by ADB to identify and prioritize urban environmental infrastructure facilities for investment  | Prefeasibility study ongoing   |
| CFD: 2003–present, local NGO                              | Community development, and capacity building in rural water supply and sanitation<br><br>Implementation of small-scale sanitation investment component of their program, targeting poor and vulnerable households across 24 towns in four provinces   | Recently received \$700,000 from UN-HABITAT to implement a project on water and sanitation (including capacity development and a revolving fund) in four towns: Kampong Cham, Kampong Thom, Pursat, and Svay Rieng (2009–2011) |
| CATDG, local NGO  | Initiated by a group of young Cambodians, this professional partnership program produced low-cost housing material (mud block) by importing equipment from India  | Closed in 2001 due to absence of funds   |

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Table A4.2 *continued*

| Agency  | Area and Activities in Urban Development   | Status  |
|---|--|---|
| DANIDA (commune and community-based natural resource management) with Danish Special Assistance for 2004–2008 (strategic environmental assessments) | Natural Resources and Environmental Management in decentralization and deconcentration, focusing on land management, forests, and fisheries; land; and civil society<br><br>A block grant supports the district initiatives program to strengthen roles and responsibilities of district authorities   |   |
| DED   | Support for the preparation of land-use plan in Battambang and Siem Reap under good governance component (since 2004)<br><br>GIZ regional economic development   | Banteay Meanchey, Kampong Chhnang, Kampong Speu, Kampong Thom, Kandal, Pursat, and Takeo requested support from DED<br><br>DED expresses much interest in the urban development sector (with ADB) |
| EU (since 1997)   | Support the implementation of the government's National Strategic Development Plan and the Poverty Reduction Support Operation. Cambodia is a priority partner country in the EU's policies concerning sustainable development and reduction of poverty. The EU is also a major donor toward supporting basic education.   | Did not directly touch on the issues of urban development.  |
| GIZ   | Land Management and Administration Program<br><br>Support for the preparation of spatial planning (2010)<br><br>Regional economic development in Siem Reap; local economic development through enhancing agriculture products, finding marketplaces, and bringing together buyers and producers  | Support for the program continuing through land titling in urban areas  |
| Habitat for Humanity  | Focuses on site upgrading of urban poor communities and small loans to urban poor communities  | An urban poor housing project being implemented in Battambang in Sangkat Praek Preah Sdach commune<br><br>A revolving loan being carried out in Siem Reap and Phnom Penh                          |
| JICA  | The Government of Japan, through JICA, is heavily involved in construction of physical facilities and technical assistance support for the urban sector through flood protection phases 1 and 2 (phase 3 is approved); water supply (PPWSA); solid waste and transport master plans (for MPP); master plan of Siem Reap; and coastal zone planning (in Kampot, Kep, Koh Kong, and Sihanoukville) | Bus experiment under urban transport master plan failed in 2001. A Project for Urban Transport Planning in Phnom Penh Capital City financed under a JICA Technical Assistance being implemented   |
| Samakum Teang Thnot (2005–present), local NGO   | Vision to ensure that urban poor communities have decent housing units. Two projects being implemented: technical assistance to the urban poor and advocacy  | Received funds from Bill & Melinda Gates Foundation, DED, ICCO, Norwegian People's Aid, and Open Society Institute  |

