

Appendix A

Statistical Annex: Infrastructure Indicators

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Introduction

This statistical annex provides an overview of the state of economic infrastructure in the main developing countries of East Asia. It contains information for selected years on stock, access, affordability, efficiency, the state of reform, and financial performance of the energy, water supply and sanitation (WSS), telecom, and transport sectors. In addition, the annex also presents figures on urban issues and rough estimates of infrastructure investment. The annex comprises 7 tables and 165 infrastructure indicators.

Data collection

The annex attempts to present the most relevant data needed to assess infrastructure. Because the official lenders' and donors' primary business is to provide lending and advice to low- and middle-income countries, the annex focuses on the main client countries in the region. Most of the data are on the national level, the exception being WSS indicators, some of which are at the city, urban, and rural levels. Virtually all of the data were collected using publicly available sources, including publications and Internet Web sites from development institutions, sector-specific international agencies, and national statistical offices. In some cases, data were also collected through conversations with national government agencies or World Bank sector specialists and reports. This dataset was collected in Washington, DC, and in World Bank field offices.

Reliability and comparability

Data collected from publicly available, country-specific sources are always subject to reliability and comparability issues. These inconsistencies arise from a number of factors, including differences in classifications, definitions, and coverage across countries. Given these inevitable challenges, although all efforts were made to verify the data in this annex and note any definitional peculiarities by local World Bank staff and consultants, care must be taken when analyzing these indicators. It is impossible to guarantee the validity of the data presented, although the figures are current best estimates of the indicators presented. In some instances, available data deemed to be too unreliable were excluded from the annex. A complete list of indicator definitions, along with any definitional discrepancies or notes needed to correctly interpret the data by country, is available in the technical notes section. Readers are strongly encouraged to consult the technical notes when interpreting the figures presented in this annex. More detailed information, including the dataset for all available years along with sources for each figure, can be found on the East Asia and Pacific (EAP) Infrastructure Flagship Web site located at: <http://www.worldbank.org/eapinfrastructure>.

Key

Units are provided in the tables next to the indicator name. In addition, a number of notations that are present in the tables require further explanation, including the following:

- Not available
- 0.0 = Less than half the unit shown
- Y = yes; N = no
- * See notes on the figure(s) in the technical annex

Figures in italics indicate data that are for years or periods other than those specified, or data that include figures from years other than those specified (for example, the sum of data from other years).

Technical notes

Energy

E1: Household with an Electricity Connection—Electricity access at the household level. It comprises commercially sold electricity, both on-grid and off-grid. It also includes self-generated electricity for those countries where access to electricity has been assessed through surveys by government or government agencies. The data do not capture unauthorized connections.

- Country Notes
 - i. China—Areas covered by the State Grid Corporation

E2: Households Using Solid Fuels—The percentage of households using solid fuels, which include wood, straw, dung, coal, and charcoal.

- Country Notes
 - i. China—Figure is for urban households only; 95 percent of rural households use solid fuels.

E3: Spending on Energy Services—The average share of total household expenditure spent on energy services.

- Country Notes
 - i. Cambodia—Urban areas only; figure ranges from 12 to 30 percent

- ii. Lao People's Democratic Republic (Lao PDR)—1.4 percent for urban areas; 0.6 percent for rural areas
- iii. Mongolia—All utilities, not just energy
- iv. Thailand—Electricity only

E4: Hours of Power Outages from Public Grid—The number of hours of service interruptions in a year.

- Country Notes
 - i. Lao PDR—Vientiane area only

E5: Average Residential Electricity Tariff—The national average residential electricity tariff.

- Country Notes
 - i. Cambodia—Phnom Penh only
 - ii. China—There is no available weighted average for the country. It has not changed much in the last five years, although it increased slightly in 2003.
 - iii. Philippines—Manila area only
 - iv. Vietnam—1998 figure includes tax; 2003 figure does not include tax

E6: Average Industrial Electricity Tariff—The national average industrial electricity tariff.

- Country Notes
 - i. Cambodia—Phnom Penh only
 - ii. China—There is no available weighted average for the country. The figure is for the general industry. It is much lower for heavy industry.
 - iii. Philippines—Manila area only
 - iv. Vietnam—1998 figure includes tax; 2003 figure does not include tax

E7: Transmission and Distribution Losses—Technical and nontechnical losses. Includes electricity losses because of operation of the system and the delivery of electricity as well as those caused by unmetered supply. This includes all losses due to transport and distribution of electrical energy and heat.

- Country Notes
 - i. Cambodia—Phnom Penh only

- ii. China—This is the average for the State Grid. It does not include losses in some counties that own their own distribution companies.
- iii. Lao PDR—1998 figure for Region 1 only; 2003 figure for the entire country

E8, E14, E20, E26, E32: Power, Oil, or Gas: Has the utility (state-owned enterprise) been commercialized and corporatized? This first step of reform involves (1) the removal of the utility from the direct control that results from being a part of a ministry, and (2) the creation of an independent legal corporation with the goal of behaving like a commercial company (for example, maximizing profits).

E9, E15, E21, E27, E33: Power, Oil, or Gas: Has an Energy Law been completely passed by parliament (a law that permits the creation of a sector that could be unbundled and/or privatized in part or whole)? This second step is crucial to allowing the sale of a state utility to the private sector. It should be noted that the question specifically asks whether the law is completely passed, because many countries have started the process of drafting and validating a new law but have not enacted it, despite the passage of a considerable period of time.

- Country Notes

- i. Indonesia—Yes, for power sector, but the law was annulled by the Constitution Court

E10, E16, E22, E28, E34: Power, Oil, or Gas: Has a regulatory body that is separate from the utility and ministry started work? Note that the question focuses only on those cases in which the regulatory body is actually in place.

- Country Notes

- i. Indonesia—Yes, for power sector, but the law was annulled by the Constitution Court

E11, E17, E23, E29, E35: Power, Oil, or Gas: Has there been any private sector investment on greenfield sites in operation or under construction? A greenfield site refers to the construction of an entirely new plant, rather than the change in ownership of an existing plant or extension of capacity at an existing plant.

E12, E18, E24, E30, E36: Power, Oil, or Gas: Has the core state-owned utility been restructured/separated? Restructuring/separation results in separate generation, transmission, and distribution entities.

- Country Notes
 - i. Indonesia—Upstream oil and gas sector currently undergoing restructuring

E13, E19, E25, E31, E37: Power, Oil, or Gas: Have any of the existing state-owned enterprises been privatized (including outright sale, voucher privatization, or joint ventures)? This question asks whether there is *some* privatization, not whether the sector has been completely privatized. To this extent, it treats as equal those cases in which the state has sold a minority of shares in a company to private shareholders, and cases in which the whole of a generating plant or regional distribution network has been sold outright to a single owner. Hence, the answer must be seen as measuring whether the country has proved itself willing to permit private ownership of previously state-owned assets, rather than measuring the extent of private ownership.

Water supply and sanitation

W1: Access to Improved Water Services—“Improved” water supply technologies include household connection, public standpipe, borehole, protected dug well, protected spring, and rainwater collection. Availability of at least 20 liters per person per day from a source within 1 kilometer of the user’s dwelling. “Not improved” technologies include unprotected well, unprotected spring, vendor-provided water, bottled water (based on concerns about the quantity of supplied water, not concerns over the water quality), and tanker-truck-provided water.

W2: Urban Access to Improved Water Services—See W1 above; limited to urban population only.

W3: Rural Access to Improved Water Services—See W1 above; limited to rural population only.