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Table A4.2 *continued*

| Agency  | Area and Activities in Urban Development  | Status  |
|---|---|---|
| UNCDF (1992–present)  | Provides technical assistance to the government (MOP) in three critical areas: (i) designing subnational planning guidelines and monitoring; (ii) supporting fiscal decentralization (with MEF); and (iii) supporting analysis, monitoring, and planning. Activities from 2009 will contribute to creating the framework for judicious injection of capital grants at the subnational level and technical leveraging of policy lessons. | Next steps are to support the drafting of subnational finance law, roll out planning guidelines, and realign UNCDF annual work plan with national program<br><br>Drafting the local development outlook that addresses the role of local administrations in planning, especially in physical planning |
| UNESCAP   | Supported Cambodia to embrace green policy in 2007<br><br>Tackled women's roles (February 2009, with National Institute of Statistics, Phnom Penh)  |   |
| UN-HABITAT  | Support for various NGO activities and MPP; focus on slum improvement and Millennium Development Goals  | To refocus engagement on a water and sanitation agenda  |
| UN-HABITAT (2007–present)   | Urban poor housing and land tenure security<br><br>Small and medium-sized towns water supply in collaboration with CFD, a local NGO   | Country office challenges the issues due to irregular funds to support the activities   |
| UPDF (initiated by the Prime Minister since 2003 with support from development partners and others, local saving unit of MPP) | Benefit directly to urban poor communities and members (access to land, housing units)  | Growing in a sustainable way. Funding increased from roughly KR6 million (\$7,500) in 2003 to nearly \$2 million in 2010.   |
| Urban Sector Group, formed by ACHR  | Similar to URC, and community sanitation and recycling  | Closed in 2007 due to absence of funds  |
| URC, formed by ACHR, local NGO  | Research on urban related-housing and settlements<br><br>Advocacy<br><br>Training for the urban poor on low-cost housing construction   | Closed in 2004 due to absence of funds  |
| World Bank  | Main portfolio (90%–95%) targets rural development. Some programs related to urban areas: (i) urban water supply (Phnom Penh, Sihanoukville, and Siem Reap); (ii) peri-urban water supply (not yet implemented); and (iii) the Water Sanitation Program   |   |

ACHR = Asian Coalition for Housing Rights, ADB = Asian Development Bank, AFD = Agence Française de Développement, CATDG = Cambodia Appropriate Technology and Development Group, CDIA = Cities Initiative for Asia, CFD = Center for Development, DANIDA = Danish International Development Agency, DED = German Development Service, EU = European Union, GIZ = German Society for International Cooperation, ICCO = Interchurch Organization for Development Cooperation, JICA = Japan International Cooperation Agency, JFPR = Japan Fund for Poverty Reduction, MEF = Ministry of Economy and Finance, MOP = Ministry of Planning, MOU = memorandum of understanding, MPP = municipality of Phnom Penh, NGO = nongovernment organization, PPWSA = Phnom Penh Water Supply Authority, UNCDF = United Nations Capital Development Fund, UNESCAP = United Nations Economic and Social Commission for Asia and the Pacific, UN-HABITAT = United Nations Human Settlements Programme, UPDF = Urban Poor Development Fund, URC = Urban Resources Center.

Source: ADB.

Table A4.3 Municipality of Phnom Penh: Externally Funded Projects, 1997–2010

| No.                          | Project Name   | Outline   | Project Cost | Financial Sources    | Period |      | Progress                                 |
|------------------------------|--|---|--------------|----------------------|--------|------|--|
|                              |  |   |              |                      | Start  | End  |  |
| <b>I. Completed Projects</b> |  |   |              |                      |        |      |  |
| <b>A. Master Plan Study</b>  |  |   |              |                      |        |      |  |
| 1                            | Study on drainage improvement and flood control in the MPP             | Review of existing conditions and facilities<br>Master plan formulation<br>Feasibility study of priority project components   |              | Japan (grant)        | 1998   | 1999 | Completed (implementing agency: DPWT)    |
| 2                            | Study of the Transport Master Plan of the Phnom Penh metropolitan area | Review of the existing city road network and all transport modes<br>Master plan formulation including city public transport   |              | Japan (grant)        | 2000   | 2001 | Completed (implementing agency: DPWT)    |
| 3                            | Study on solid waste management in the MPP                             | Review of current situation of solid waste management in the city<br>Master plan formulation<br>Feasibility study of priority project components  |              | Japan (grant)        | 2003   | 2005 | Completed (implementing agency: DPWT)    |
| 4                            | Phnom Penh Urban Master Plan Study to 2020                             | Review of overall existing aspects and formulation of city planning orientation to 2020   |              | France/Paris (grant) | 2002   | 2005 | Completed (implementing agency: BAU/MPP) |
| 5                            | Phnom Penh Lighting Master Plan Study                                  | Renovation of 5,065 existing lighting poles; new installation of 11,117 lighting poles; illumination of 20 monuments, parks, and gardens; and establishment of a remote control center and its expansion to suburban area |              | France/Paris (grant) | 2007   | 2008 | Completed (implementing agency: DPWT)    |

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Table A4.3 *continued*

| No.                            | Project Name   | Outline   | Project Cost        | Financial Sources    | Period |      | Progress  |
|--------------------------------|--|---|---------------------|----------------------|--------|------|---|
|                                |  |   |                     |                      | Start  | End  |   |
| <b>B. Technical Assistance</b> |  |   |                     |                      |        |      |   |
| 1                              | Neighborhood Improvement Program (cofinancing with part B of Phnom Penh Water Supply and Drainage Project) | Human resources development and capacity building to DPWT on drainage and solid waste management                                  | About \$4.6 million | NORAD/Norway (grant) | 1997   | 2002 | Completed (implementing agency: DPWT)                           |
| 2                              | Project for improvement of transport and public spaces   | Capacity building to BAU and DPWT to manage and improve the traffic and transport in the center of Phnom Penh                     |                     | France/Paris (grant) | 2005   | 2007 | Completed (implementation agencies: BAU and DPWT)               |
| 3                              | Project on the strengthening of solid waste management for the MPP   | Technical cooperation project for capacity building to the PPWMA  |                     | Japan (grant)        | 2006   | 2007 | Completed and terminated by JICA (implementation agency: PPWMA) |
| 4                              | Study on the Phnom Penh City Skyrail Airport Line Project  | Feasibility study   |                     | JETRO/Japan (grant)  | 2008   | 2008 | Completed. Requested by DPWT (implementing agency: DPWT)        |
| 5                              | Project for improvement of green spaces in Phnom Penh City   | Capacity building to DPWT to manage and improve the city green spaces and trees along the streets                                 | \$0.22 million      | France/Paris (grant) | 2007   | 2009 | Completed (implementing agency: DPWT)                           |
| 6                              | Project for improvement of transport, displacement, and public spaces in Phnom Penh City                   | Capacity building to DPWT to manage and improve the traffic and transport in Phnom Penh   | \$0.41 million      | France/Paris (grant) | 2007   | 2009 | Completed (implementing agency: DPWT)                           |
| 7                              | Urban development management in Phnom Penh City  | Capacity building to DATUC for zoning and urban development management  | \$0.40 million      | France/Paris (grant) | 2007   | 2009 | Completed (implementing agency: DATUC)                          |
| 8                              | Phnom Penh Urban Master Plan 2020 update   | Strategic orientations and technical recommendation; finalization of the Master Plan 2020 for Council Minister and MPP validation | \$0.10 million      | France/MFA (grant)   | 2008   | 2009 | Completed (implementing agency: DATUC and BAU/MPP)              |

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Table A4.3 continued

| No.                                  | Project Name   | Outline  | Project Cost    | Financial Sources                 | Period |      | Progress                              |
|--------------------------------------|--|--|-----------------|-----------------------------------|--------|------|---------------------------------------|
|                                      |  |  |                 |                                   | Start  | End  |                                       |
| 9                                    | Study for the development of light rail transit in the MPP   | Prefeasibility study   |                 | Private sector (grant)            | 2009   | 2009 | Completed. Requested by MPWT          |
| <b>C. Infrastructure Improvement</b> |  |  |                 |                                   |        |      |                                       |
| 1                                    | Phnom Penh Water Supply and Drainage Project (part B: drainage)  | Reconstruction of Boeung Trabek pumping station and concrete lining of Boeung Trabek and Tuol Sen canals   | \$8.36 million  | ADB and OPEC (loan)               | 1997   | 2003 | Completed (implementing agency: DPWT) |
| 2                                    | Reconstruction of Mao Tse Tung Boulevard   | Asphalt pavement with the installation of road equipment   | \$2.41 million  | People's Republic of China (loan) | 2002   | 2002 | Completed (implementing agency: DPWT) |
| 3                                    | Road Improvement Project (administered by MPWT)  | Phnom Penh component covered on asphalt pavement of 10,742 meters of city roads and improvement of two at grade road intersections   |                 | World Bank (loan)                 | 2002   | 2004 | Completed (implementing agency: DPWT) |
| 4                                    | Project for flood protection and drainage improvement in the MPP (phase 1)   | Reconstruction of Boeung Tumpun pumping station and improvement of Boeung Tumpun road dike and Stoeng Mean Chey and Boeung Salang canals   | \$0.017 million | Japan (grant)                     | 2002   | 2004 | Completed (implementing agency: DPWT) |
| 5                                    | Access road improvement to Choeng Ek Genocide Memorial (infrastructure component of ADB Tourism Development Project) | Reconstruction of 6.4 kilometers asphalt road and reconstruction of two bridges  | \$1.91 million  | ADB (loan)                        | 2005   | 2007 | Completed (implementing agency: DPWT) |
| 6                                    | Project for flood protection and drainage improvement in the MPP (phase 2)   | Reconstruction of two sections of river bank revetment, installation of drainage and wastewater interceptor pipes, and construction of underground reservoirs and pumping stations | \$0.023 million | Japan (grant)                     | 2007   | 2010 | Completed (implementing agency: DPWT) |