W4: Access to Improved Sanitation Services—“Improved” sanitation technologies are connection to a public sewer, connection to septic system, pour-flush latrine, simple pit latrine, ventilated improved pit

Table I Energy

Indicator	Unit	Cambodia		China		Indonesia		Lao PDR		Mongolia		Philippines		Thailand		Vietnam		
		1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	
E1	Households with an Electricity Connection	Percent	13	17	97*	99*	—	55	30	41	67	90	72	79	82	84	63	81
E2	Households Using Solid Fuels	Percent	100	100	62*	51*	—	—	—	—	72	72	—	—	—	40	88	—
E3	Spending on Energy Services (% household expenditure)	Percent of Household Expenditure	20*	24*	7.0	7.6	—	9.0	0.8*	—	4.9*	2.5*	2.7	3.3	2.5*	2.6*	—	2.9
E4	Hours of Power Outages from Public Grid	Hours (unless otherwise specified)	10.4	0.9	—	—	—	—	—	1,097 outages*	66 outages	16 outages	—	—	27	21	—	—
E5	Average Residential Electricity Tariff	Nominal US\$/kWh	0.09-0.15*	0.09-0.15*	0.05-0.07*	0.05-0.08*	—	0.02-0.07	0.01	0.04	0.04	0.05	0.10*	0.11*	0.06	0.06	0.04*	0.05*
E6	Average Industrial Electricity Tariff	Nominal US\$/kWh	0.21*	0.12-0.15*	0.05-0.09*	0.05-0.09*	—	0.02-0.05	0.01	0.05	0.04	0.05	0.09*	0.10*	0.05	0.06	0.05*	0.05*
E7	Transmission and Distribution Losses	Percent	20.6*	12.7*	8.1*	7.7*	12.2	11.7	22.6*	21.2*	—	22.0	14.1	12.4	8.7	7.3	15.6	13.4
E8	Power: Has the utility (state-owned enterprise) been commercialized and corporatized?	Yes/No	Y	Y	Y	Y	—	Y	Y	Y	N	Y	N	Y	N	N	N	N
E9	Power: Has an "Energy Law" been completely passed by Parliament (a law that permits the creation of a sector that could be unbundled and/or privatized in part or whole)?	Yes/No	N	N	N	N	—	Y*	Y	Y	N	Y	N	Y	N	N	N	N
E10	Power: Has a regulatory body that is separate from the utility and ministry started work?	Yes/No	N	Y	N	Y	—	Y*	N	N	N	Y	N	Y	N	N	N	N

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Table I (Continued)

Indicator	Unit	Cambodia		China		Indonesia		Lao PDR		Mongolia		Philippines		Thailand		Vietnam		
		1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	
E11	Power: Is there any private sector investment on greenfield sites in operation or under construction?	Yes/No	Y	Y	Y	Y	—	Y	Y	Y	N	N	Y	Y	Y	Y	N	Y
E12	Power: Has the core state-owned utility been restructured/separated?	Yes/No	N	N	N	Y	—	Y	Y	Y	N	Y	N	Y	N	N	N	N
E13	Power: Have any of the existing state-owned enterprises been privatized (including outright sale, voucher privatization, or joint ventures)?	Yes/No	Y	Y	Y	Y	—	N	N	N	N	Y	N	Y	Y	Y	N	N
E14	Upstream Oil and Gas: Has the utility (state-owned enterprise) been commercialized and corporatized?	Yes/No	N	N	Y	Y	—	Y	Sector does not exist	Sector does not exist	N	N	N	N	N	N	N	N
E15	Upstream Oil and Gas: Has an "Energy Law" been completely passed by Parliament (a law that permits the creation of a sector that could be unbundled and/or privatized in part or whole)?	Yes/No	N	N	N	N	—	Y	Sector does not exist	Sector does not exist	Y	Y	N	N	N	N	N	N
E16	Upstream Oil and Gas: Has a regulatory body that is separate from the utility and ministry started work?	Yes/No	N	N	N	N	—	Y	Sector does not exist	Sector does not exist	N	N	N	N	N	N	N	N
E17	Upstream Oil and Gas: Is there any private sector investment on greenfield sites in operation or under construction?	Yes/No	N	Y	Y	Y	—	Y	Sector does not exist	Sector does not exist	Y	Y	N	N	Y	Y	N	N

E18	Upstream Oil and Gas: Has the core state-owned utility been restructured/separated?	Yes/No	N	N	N	N	—	N*	Sector does not exist	Sector does not exist	N	N	N	N	N	N	N	N
E19	Upstream Oil and Gas: Have any of the existing state-owned enterprises been privatized (including outright sale, voucher privatization, or joint ventures)?	Yes/No	N	N	Y	Y	—	N	Sector does not exist	Sector does not exist	N	N	N	N	Y	Y	N	N
E20	Downstream Gas: Has the utility (state-owned enterprise) been commercialized and corporatized?	Yes/No	N	N	Y	Y	—	Y	Sector does not exist	Sector does not exist	Y	Y	N	N	N	N	N	N
E21	Downstream Gas: Has an "Energy Law" been completely passed by Parliament (a law that permits the creation of a sector that could be unbundled and/or privatized in part or whole)?	Yes/No	N	N	N	N	—	Y	Sector does not exist	Sector does not exist	N	N	N	N	N	N	N	N
E22	Downstream Gas: Has a regulatory body that is separate from the utility and ministry started work?	Yes/No	N	N	N	N	—	Y	Sector does not exist	Sector does not exist	N	N	N	N	N	N	N	N
E23	Downstream Gas: Is there any private sector investment on greenfield sites in operation or under construction?	Yes/No	N	N	Y	Y	—	Y	Sector does not exist	Sector does not exist	Y	Y	N	Y	Y	Y	—	N
E24	Downstream Gas: Has the core state-owned utility been restructured/separated?	Yes/No	N	N	Y	Y	—	Y	Sector does not exist	Sector does not exist	Y	Y	N	N	N	N	N	N
E25	Downstream Gas: Have any of the existing state-owned enterprises been privatized (including outright sale, voucher privatization, or joint ventures)?	Yes/No	N	N	Y	Y	—	Y	Sector does not exist	Sector does not exist	N	N	N	N	Y	Y	N	N

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Table I (Continued)

Indicator	Unit	Cambodia		China		Indonesia		Lao PDR		Mongolia		Philippines		Thailand		Vietnam		
		1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	
E26	Downstream Oil Refining: Has the utility (state-owned enterprise) been commercialized and corporatized?	Yes/No	N	N	Y	Y	—	Y	Sector does not exist	Sector does not exist	N	N	Y	Y	N	N	N	N
E27	Downstream Oil Refining: Has an “Energy Law” been completely passed by Parliament (a law that permits the creation of a sector that could be unbundled and/or privatized in part or whole)?	Yes/No	N	N	N	N	—	Y	Sector does not exist	Sector does not exist	N	N	Y	Y	N	N	N	N
E28	Downstream Oil Refining: Has a regulatory body that is separate from the utility and ministry started work?	Yes/No	N	N	N	N	—	Y	Sector does not exist	Sector does not exist	N	N	N	N	N	N	N	N
E29	Downstream Oil Refining: Is there any private sector investment on greenfield sites in operation or under construction?	Yes/No	N	N	Y	Y	—	Y	Sector does not exist	Sector does not exist	N	N	N	N	Y	Y	N	N
E30	Downstream Oil Refining: Has the core state-owned utility been restructured/separated?	Yes/No	N	N	Y	Y	—	Y	Sector does not exist	Sector does not exist	N	N	Y	Y	N	N	N	N
E31	Downstream Oil Refining: Have any of the existing state-owned enterprises been privatized (including outright sale, voucher privatization, or joint ventures)?	Yes/No	N	N	Y	Y	—	N	Sector does not exist	Sector does not exist	N	N	Y	Y	Y	Y	N	N
E32	Downstream Oil Wholesale and Retail: Has the utility (state-owned enterprise) been commercialized and corporatized?	Yes/No	N	N	Y	Y	—	Y	N	N	Y	Y	Y	Y	N	N	N	N