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Table A4.3 *continued*

| No.                                   | Project Name   | Outline   | Project Cost   | Financial Sources  | Period |      | Progress   |
|---------------------------------------|--|---|----------------|--------------------|--------|------|--|
|                                       |  |   |                |                    | Start  | End  |  |
| <b>II. Ongoing Projects</b>           |  |   |                |                    |        |      |  |
| <b>A. Technical Assistance</b>        |  |   |                |                    |        |      |  |
| 1                                     | Project for traffic improvement in Phnom Penh City (technical cooperation project) | To improve traffic conditions in Phnom Penh through implementation of 3 Es: engineering, education, and enforcement         |                | Japan (grant)      | 2007   | 2010 | Implementing agencies: engineering, DPWT; education, DPWT and DLT/MPWT; and enforcement, Traffic Police Office of MPP (completed by end of March 2010) |
| <b>B. Infrastructure Improvement</b>  |  |   |                |                    |        |      |  |
| 1                                     | Solid Waste Management Improvement Project in Phnom Penh                           | Development of a new sanitary landfill site in Phnom Penh and procurement of landfill equipment and waste collection trucks | \$13.9 million | Japan (grant)      | 2005   | 2007 | Suspended by JICA (Implementation agency: DPWT and PPWMA)  |
| 2                                     | Central Market Rehabilitation Project  | Structure reinforcement and drainage system renovation  | \$4.2 million  | France/AFD (grant) | 2008   | 2010 | Implementation agency: MPP   |
| 3                                     | Central Market Lighting Project  | Renovation of lighting inside and outside of the central market   | \$0.17 million | France/AFD (grant) | 2009   | 2010 | To be implemented after completion of central market rehabilitation. (Implementation agency: MPP)  |
| <b>III. Approved Projects</b>         |  |   |                |                    |        |      |  |
| <b>A. Technical Assistance – none</b> |  |   |                |                    |        |      |  |
| <b>B. Infrastructure Improvement</b>  |  |   |                |                    |        |      |  |
| 1                                     | Solid Waste Management Improvement Project in Phnom Penh                           | Development of a new sanitary landfill site in Phnom Penh and procurement of landfill equipment and waste collection trucks | \$13.9 million | Japan (grant)      | 2005   | 2007 | Suspended by JICA (Implementation agency: DPWT and PPWMA)  |

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Table A4.3 *continued*

| No.                                  | Project Name   | Outline   | Project Cost                  | Financial Sources | Period |      | Progress   |
|--------------------------------------|--|---|-------------------------------|-------------------|--------|------|--|
|                                      |  |   |                               |                   | Start  | End  |  |
| 2                                    | Project for flood protection and drainage improvement in the MPP (phase 3)                           | Improvement of the drainage system of Boeng Trabek Catchment Area   | \$37.13 million               | Japan (grant)     | 2009   | 2012 | Preparatory study is under way from March to November 2010 (implementing agency: DPWT)   |
| <b>IV. Proposed Projects</b>         |  |   |                               |                   |        |      |  |
| <b>A. Technical Assistance</b>       |  |   |                               |                   |        |      |  |
| 1                                    | Feasibility study for the establishment of transport and mobility organization authority for the MPP | Manage urban transport and traffic in Phnom Penh and coordinate between public and private operators and projects | \$0.53 million–\$0.80 million | Seeking funding   | 2010   | 2011 | Feasibility assessment study has been completed in 2009 under technical assistance and is now seeking financial assistance   |
| <b>B. Infrastructure Improvement</b> |  |   |                               |                   |        |      |  |
| 1                                    | Urban Streets Improvement Project  | Improvement of city roads as well as some complicated intersections   | \$9.44 million                | Seeking funding   | 2010   | 2012 | Already included in project investment plan and seeking financial assistance   |
| 2                                    | Project for the development of a new public lighting system in the MPP                               | Improvement of street lighting as well as illumination of parks, gardens, and monuments in the city center        | \$70.3 million                | Seeking funding   | 2010   | 2013 | Already included in project investment plan, and the MPP is now negotiating with AFD for loan and will delegate the management work of street lighting to CITELLUM, a French company |

ADB = Asian Development Bank; AFD = Agence Française de Développement; BAU = Bureau of Urban Affairs; DATUC = Department of Land Management, Construction, and Cadastral of the Municipality of Phnom Penh; DLT = Department of Land Transport; DPWT = Department of Public Works and Transport; JETRO = Japan External Trade Organization; JICA = Japan International Cooperation Agency; MFA = Ministry of Foreign Affairs; MPP = municipality of Phnom Penh; MPWT = Ministry of Public Works and Transport; NORAD = Norwegian Agency for Development Cooperation; OPEC = Organization of the Petroleum Exporting Countries; PPWMA = Phnom Penh Waste Management Authority.

Source: ADB Cambodia Resident Mission (as of 24 March 2010).

# Knowledge Audit and References

The following bibliography contains a collection of relevant documents that have been compiled and used by the consultants in this paper. The list of documents may also serve for orientation in the further development of the sector strategy and related priority programs within ADB.

- Asian Development Bank (ADB). 1999. *Water Supply, Urban Development, and Housing Division: Urban Sector Strategy in Cambodia*. Manila.
- . 2001. *Moving the Poverty Reduction Agenda Forward in Asia and the Pacific: The Long-Term Strategic Framework of the Asian Development Bank, 2001–2015*. Manila.
- . 2002. *Report and Recommendation of the President to the Board of Directors: Proposed Loans to the Kingdom of Cambodia, Lao People’s Democratic Republic, and Socialist Republic of Viet Nam for the Greater Mekong Subregion: Mekong Tourism Development Project*. Manila (L-1969[SF]).
- . 2005. *Country Partnership Strategy: Cambodia, 2005–2009*. Manila.
- . 2006a. *Technical Assistance Completion Report: Rural, Urban and Subregional Linkages in the Mekong Region—A Holistic Approach to Development and Poverty Reduction*. Manila (RETA 6121).
- . 2006b. *Technical Assistance for Special Evaluation Study on Urban Sector Strategy and Operations*. Manila.
- . 2008a. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank, 2008–2020*. Manila.
- . 2008b. *Technical Assistance for Mekong Water Supply and Sanitation Project*. Supplementary Appendix Z2 of the draft final report. Manila.
- . 2009a. *Inception Report of Prefeasibility Study: Battambang Urban Improvements to Mitigate Climate Change for the City Development Initiative for Asia*. Manila.
- . 2009b. *Rural Infrastructure in Cambodia, Lao PDR, and Viet Nam: Defining Strategic Issues and Designing Better Investments*. Manila.
- . 2009c. *Sector Assessment, Strategy, and Road Map: Agriculture, Rural Development, and Natural Resources Management Sector in Cambodia*. Manila.
- . 2010a. *Cambodia—Water and Sanitation ASR*. Manila. Draft.
- . 2010b. *Completion Report: Phnom Penh Water Supply and Drainage Project in Cambodia*. Manila.
- . 2010c. *Strategy and Action Plan for the Greater Mekong Subregion East–West Economic Corridor*. Manila.