E33	Downstream Oil Wholesale and Retail: Has an "Energy Law" been completely passed by Parliament (a law that permits the creation of a sector that could be unbundled and/or privatized in part or whole)?	Yes/No	N	N	N	N	—	Y	N	N	N	N	Y	Y	N	N	N	N
E34	Downstream Oil Wholesale and Retail: Has a regulatory body that is separate from the utility and ministry started work?	Yes/No	N	N	N	N	—	Y	N	N	N	N	N	N	N	N	N	N
E35	Downstream Oil Wholesale and Retail: Is there any private sector investment on greenfield sites in operation or under construction?	Yes/No	N	N	Y	Y	—	Y	Y	Y	Y	Y	N	N	Y	Y	—	Y
E36	Downstream Oil Wholesale and Retail: Has the core state-owned utility been restructured/separated?	Yes/No	N	N	N	N	—	Y	N	N	Y	Y	Y	Y	N	N	N	N
E37	Downstream Oil Wholesale and Retail: Have any of the existing state-owned enterprises been privatized (including outright sale, voucher privatization, or joint ventures)?	Yes/No	N	N	Y	Y	—	N	N	N	N	N	Y	Y	Y	Y	N	N

latrine. The excreta disposal system is considered adequate if it is private or shared (but not public) and if it hygienically separates human excreta from human contact. “Not improved” technologies include service or bucket latrines (where excreta are manually removed), public latrines, and latrines with an open pit.

W5: Urban Access to Improved Sanitation Services—See W4 above; limited to urban population only.

W6: Rural Access to Improved Sanitation Services—See W4 above; limited to urban population only.

W7: Spending on Water Services—Average share of total household expenditure spent of water services.

- Country Notes
 - i. Cambodia—Urban residents only
 - ii. Indonesia—Perusahaan Daerah Air Minum (Local Water Supply Enterprise) (PDAM) customers in Jakarta and Bandung pay between 1 and 2 percent of average annual income on water; in areas not served by PDAMs, surveys have found that some of the poorest households pay between 16 and 33 percent.
 - iii. Lao PDR—Public utility connection only; households without a connection spend 1.4 percent
 - iv. Mongolia—All utilities, not just WSS

W8: Average Volume of Water Used—Volume of water used from all sources.

- Country Notes
 - i. Indonesia—Low-income PDAM customers use about 3.8 meters cubed per week (m³/week); the same figure for high-income customers is 9.6 m³/week

W9: Average Water Tariff from Water Utility—The average water tariff of water sold from main utility in the specified city.

- Country Notes
 - i. Manila—The two main providers are Manila Water Company (MWCI) and Maynilad Water Services (MWSI)

W10–W11: Average Water Tariff from Alternative Sources 2 and 3—The average water tariff of water sold from alternative sources in the specified city.

- Country Notes
 - i. Manila—Source 2 is water vendors reselling MWSI water
 - ii. Phnom Penh—Source 2 is private networks pumping untreated water from rivers; Source 3 is further treated Phnom Penh Water Supply Authority (PPWSA) water sold as bottled water
 - iii. Ho Chi Minh—Source 2 is tankers; Source 3 is bottled water
 - iv. Jakarta—Source 2 is private tankers; Source 3 is bottled water from refilling stations
 - v. Ulaanbaatar—Source 2 is bottle water
 - vi. Vientiane, Savannakhet—Source 2 is 20 liter bottles; Source 3 is 1L drinking water bottles

W12: Average Sanitation Tariff—The average sanitation tariff from main utility in the specified city.

W13: Percentage of Utility Service Area with 24-Hour Supply—Percentage of the population served by main utility in the specified city with a 24-hour supply.

W14: Working Ratio—Operating cost divided by operating revenue for main utility in the specified city.

W15: Staff Ratio—Number of staff divided by thousands of connections for main utility in the specified city.

- Country Notes
 - i. Mongolian cities—Connections in Mongolia are bulk connections

W16: Collection Rate—Collections divided by billings for main utility in the specified city.

W17: Average Revenue per m³ Produced—Total revenue divided by total water production for main utility in the specified city.

W18: Type of Sewerage Treatment—Type of treatment process for wastewater in the specified city.

W19: Type of Water Supply Treatment—Type of treatment process for water supply in the specified city.

W20: Water Volume Billed per Connection—Total volume of water billed divided by the total number of connections for the main utility in the specified city.

- Country Notes
 - i. Beijing—Each connection serves approximately 35 people
 - ii. Ulaanbaatar, Darkhan—Each connection serves approximately 260 and 113 people, respectively

Telecoms

T1: Cellular Subscribers per 100 Inhabitants—Calculated by dividing the number of cellular mobile subscribers by the population and multiplying by 100.

T2: Main Lines per 100 Inhabitants—Calculated by dividing the number of main lines by the population and multiplying by 100.

T3: Total Telephone Subscribers per 100 Inhabitants—Calculated by summing cellular subscribers per 100 inhabitants and main lines per 100 inhabitants.

T4: Internet Users per 100 Inhabitants—Calculated by dividing the number of Internet users by the population and multiplying by 100.

T5: Telephone Faults per 100 Main Lines—This is calculated by dividing the total number of reported faults for the year by the total number of main lines in operation and multiplying by 100. The definition of fault can vary. Some countries include faulty customer equipment. Others distinguish between reported and actual found faults. Sometimes there is a distinction between residential and business lines. Another consideration is the time period because some countries report this indicator on a monthly basis; in these cases, data are converted to yearly estimates.

T6: Price of Analog Cellular Three-Minute Call—Cellular cost of three-minute local peak call.

T7: Analog Cellular Monthly Subscription Charge—Cellular monthly subscription refers to the recurring charge for a cellular subscriber. The charge should cover the rental of the line but not the rental of the terminal (for example, telephone set) when the terminal equipment market is liberalized. In some cases, the rental charge includes an allowance for free or reduced rate call units. If there are different charges for different exchange areas, the largest urban area is used.