- . Forthcoming. Technical Assistance for the GMS Corridor Towns Development Project. Manila.
- . Framework for Preparing Sector Assessment, Strategy, and Road Maps in South East Asia Department. Unpublished.
- . Sector Assessment, Strategy, and Road Map: Transport in Cambodia. Manila. Working draft.
- . Sharing Growth and Prosperity: Strategy and Action Plan for the Greater Mekong Subregion Southern Economic Corridor. Unpublished.
- ADB and Japan Fund for Poverty Reduction (JFPR). 2008. *Partnerships for a Cleaner City: Lessons on Managing the Urban Environment*. Manila.
- ADB and World Bank. 2003. *Cambodia: Enhancing Service Delivery through Improved Resource Allocation and Institutional Reforms: Integrated Fiduciary Assessment and Public Expenditure Review*. Washington, DC: World Bank.
- Agence Française de Développement (AFD). 2009. *Feasibility Assessment Study for the Creation of a Public Transport Authority in Phnom Penh, Summary of Diagnosis Report*. Paris.
- Asian Coalition for Housing Rights (ACHR). 2006. *Saving and Credit Network/Urban Poor Development Fund (UPDF): Settlement Survey Report*. Phnom Penh.
- Bun & Associates. 2009. *The Feasibility Study on the Establishment of the Transport Authority of Phnom Penh*. Phnom Penh–Paris Cooperation. Phnom Penh.
- Cattaneo, O., and S. Marniesse. 2004. *Le Cambodge. De l'Ère des Quotas Textiles au Libre-Echange [Cambodia: From the Era of Textile Quotas to Free Trade]*. Paris: AFD.
- Choe, K., and L. Aprodicio. 2008. *City Cluster Development—Towards an Urban-Led Development Strategy for Asia*. Manila: ADB.
- Crosbie, D. 2004. *Understanding Asian Cities: Phnom Penh, Cambodia*. Phnom Penh: ACHR.
- Douglass, M. 1998. A Regional Network Strategy for Reciprocal Rural–Urban Linkages: An Agenda for Policy Research with Reference to Indonesia. *Third World Planning Review*. 20 (1). pp. 1–35.
- German Development Service (GIZ). Regional Economic Development—Green Belt, Siem Reap Province. <http://www.giz.de/en/weltweit/asien-pazifik/kambodscha/24890.htm>
- Government of Cambodia. 1994. Law on Land Management, Urban Planning and Construction. *Preah Reach Kram/04NS94/10 August 1994*. Phnom Penh.
- . 1997. Sub-Decree No. 86 on Construction Permit. *ANK/BK/December 1997*. Phnom Penh.
- . 1999. Law on the Establishment of Ministry of Land Management, Urban Planning and Construction. *Royal Kram NS-KRM/0699/1999*. Phnom Penh.
- . 2001. Land Law. *Royal Kram No.NS/RKM/0801/14*. Phnom Penh.
- . 2003a. *The Rectangular Strategy for Growth, Employment, Equity and Efficiency 2003–2008*. Phnom Penh.

- . 2003b. *Statement of the Royal Government of Cambodia on Housing Policy*. Phnom Penh, December.
- . 2005. *Strategic Framework for Decentralization and De-concentration Reforms*. Phnom Penh, Cambodia.
- . 2006. *National Strategic Development Plan, 2006–2010*. Phnom Penh.
- . 2008. Law on Administrative Management of the Capital, Provinces, Municipalities, Districts and Khans. *Royal Kram No. NS/RKM/0508/017*. Phnom Penh.
- . 2009a. *Declaration of the Royal Government on Land Policy*. Phnom Penh.
- . 2009b. *National Strategic Development Plan Update, 2009–2013*. Phnom Penh.
- . 2009c. Sub-Decree on Establishment, Organization and Functioning of the Technical Facilitation Committee of the Phnom Penh Capital Council and the Technical Facilitation Committee of the Khan Council of the Phnom Penh Capital. *No. 217 OrNkr.BK*. Phnom Penh.
- . 2009d. Sub-Decree on Establishment, Organization and Functioning of the Technical Facilitation Committee of the Provincial Council, the Technical Facilitation Committee of the Municipal Council and the Technical Committee of the District Council. *No. 218 OrNkr.BK*. Phnom Penh.
- . 2009e. Sub-Decree on Roles, Duties and Working Relationship of the Phnom Penh Capital Council and Board of Governors, and the Khan Council and Board of Governors of the Phnom Penh Capital. *No. 215 OrNkr.BK*. Phnom Penh.
- . 2009f. Sub-Decree on Roles, Duties and Working Relationship of the Provincial Council and Board of Governors, Municipal Council and Board of Governors and District Council and Board of Governors. *No. 216 OrNkr.BK*. Phnom Penh.
- . 2009g. Sub-Decree on the Development Plan and Three-Year Rolling Investment Program of the Capital, Provinces, Municipalities, Districts and Khans. *No. 219 OrNkr.BK*. Phnom Penh.
- . 2010a. *National Housing Policy*. First draft. February. Phnom Penh.
- . 2010b. *National Housing Policy*. Second draft. March. Phnom Penh.
- . 10-Year National Program for Sub-National Democratic Development. Draft 4A. Unpublished. Phnom Penh.
- Government of Cambodia, Development Master Plan of Road Network. 2009. *Final Report: Follow up Study on the Road Network Development Master Plan*. Phnom Penh.
- Government of Cambodia, Infrastructure and Regional Integration Technical Working Group (IRITWG). 2009. *Overview on Transport Infrastructure Sector in the Kingdom of Cambodia*. Phnom Penh.
- Government of Cambodia, Phnom Penh Millennium Development Goals. 2009. *Phnom Penh Municipality/Support the Decentralization and Deconcentration Policy, Improve Good Governance and Local Development*. Phnom Penh.

- Government of Cambodia, Ministry of Interior. 2009a. PRAKAS on the Establishment of Offices under Divisions of Phnom Penh Capital Hall, Establishment of Offices under Sala Khan; and the Determination of Roles, Duties and Working Procedures of these Offices, Royal Government of Cambodia, Ministry of Interior, No. 4273 BrK. Phnom Penh.
- . 2009b. PRAKAS on the Establishment of Offices under Divisions of Sala Khet; Establishment of Offices under Sala Krong and Establishment of Offices under Sala Srok; and the Determination of Roles, Duties, and Working Procedures of these Offices Royal Government of Cambodia. No. 4274 BrK. Phnom Penh.
- Government of Cambodia, Ministry of Land Management, Urban Planning and Construction. 2004a. Technical Guideline for Social Land Concession in Urban Areas. Working draft. Phnom Penh.
- . 2004b. *Spatial and Regional Planning Institutional Support to the Ministry of Land Management, Urban Planning and Construction for Spatial and Regional Planning*, HTSPE/EU. Phnom Penh.
- . 2005. *Royal Government of Cambodia Institutional Support Program—Support to the Ministry of Land Management, Urban Planning and Construction for Spatial and Regional Planning*. Consultant's report. Phnom Penh (under European Union contract). Phnom Penh.
- . 2008. *Instruction on the Land Use Planning in the Capital/Provinces/Municipalities/District/Khan*. Phnom Penh.
- . 2009a. *Implementation Manual on Commune Land Use Planning to Support Commune Development Plan and Commune Investment Program*. Phnom Penh.
- . 2009b. Summary of Task Force Activities for the Preparation of a Draft National Housing Policy. Revised. Phnom Penh.
- . 2010a. National Policy on Spatial Planning Policy of Cambodia. First draft. Phnom Penh. January.
- . 2010b. National Policy on Spatial Planning Policy of Cambodia. Second draft. Phnom Penh. March.
- Government of Cambodia, Ministry of Public Works and Transport. 2009. *Follow-Up Study on the Road Network Development Master Plan: Final Report*. Phnom Penh.
- Government of Cambodia, National Committee for Subnational Democratic Development. 2009. *District Data Books*. Phnom Penh.
- Government of Cambodia, National Institute of Statistics (NIS). 2004a. *Housing Conditions in Cambodia, Commune Data Base: National Data 200*. Phnom Penh: Ministry of Planning. p. 135. Phnom Penh.
- . 2004b. *Population Projections for Cambodia 1998–2020*. First revision. Phnom Penh.
- . 2004c. *Reclassification of Urban Areas in Cambodia*. Phnom Penh.
- . 2007a. *Cambodia Socio-Economic Survey 2004*. Phnom Penh.
- . 2007b. *Housing Conditions 2007*. Phnom Penh.