Table 2 Water supply and sanitation

Indicator	Unit	Cambodia		China		Indonesia		Lao PDR		Mongolia		Philippines		Thailand		Vietnam		
		1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	
W1	Access to Improved Water Services	Percent of Total Population	29	44	75	—	78	—	50	58	60	—	86	—	93	93	41	49
W2	Urban Access to Improved Water Services	Percent of Urban Population	60	72	95	—	90	—	77	85	77	—	91	—	99	95	77	76
W3	Rural Access to Improved Water Services	Percent of Rural Population	24	40	65	—	69	—	45	48	30	—	79	—	92	91	29	26
W4	Access to Improved Sanitation Services	Percent of Total Population	15	22	36	—	55	—	30	—	30	—	83	—	97	98	17	25
W5	Urban Access to Improved Sanitation Services	Percent of Urban Population	49	55	67	—	69	—	67	—	46	—	93	—	100	100	60	68
W6	Rural Access to Improved Sanitation Services	Percent of Rural Population	9	16	21	—	46	—	19	—	2	—	69	—	96	97	3	11
W7	Spending on Water Services	Percent household expenditure	4.3*	3.2*	—	0.8	—	Ranges from 1 to 33*	1.0*	1.6*	4.9*	2.5*	0.8	—	—	—	—	1.4
W8	Average Volume of Water Used	m ³ per household per week	8.1	8.3	—	4.4	—	Ranges from 3.8 to 9.6*	—	—	7.0	6.0	—	7.0	9.0	8.6	2.1	—

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Table 2 (Continued)

Indicator	Unit	Phnom Penh		Sihanoukville		Beijing		Shanghai		Jakarta		Medan		Vientiane		Savannakhet		
		1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	
Average Water Tariff																		
W9	From Water Utility	Nominal US\$/m ³	0.21	0.25	—	0.39	0.12	0.35	0.08	0.14	—	0.29	—	0.13	0.02	0.05	—	0.08
W10	From Source 2	Nominal US\$/m ³ , see country notes for source name	—	0.38	—	—	—	—	—	—	—	0.96	—	—	—	14.2	—	14.2
W11	From Source 3	Nominal US\$/m ³ , see country notes for source name	—	50	—	—	—	—	—	—	13	—	—	—	139	—	142	
W12	Average Sanitation Tariff	Nominal US\$/m ³	—	—	—	—	0.10	0.03	0.08	—	0.23	—	—	No system in place	No system in place	No system in place	No system in place	
W13	Percentage of Utility Service Area with 24 hour Supply	Percent	—	100	—	25	96	—	98	100	—	92	—	82	—	50	—	—
W14	Working Ratio	Operating Cost / Operating Revenue	0.5	0.3	—	0.6	1.3	—	1.2	1.1	—	0.8	—	0.8	—	0.8	—	1.0
W15	Staff Ratio	Staff / 1000 Connections	9.0	4.0	—	19.7	27.2	—	1.1	1.1	—	5.3	—	4.6	—	8.8	—	8.4
W16	Collection Rate	Percent	97	100	—	100	99	97	83	95	—	98	—	—	—	59	—	—
W17	Average Revenue Per m ³ Produced	Nominal US\$/m ³	0.16	0.05	—	0.01	0.05	—	0.13	0.15	—	0.14	—	—	0.04	0.08	—	—
W18	Type of Sewerage Treatment	(P)primary, (S)econdary, or (T)ertiary	No treatment	No treatment	—	—	—	—	—	P	—	—	—	—	No system in place	No system in place	No system in place	No system in place
W19	Type of Water Supply Treatment	(C)onventional, (S)low Sand Filter, (D)esalination, (Ch)lorination, (O)ther	Ch	Ch	—	Ch	C	—	C	C, Ch	C	—	—	—	—	All types	—	All types
W20	Water Volume Billed per Connection	m ³	320	381	—	351	2,799*	—	—	552	—	388	—	342	—	675	—	453

Indicator	Unit	Ulaanbaatar		Darkhan		Manila		Cebu		Bangkok		Chiang Mai		Hanoi		Ho Chi Minh City		
		1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	
Average Water Tariff																		
W9	From Water Utility	Nominal US\$/m ³	0.13	0.17	0.12	0.12	0.06 (MWCI), 0.12 (MWSI)*	0.12 (MWCI), 0.29 (MWSI)*	0.48	0.40	0.23	0.29	0.27	0.31	0.16	0.26	0.10	0.18
W10	From Source 2	Nominal US\$/m ³ , see country notes for source name	—	450	—	—	—	2.92	—	—	—	—	—	—	—	—	—	0.66
W11	From Source 3	Nominal US\$/m ³ , see country notes for source name	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	210
W12	Average Sanitation Tariff	Nominal US\$/m ³	0.09	0.09	0.03	0.09	—	—	—	—	—	—	—	—	—	—	—	—
W13	Percentage of Utility Service Area with 24 hour Supply	Percent	—	48	—	—	—	88	23	—	100	100	100	100	—	—	—	75
W14	Working Ratio	Operating Cost/ Operating Revenue	1.0	0.9	0.7	0.9	1.2	1.0	0.5	0.5	0.8	0.7	0.6	0.6	0.8	0.7	0.7	1.1
W15	Staff Ratio	Staff/1000 Connections	579*	823*	705*	387*	5.6	4.0	9.2	6.6	5.4	4.8	0.1	0.1	10.0	7.0	6.5	3.5
W16	Collection Rate	Percent	79	90	76	71	97	98	70	62	—	—	—	100	—	—	—	99
W17	Average Revenue Per m ³ Produced	Nominal US\$/m ³	0.06	0.13	0.10	0.09	0.07	0.11	0.28	0.26	0.15	0.21	0.15	0.27	0.06	0.08	0.09	0.11
W18	Type of Sewerage Treatment	(P)primary, (S)secondary, or (T)tertiary	S	S	S	S	P,S,T	P,S,T	—	—	—	—	—	—	—	—	—	—
W19	Type of Water Supply Treatment	(C)onventional, (S)low Sand Filter, (D)esalination, (Ch)lorination, (O)ther	Ch	Ch	Ch	Ch	C	C	Ch	Ch	S	S	S	S	S	S	C, S, Ch	C, S, Ch
W20	Water Volume Billed per Connection	m ³	16,275*	26,284*	18,891*	7,803*	502	548	420	420	668	658	319	310	348	294	648	577

T8: Price of Three-Minute Local Call—Local call refers to the cost of a peak-rate three-minute call within the same exchange area using the subscriber's own terminal (that is, not from a public telephone).

T9: Residential Monthly Telephone Subscription—Residential telephone monthly subscription refers to the recurring fixed charge for a residential subscriber to the Public Switched Telephone Network (PSTN). The charge should cover the rental of the line but not the rental of the terminal (for example, telephone set) when the terminal equipment market is liberalized. In some cases, the rental charge includes an allowance for free or reduced rate call units. If there are different charges for different exchange areas, the largest urban area is used.

T10: Residential Telephone Connection Charge—Installation refers to the one-time charge to apply for basic telephone service for residential purposes. In cases in which there are different charges for different exchange areas, the charge is generally for the largest urban area.

T11: Waiting List for Main Lines—Unmet applications for connection to the PSTN, which have been held over because of a lack of technical facilities (equipment, lines, and so on). This indicator refers to registered applications and thus may not be indicative of the total unmet demand.

T12: Mobile Telecom Revenue per Subscriber—Calculated by dividing total mobile telecom revenue by the number of mobile subscribers. Mobile telecom revenue includes revenues from the provision of all types of mobile communications services such cellular, private trunked radio, and radio paging. The number of mobile subscribers refers to users of portable telephones subscribing to an automatic public mobile telephone service that provides access to the PSTN using cellular technology. This can include analogue and digital cellular systems, but it should not include noncellular systems. Subscribers to fixed wireless (for example, Wireless Local Loop), public mobile data services, or radio paging services are not included.

T13: Income per Fixed Line—Calculated by dividing total fixed line revenue by the number of main lines in operation. The revenue includes nonrefundable connection charges, line rentals, and local and national long-distance, and international call usage charges. It typically includes revenue from public payphones. The treatment of interconnection and settlement payments varies across countries. Most countries include

receipts as revenue; some include only billed revenues (not counting any interconnection or settlement payments), while others include net revenues (receipts-payments). A main line is a telephone line connecting the subscriber's terminal equipment to the public switched network and that has a dedicated port in the telephone exchange equipment. This term is synonymous with "main station" or "Direct Exchange Line (DEL)," which are commonly used in telecommunication documents. A main line may not be the same as an "access" line or a subscriber. The definition of access line used by some countries varies. In some cases, it refers to the total installed capacity (rather than lines in service). In other cases, it refers to all network access points, including mobile cellular subscribers. Telephone subscribers would not generally include public telephones that are included in main lines.

T14: Telecom Revenue per Staff—Calculated by dividing total telecom revenue by the total number of full-time telecom staff. The revenue refers to earnings from the direct provision of facilities for providing telecommunication services to the public (that is, not including revenues of resellers). This includes revenues from fixed telephone, mobile communications, text (telex, telegraph, and facsimile), leased circuits, and data communications services. Some countries include telecommunication-related revenue such as directory advertising and equipment rental or sales. Others include value-added telecommunication services such as the provision of electronic mail or online services. The denominator includes full-time staff employed by telecommunication network operators in the country for the provision of public telecommunication services. Part-time staff are generally expressed in terms of full-time staff equivalents. Some countries do not distinguish between staff working for the provision of telecommunications services and those working in postal services.

Road transport

Rd1: Total Road Network—Kilometer length of the road network. The road network includes all roads in a given area.

- Country Notes
 - i. Philippines—National, provincial, city, municipal, and barangay roads
 - ii. Lao PDR—Includes 600 kilometers (km) of "special roads" that aren't included in Rd2 through Rd5

Table 3 Telecommunications

Indicator	Unit	Cambodia		China		Indonesia		Lao PDR		Mongolia		Philippines		Thailand		Vietnam		
		1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	
T1	Cellular subscribers per 100 inhabitants	People	0.5	3.5	1.9	21.5	0.5	8.7	0.1	2.0	0.4	13.0	2.4	27.0	3.3	39.4	0.3	3.4
T2	Main lines per 100 inhabitants	Main lines	0.2	0.3	7.0	20.9	2.7	3.9	0.6	1.2	4.5	5.6	3.4	4.1	8.5	10.5	2.2	5.4
T3	Total telephone subscribers per 100 inhabitants	People	0.7	3.8	8.9	42.4	3.2	12.7	0.7	3.2	4.9	18.6	5.8	31.1	11.8	49.9	2.5	8.8
T4	Internet users per 100 inhabitants	People	0.0	0.2	0.2	6.3	0.2	3.8	0.0	0.3	0.1	5.8	1.1	4.4	0.8	11.1	0.0	4.3
T5	Telephone faults per 100 main lines	Faults	9.4	7.2	—	—	13.2	20.0	—	—	88.3	20.6	5.2	—	28.6	91.7	—	—
T6	Price of analog cellular three-minute call	US\$, nominal	0.60	0.69	—	0.22	0.10	0.10	0.06	0.21	0.63	0.95	0.59	0.46	0.22	0.21	0.35	0.32
T7	Analog cellular monthly subscription charge	US\$, nominal	17.0	18.0	6.0	11.8	6.5	7.0	19.1	0.0	45.0	0.0	2.9	0.0	10.9	11.6	16.3	7.0
T8	Price of three-minute local call	US\$, nominal	0.09	0.03	—	0.03	0.01	0.03	0.02	0.06	0.02	0.02	0.00	0.00	0.07	0.07	0.09	0.02
T9	Residential monthly telephone subscription	US\$, nominal	12.2	2.9	2.7	2.4	2.1	4.0	1.5	1.5	0.9	0.7	11.5	11.1	2.4	2.4	5.1	1.7
T10	Residential telephone connection charge	US\$, nominal	183	29	226	—	59	34	91	33	48	52	5	37	81	81	136	52
T11	Waiting list for main lines	Applicants	—	—	—	—	—	—	8,269	5,921	45,373	35,578	—	—	556,305	582,723	—	—
T12	Mobile Telecom Revenue per Subscriber	US\$, nominal	—	—	—	—	—	—	353,249	—	—	85,681	—	—	—	—	—	—
T13	Income per Fixed Line	US\$, nominal	—	10	203	105	128	146	458	171	219	201	411	231	303	257	226	309
T14	Telecom revenue per staff	US\$, nominal	28,481	18,893	56,991	42,750	26,926	54,422	20,226	22,302	6,091	15,870	125,806	127,564	66,882	141,224	7,803	17,908

iii. Mongolia—The Ministry of Road, Transport, and Tourism classifies roads according to national and regional roads only. This figure does not include rural roads.

Rd2: Motorways, Highways, Main Roads, or National Roads—

Motorways include roads specifically designed and built for motor traffic, which do not serve properties bordering on it, and which (1) are provided, except at special points or temporarily, with separate carriage-ways for the two directions of traffic, separated from each other, either by a dividing strip not intended for traffic, or exceptionally by other means; (2) do not cross at level with any road, railway or tramway track, or footpath; and (3) are specially identified by signposts as motorways and are reserved for specific categories of road motor vehicles. Entry and exit lanes of motorways are included irrespectively of the location of the signposts. Highways, main, or national roads include kilometer length of A-level roads. A-level roads are roads outside urban areas that are not motorways but belong to the top-level road network. A-level roads are characterized by a comparatively high-quality standard, either nondivided roads with oncoming traffic or similar to motorways. In most countries, these roads are financed by the federal or national government.

Rd3: Secondary or Regional Roads—Kilometer length of roads that are the main feeder routes into—and provide the main links among—highways, main roads, or national roads.

- Country Notes
 - i. Indonesia—Provincial roads
 - ii. Philippines—Provincial roads

Rd4: Other Urban Roads—Length of roads within the boundaries of a built-up area, which is an area with entries and exists specially identified by signposts as such.

- Country Notes
 - i. Philippines—City roads
 - ii. Mongolia—The national and regional network in Rd2 and Rd3 includes urban roads

Rd5: Other Rural Roads—Length of all remaining roads in a country not included in categories Rd2, Rd3, and Rd4

- Country Notes
 - i. Indonesia—Kabupaten roads
 - ii. Philippines—Municipal and barangay roads

Rd6: Total Paved Roads—Length of all roads that are surfaced with crushed stone (macadam) and hydrocarbon binder or bituminized agents, with concrete or with cobblestones. Aggregate of Rd7, Rd8, Rd9, and Rd10.

- Country Notes
 - i. Lao PDR—Includes 55 km of paved “special roads” not captured in Rd7 though Rd10

Rd7: Paved Motorways, Highways, Main Roads, or National Roads—Length of highways, main roads, or national roads that are paved.

- Country Notes
 - i. Cambodia—Includes national roads 1–7

Rd8: Paved Secondary or Regional Roads—Length of secondary or regional roads that are paved.

Rd9: Paved Other Urban Roads—Length of other urban roads that are paved.

- Country Notes
 - i. Mongolia—A portion of these roads are national roads in urban areas and are included in Rd7

Rd10: Paved Other Rural Roads—Length of other rural roads that are paved.

Rd11: Total Roads in “Good” or “Regular” (Fair) Condition—Total length of roads that are in “good” or “regular” condition. “Roads in good condition” include the following: Paved roads, largely free of defects, requiring only routine maintenance and perhaps surface treatment. Unpaved roads that need only routine grading and localized repairs. “Roads in regular (or fair) condition” include the following: Paved roads with defects and weakened structural resistance. They require resurfacing of the pavement, but without the need to demolish the existing pavement. Unpaved roads that require grading and additional new gravel, plus drainage repair in some places. Aggregate of Rd12, Rd13, Rd14, and Rd15.