- . 2008a. *General Population Census of Cambodia 2008: Final Report*. Phnom Penh.
- . 2008b. *Statistical Yearbook of Cambodia 2008*. Phnom Penh.
- Government of Cambodia, National Urban Development Strategy Taskforce. 2010a. National Urban Development Strategy Planning. First draft. Phnom Penh. February.
- . 2010b. National Urban Development Strategy Planning. Second draft. Phnom Penh. April.
- Grimsditch, M., and N. Henderson. 2009. *Untitled: Tenure Insecurity and Inequality in the Cambodian Land Sector*. Phnom Penh: Bridges Across Borders, COHER, and Jesuit Refugee Service.
- International Labour Organization (ILO). 2009. Rapid Assessment on the Impact of the Financial Crisis in Cambodia. *ILO Asia-Pacific Working Paper Series*. Bangkok.
- International Finance Corporation (IFC) and Asia Foundation. 2009. *Listing of Business Establishment in Cambodia's Provincial Towns and Selected Urban Areas*. [http://www.ifc.org/ifcext/mekongpsdf.nsf/Content/Other\\_Pubs](http://www.ifc.org/ifcext/mekongpsdf.nsf/Content/Other_Pubs)
- Japan International Cooperation Agency (JICA). 2006. *Study of Solid Waste Management in the Municipality of Phnom Penh, Cambodia: Final Report*. Tokyo.
- Kammeier, H.D., and J. Hakim, eds. Forthcoming. *Dynamics of Rural–Urban Links and Regional Development: Trends and Prospects for the Greater Mekong Subregion*. Manila: ADB.
- Khemro, B. 2006. Cambodia. In B. Roberts and T. Kanaley, eds. *Urbanization and Sustainability in Asia: Case Studies of Good Practice*. Manila. pp. 71–100.
- Kirk, M. 2004. *State Land Economics in Cambodia*. Marburg, Germany: Phillips University.
- Kuroiwa, I., ed. 2009. *Plugging into Production Networks: Industrialization Strategy in Less Developed Southeast Asian Countries*. Singapore: Institute of Southeast Asian Studies.
- Local Administration Unit of Municipality of Phnom Penh and Solidarity for Urban Poor Federation. 2007. *Statistic Conditions in Phnom Penh for 289 Poor Communities*. Phnom Penh.
- Municipality of Phnom Penh. 2005. *City Development Strategy, 2005–2015*. Phnom Penh.
- . 2009a. *Phnom Penh Croissance et Transformation*. Phnom Penh.
- . 2009b. Request Survey of Japan's Official Development Assistance for the JFY 2010. First draft. Phnom Penh.
- . Undated. *Brochure on the Update on the Implementation Results of Poverty Reduction Strategy in the Municipality of Phnom Penh*. Phnom Penh.
- Paris City Council. 2009. *Feasibility Assessment Study for the Creation of a Public Transport Authority in Phnom Penh, Summary Proposal*. Paris.
- Rigg, J. 1997. *Southeast Asia: The Human Landscape of Modernization and Development*. London: Routledge.

- Roberts, B., and T. Kanaley, eds. 2006. *Urbanization and Sustainability in Asia: Case Studies of Good Practice Approaches in Urban Region Development*. Manila.
- Sahmakum Teang Tnaut. 2009. *The 8 Khan Survey: Urban Poor Shift to Outer Khans*. <http://teangtnaut.org/download/The-8-Khan-Survey-2009.pdf>
- Tacoli, C., ed. 2006. *The Earthscan Reader in Rural–Urban Linkages*. London: Earthscan.
- United Nations Capital Development Fund (UNCDF). 2010. *Local Development Outlook: Cambodia*. Phnom Penh.
- United Nations Development Programme. 2008. *Annual Report*. New York.
- United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP). 2007. *Housing the Poor in Cambodia*. Vol. 9. Bangkok.
- . Undated. *Housing the Poor in Cambodia*. Draft V4.2. Bangkok.
- United Nations Human Settlements Programme (UN-HABITAT). 2009. *Planning Sustainable Cities: Global Report on Human Settlements 2009*. London: Earthscan.
- UN-HABITAT and UNESCAP. *The Battambang Upgrading Project*. Undated.
- United Nations World Food Programme. 2007. *Cambodia—Integrated Food Security and Humanitarian Phase Classification (IPC) Pilot*. <http://www.wfp.org/content/cambodia-integrated-food-security-and-humanitarian-phase-classification-ipc-pilot-april-2007>
- Urban Poor Development Fund (UPDF). 2008. *Urban Poor Development Fund in Cambodia*. Newsletter. Phnom Penh. May.
- World Bank. 2007. *Poverty Profile and Trends in Cambodia: Findings from the 2007 Cambodia Socio-Economic Survey (CSES)*. Washington, DC.
- . 2009. *Reshaping Economic Geography: World Development Report 2009*. Washington, DC.
- Yap, K.S. Promoting Productive, Inclusive and Sustainable Cities and Towns in Southeast Asia. Overview Paper for ASEAN Urban Institute, Singapore. Unpublished draft.

## **Cambodia: Urban Sector Assessment, Strategy, and Road Map**

This publication documents the current assessment and strategic investment priorities of the Government of Cambodia and the Asian Development Bank (ADB) in the country's urban sector. It highlights sector performance, priority development constraints, government plans and strategies, past ADB support and experience, other development partner support, and future ADB support strategy.

The road map covers three main support areas: (i) converting transport corridors into economic corridors—corridor towns of the Greater Mekong Subregion; (ii) sustainable urban development—environmental infrastructure in selected urban areas; and (iii) capacity development for urban management—institutional and policy development.

### **About the Asian Development Bank**

ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to two-thirds of the world's poor: 1.8 billion people who live on less than \$2 a day, with 903 million struggling on less than \$1.25 a day. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.

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