Rd12: Motorways, Highways, Main Roads, or National Roads in “Good” or “Regular” (Fair) Condition—Length of highways, main roads, or national roads in “good” or “fair” condition.

- Country Notes
 - i. Indonesia—75 percent of the national and provincial network in “good” or “fair” condition; assumes same percentage across both categories

Rd13: Secondary or Regional Roads in “Good” or “Regular” (Fair) Condition—Length of secondary or regional roads in “good” or “fair” condition.

- Country Notes
 - i. Cambodia—Includes national B and provincial trafficable roads
 - ii. Indonesia—75 percent of the national and provincial network in “good” or “fair” condition; assumes same percentage across both categories

Rd14: Other Urban Roads in “Good” or “Regular” (Fair) Condition—Length of other urban roads in “good” or “fair” condition.

- Country Notes
 - i. Lao PDR—Includes other rural and urban roads
 - ii. Mongolia—These roads are national and regional roads in urban areas and are included in those figures (Rd12 and Rd13)

Rd15: Other Rural Roads in “Good” or “Regular” (Fair) Condition—Length of other rural roads in “good” or “fair” condition.

- Country Notes
 - i. Indonesia—38 percent of the Kabupaten road network is in “good” or “fair” condition

Rd16: Does an institution that advises the Minister on various matters pertaining to management (and financing) of roads, namely a National Roads Board (NRB) or a Road Council/Highways Agency Board exist? No definition needed.

Rd17: Does the Main (National) Road Agency, responsible for the main road network, operate with a report published at least on an annual basis? No definition needed.

Rd18: Main (National) Road Agency Administration Cost—The amount of resources spent by the Main (National) Road Agency in conjunction with its own operation and service per year.

Rd19: Annual Road Expenditure—The total amount of expenditure on new construction and extension of existing roads, including reconstruction, renewal, and major repairs of roads per year.

- Country Notes
 - i. Lao PDR—National roads only
 - ii. Indonesia—Government expenditure only (includes national, provincial, district, and toll roads)
 - iii. Philippines—Includes national and local roads
 - iv. Thailand—Highway department only

Rd20: Capital Investment—The total amount of investment in the road sector to maintain sufficient capacity as well as increase capacity per year.

- Country Notes
 - i. China—Capital investment in highway construction; does not include urban roads, which are under the jurisdiction of the Ministry of Construction
 - ii. Indonesia—Government expenditure only (includes national, provincial, district, and toll roads)
 - iii. Lao PDR—National roads only
 - iv. Philippines—Includes national and local roads

Rd21: Maintenance Expenditure—The total expenditure for keeping roads in working order per year. This includes maintenance, patching, and running repairs (work relating to roughness of carriageway’s wearing course, roadsides, and so on).

- Country Notes
 - i. Cambodia—Includes all costs other than capital investment
 - ii. Indonesia—Government expenditure only (includes national, provincial, district, and toll roads)
 - iii. Lao PDR—National roads only
 - iv. Philippines—Includes national and local roads

Rd22: Road Maintenance Requirement—The amount of financing required per year to keep roads in working order. This includes maintenance, patching, and running repairs (work relating to roughness of carriageway’s wearing course, roadsides, shoulder, drains, structures, slopes, signs, and so on).

Rd23: Total Daily Traffic—Total number of road motor vehicles that move on a given network per day. When a road motor vehicle is being

carried on another vehicle, only the movement of the carrying vehicle (active mode) is considered.

- Country Notes
 - i. Mongolia—Calculated by multiplying the average traffic flow over 11,121 km of the road network

Rd24: Daily Traffic on Motorways, Highways, Main Roads, or National Roads—Total average daily road motor vehicle traffic on main/national highways.

- Country Notes
 - i. Mongolia—Calculated by multiplying the average traffic flow over 1,720 km of the main national road network [Ulaanbaatar (UB) Darhan, UB-Zuunmod, UB-Lun, UB-Baganuur]

Rd25: Daily Traffic on Secondary or Regional Roads—Total average daily road motor vehicle traffic on secondary/regional highways.

Rd26: Number of Rural People Living within 2 km of an All-Season Road—“With access” means that the distance from a village or household to an all-season road is no more than 2 km; that is, that a walk of no more than 20 minutes or so is required to reach an all-season road. An “all-season road” is a road that is passable by the prevailing means of rural transport (often a pickup or a truck that does not have four-wheel-drive) all year round. Predictable interruptions of short duration during inclement weather (for example, heavy rainfall) are permitted, particularly on low-volume roads.

- Country Notes
 - i. Thailand—Percentage of rural villages, not number of people

Rd27: Are there clear and reasonable processes for transport operators to be legally able to deliver different forms of transport service in a competitive manner? No definition needed.

- Country Notes
 - i. Cambodia—Bidding processes are in place though real competition is doubtful

Rd28: Are road construction works and road traffic measures subject by law to a thorough appraisal (at least equivalent to the standards required for World Bank investment) of environmental impact and monitoring? No definition needed.

- Country Notes
 - i. Cambodia—Decree is in place though implementation is doubtful
 - ii. Indonesia—Processes in place though implementation is doubtful

Rd29: Is there a government-endorsed plan to improved road safety, which is published and being actively implemented? No definition needed.

- Country Notes
 - i. China—A new road safety law was passed on October 28, 2003, and implemented in May 2004

Rd30: Number of Fatalities from Road Accidents—Number of people who were involved in any injury accident with at least one motor road vehicle in motion on a public road or private road to which the public has right of access, resulting in at least one person killed as a result of the accident and within 30 days of its occurrence. Included are collisions between road vehicles; between road vehicles and pedestrians; between road vehicles and animals or fixed obstacles, and with one road vehicle alone. Included are collisions between road and rail vehicles. Multivehicle collisions are counted as only one accident provided that any successive collisions happen at short intervals. Injury accident excludes accidents incurring only material damage.

Rd31: Are road construction works and road traffic measures subject by law to a thorough appraisal (at least equivalent to the standards required for World Bank investment) of social impact and monitoring? No definition needed.

Rail transport

RI1: Total Network—Total length of railway route open for public passenger and freight services (excluding dedicated private resource railways). Aggregate of RI2 and RI3.

RI2: Main Lines—Total length of main intercity and other main passenger and freight routes available for public services.

RI3: Secondary Lines—Total length of remaining passenger and freight routes available for public services.

Table 4 Road transport

Indicator	Unit	Cambodia		China		Indonesia		Lao PDR		Mongolia		Philippines		Thailand		Vietnam	
		1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003
Rd1 Total Road Network	kilometers	—	38,257	1,278,474	1,809,828	355,363	368,263	22,788	31,210*	49,250*	49,308*	199,950*	202,205*	57,233	63,730	207,264	229,488
Rd2 Motorways, Highways, Main or National Roads	kilometers	—	4,757	123,519	157,644	27,977	27,616	—	7,140	11,063	11,121	28,162	30,434	—	—	15,284	17,295
Rd3 Secondary or Regional Roads	kilometers	—	5,700	189,961	223,425	47,863*	48,905*	—	10,350	38,187	38,187	28,503*	26,926*	—	—	16,403	21,840
Rd4 Other roads: Urban	kilometers	—	0	—	—	—	—	—	1,760	604*	627*	5,767*	7,052*	—	—	45,577	60,353
Rd5 Other roads: Rural	kilometers	—	27,800	920,560	1,371,235	279,523*	291,841*	—	11,360	—	—	137,518*	137,793*	—	—	130,000	130,000
Rd6 Paved roads: Total	kilometers	—	1,648	1,190,086	1,647,412	168,072	211,998	3,544	4,497*	3,572	3,742	39,316	43,754	52,969	61,523	—	—
Rd7 Paved Motorways, Highways, Main or National Roads	kilometers	—	1,333*	123,519	157,644	—	—	3,033	3,771	2,685	2,708	16,029	19,228	—	—	—	—
Rd8 Paved Secondary or Regional Roads	kilometers	—	315	189,961	223,425	—	—	117	228	—	—	5,825	5,606	—	—	—	—
Rd9 Paved Other Roads: Urban	kilometers	—	0	—	—	—	—	394	429	604*	627*	4,048	5,427	—	—	—	—
Rd10 Paved Other Roads: Rural	kilometers	—	—	832,172	1,266,343	—	—	—	14	—	—	13,414	13,493	—	—	—	—
Rd11 Roads in "Good" or "Regular" (fair) Condition: Total	kilometers	—	16,957	—	—	—	197,474	9,532	17,746	1,678	1,802	—	—	57,233	63,730	—	—
Rd12 Motorways, Highways, Main or National Roads in "Good" or "Regular" (fair) Condition	kilometers	—	1,988	—	—	—	20,712*	2,715	5,460	1,283	1,405	—	—	—	—	—	—
Rd13 Secondary or Regional Roads in "Good" or "Regular" (fair) Condition	kilometers	—	3,389*	—	—	—	36,679*	2,691	6,424	396	397	—	—	—	—	—	—
Rd14 Other Roads: Urban in "Good" or "Regular" (fair) Condition	kilometers	—	—	—	—	—	—	4,126*	1,493	340*	353*	—	—	—	—	—	—
Rd15 Other Roads: Rural in "Good" or "Regular" (fair) Condition	kilometers	—	11,580	—	—	—	140,084*	0	4,369	—	—	—	—	—	—	—	—

(Continued on the next page)

Table 4 (Continued)

Indicator	Unit	Cambodia		China		Indonesia		Lao PDR		Mongolia		Philippines		Thailand		Vietnam		
		1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	
Rd16	Does an institution that advises the Minister on various matters pertaining to management and financing of roads, namely a National Roads Board (NRB) or Road Council, Highways Agency Board exist?	Yes/No	N	N	N	N	Y	Y	N	N	N	Y	N	Y	N	Y	Y	Y
Rd17	Does the Main (National) Road Agency responsible for the main road network operate with a report published at least on an annual basis?	Yes/No	N	N	N	Y	N	N	—	—	Y	Y	Y	Y	Y	Y	—	—
Rd18	Main (National) Road Agency Administration Cost	Million US\$, Nominal	—	—	—	—	—	—	—	—	0.17	0.21	—	—	319	160	—	—
Rd19	Annual Road Expenditure	Million US\$, Nominal	5.0	37.5	—	44,836	426*	—	78*	71*	7.0	17	741*	665*	1,153*	527*	761	1,225
Rd20	Capital Investment	Million US\$, Nominal	2.8	29.7	26,190	38,836*	384*	—	73*	52*	5.2	14.9	602*	525*	939	220	710	1,138
Rd21	Maintenance Expenditure	Million US\$, Nominal	2.3*	7.7*	—	6,000	43*	—	5*	19*	1.8	2.1	137*	140*	214	307	51.90	87.00
Rd22	Road Maintenance Requirement	Million US\$, Nominal	—	—	9,463	14,111	—	475	—	15	—	6.4	—	—	558	518	—	—
Rd23	Daily Traffic: Total	Million vehicle kilometers	—	—	—	—	—	—	—	—	91*	188*	—	—	131,691	140,657	—	—
Rd24	Daily Traffic on Motorways, Highways, Main or National Roads	Million vehicle kilometers	—	—	—	—	—	—	—	—	12*	24*	—	—	45,995	—	—	—
Rd25	Daily Traffic on Secondary or Regional Roads	Million vehicle kilometers	—	—	—	—	—	—	—	—	—	—	—	—	85,697	—	—	—
Rd26	Number of rural people living within 2 km of an all-season road	million people	—	—	—	757	—	—	—	3.2	—	—	—	—	—	43% of rural villages*	—	—

Rd27	Are there clear and reasonable processes for transport operators to be legally able to deliver different forms of transport service in a competitive manner?	Yes/No	Y*	Y*	—	Y	Y	Y	—	Y	Y	Y	Y	Y	N	N	N	N
Rd28	Are road construction works and road traffic measures subject by law to a thorough appraisal [at least equivalent to the standards required for World Bank (WB) investment] of environmental impact and monitoring?	Yes/No	N*	Y*	N	N	N*	N*	N	Y	Y	Y	Y	Y	Y	Y	—	—
Rd29	Is there a government-endorsed plan to improve road safety, which is published and being actively implemented?	Yes/No	N	N	N	N*	N	N	N	N	—	—	N	N	Y	Y	Y	Y
Rd30	Number of Fatalities from Road Accidents	People	102	824	78,067	104,372	12,769	13,399	332	430	271	—	940	800	12,234	13,116	6,067	11,309
Rd31	Are road construction works and road traffic measures subject by law to a thorough appraisal (at least equivalent to the standards required for WB investment) of social impact and monitoring?	Yes/No	N	N	N	N	N	N	N	N	—	—	Y	Y	Y	Y	—	—

RI4: Single Lines—Route length of network consisting of single tracked lines.

RI5: Traffic Units—Aggregate of RI6 and RI7.

RI6: Passenger Travel—Total passenger travel measured in units of one passenger by 1 kilometer.

RI7: Freight Coverage—Total freight travel measured in units of 1 metric ton by 1 kilometer.

RI8: Railway Diesel Fuel Consumption—Fuel used for powering trains and other rolling stock movements.

RI9: Railway Electrical Energy Consumption—Electrical energy used for powering trains and other rolling stock movements.

RI10: Is the main national railway company predominantly private (including private concession) rather than publicly owned? Anything above 50 percent is considered predominant.

RI11: If public, is the national railway company a corporatized commercial entity rather than a government department authority? This step of reform includes (1) the removal of the entity from the direct control that results from being a part of a ministry, and (2) the creation of an independent legal corporation with the goal of behaving like a commercial company (for example, maximizing profits).

RI12: Is there institutional vertical separation of infrastructure and operations? No definition needed.

RI13: Are there track access rights for private train operating companies? No definition needed.

RI14: Passenger Fare Revenue—No definition needed.

RI15: Freight Tariff Revenue—No definition needed.

RI16: Other Commercial Revenue—Other revenue may include interest income, scrap sales, real estate, and so on.

RI17: Passenger Yield—Total passenger fare revenue divided by total passengers/km.

RI18: Freight Yield—Total freight tariff revenue divided by total tons/km.

RI19: Is there a safety regulator independent of the railway operating department or authority? No definition needed.

RI20: Is there a formal safety case or safety plan that is fully documented and regularly updated? No definition needed.

RI21: Number of Passenger Fatalities—No definition needed.

- Country Notes
 - i. Mongolia—Figure according to the Ulaanbaatar Railway Authority, but this type of data is considered confidential

RI22: Number of Serious Incidents—See country-specific definitions below.

- Country Notes
 - i. China—Includes derailments, collisions, and incidents involving human casualties
 - ii. Mongolia—Figure according to the Ulaanbaatar Railway Authority, but this type of data is considered confidential
 - iii. Philippines—Incidents include derailment and sideswiping incidents
 - iv. Thailand—Derailment or collision that causes large damage or human casualties
 - v. Vietnam—Vietnam Railways defines “serious rail incident” as an incident that Vietnam Railways is responsible for and that causes huge damages, including human injury

RI23: Are road construction works and road traffic measures subject by law to a thorough appraisal (at least equivalent to the standards required for World Bank investment) of environmental impact and monitoring? No definition needed.

RI24: Are road construction works and road traffic measures subject by law to a thorough appraisal (at least equivalent to the standards required for World Bank investment) of social impact and monitoring? No definition needed.

Urban

U1: Slum Population—The definition of a slum varies widely, but they are generally neglected parts of cities where housing and living conditions are appallingly poor. Slums range from high-density, squalid

Table 5 Rail transport

Indicator	Unit	Cambodia		China		Indonesia		Lao PDR		Mongolia		Philippines		Thailand		Vietnam	
		1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003
RI1 Total Network	kilometers	750	750	57,584	60,466	4,600	4,600	No rail network	No rail network	2,373	2,373	491	491	4,044	4,044	3,142	3,146
RI2 Main lines	kilometers	650	650	—	—	3,421	3,421	No rail network	No rail network	1,110	1,110	484	484	2,344	2,344	2,632	2,669
RI3 Secondary lines	kilometers	100	100	—	—	1,179	1,179	No rail network	No rail network	1,263	1,263	7	7	1,624	1,624	108	477
RI4 Single lines	kilometers	750	750	37,911	35,796	—	—	No rail network	No rail network	2,363	2,363	454	454	3,892	3,892	2,632	2,669
RI5 Traffic units	Million passenger-km + million tonne-km	119.6	113.8	1,506,000	2,109,839	23,859	23,759	No rail network	No rail network	3,784	8,294	248	138	13,935	14,238	3,911	7,767
RI6 Passenger travel	Million passenger-km	43.9	13.4	343,000	462,279	18,789	18,750	No rail network	No rail network	982	1,039	247	137	11,014	10,251	2,588	5,092
RI7 Freight coverage	Million tonne-km	75.7	100	1,163,000	1,647,560	5,070	5,009	No rail network	No rail network	2,802	7,255	1	1	2,921	3,987	1,325	2,675
RI8 Railway Diesel Fuel Consumption	1000 tons	—	1.8	4,146	5,123	—	—	No rail network	No rail network	33	56	1.7	1.9	105	110	26	46
RI9 Railway Electrical Energy Consumption	million kWh	0	0	7,611	12,121	—	—	No rail network	No rail network	48	63	—	—	—	—	0	0
RI10 Is the main national railway company predominantly private (including private concession) rather than publicly owned?	Yes/No	N	N	N	N	N	Y	No rail network	No rail network	N	N	N	N	N	N	N	N
RI11 If public, is the national railway company a corporatized commercial entity rather than a government department authority?	Yes/No	N	Y	N	N	—	Not applicable	No rail network	No rail network	N	N	Y	Y	N	N	Y	Y
RI12 Is there institutional vertical separation of infrastructure and operations?	Yes/No	N	N	N	N	N	N	No rail network	No rail network	N	N	N	N	N	N	N	N
RI13 Are there track access rights for private train operating companies?	Yes/No	—	N	N	N	N	Y	No rail network	No rail network	No private company	No private company	Y	Y	N	N	N	N

RI14	Passenger fare revenue	Million US\$, Nominal	—	0.1	3,464	5,764	—	—	No rail network	No rail network	10.9	9.8	2.7	1.5	97.9	97.0	42.7	72.7
RI15	Freight tariff revenue	Million US\$, Nominal	—	1.6	10,226	14,761	—	—	No rail network	No rail network	24.3	83.6	0.0	0.0	38.6	50.0	27.8	41.0
RI16	Other commercial revenue	Million US\$, Nominal	—	—	1,755	2,689	—	—	No rail network	No rail network	1.5	3.2	2.2	1.7	38.1	61.4	1.9	2.0
RI17	Passenger yield	US\$, Nominal	—	0.004	0.010	0.012	—	—	No rail network	No rail network	0.011	0.009	0.011	0.011	0.009	0.009	0.020	0.010
RI18	Freight yield	US\$, Nominal	—	0.017	0.009	0.009	—	—	No rail network	No rail network	0.009	0.012	0.122	0.099	0.014	0.013	0.020	0.020
RI19	Is there a safety regulator independent of the railway operating department or authority?	Yes/No	N	N	N	N	N	N	No rail network	No rail network	N	N	N	N	N	N	N	N
RI20	Is there a formal safety case or safety plan which is fully documented and regularly updated?	Yes/No	N	N	N	N	N	Y	No rail network	No rail network	Y	Y	N	N	Y	Y	—	—
RI21	Number of passenger fatalities	People	—	—	—	—	50	72	No rail network	No rail network	0*	0*	—	—	20	7	129	271
RI22	Number of serious incidents	Incidents	—	—	—	15*	125	216	No rail network	No rail network	0*	0*	129*	110*	0*	0*	0*	1*
RI23	Are road construction works and road traffic measures subject by law to a thorough appraisal (at least equivalent to the standards required for World Bank investment) of environmental impact and monitoring?	Yes/No	N	N	N	N	N	N	No rail network	No rail network	Y	Y	Y	Y	Y	Y	—	—
RI24	Are road construction works and road traffic measures subject by law to a thorough appraisal (at least equivalent to the standards required for World Bank investment) of social impact and monitoring?	Yes/No	—	—	N	N	N	N	No rail network	No rail network	N	N	Y	Y	Y	Y	—	—

central-city tenements to spontaneous squatter settlements without legal recognition of rights, sprawling at the edge of cities. UN Habitat’s publication “Slums of the World,” which defines a slum household as a group of individuals living under the same roof that has one or more of the following conditions: insecure residential status, inadequate access to safe water, inadequate access to sanitation, poor structural quality of housing, and overcrowding.

- Country Notes
 - i. Mongolia—Share of households living in ger

U2: Urbanization Rate—Urban population as a percentage of the total population.

- Country Notes
 - i. Cambodia—PNH municipality only

U3: Annual Growth Rate of Urban Population—Percentage growth rate of the urban population.

- Country Notes
 - i. Cambodia—PNH municipality only

U4–U7: Number of Urban Cities—Urban area defined by densely populated area containing the city proper, suburbs, and continuously settled commuter areas.

U8: Percentage of Housing Stock Built of Materials Lasting 20 Years or More—Materials lasting at least 20 years include cement, brick, iron, tile, and so on.

- Country Notes
 - i. Cambodia—Based of roof material only
 - ii. Mongolia—Gers not included in housing stock

U9: Percentage of Housing Stock Built and Managed by Public Sector—No definition needed.

U10: Number of Months to Obtain Permits for Land Subdivisions—No definition needed.

U11: Percentage of Solid Waste Collected—Municipal solid waste collected as a percentage of what is generated.

- Country Note
 - i. Cambodia—Downtown areas of Phnom Penh only
 - ii. Lao PDR—Includes urban residents only

- iii. Mongolia—Best estimate for Ulanbaatar only
- iv. Philippines—Metro Manila only

U12: Percentage of Solid Waste Safely Disposed—Municipal solid waste safely disposed (sanitary landfill, incinerated, and/or recycled) as a percentage of what is generated.

- Country Notes
 - i. Lao PDR—Includes urban residents only
 - ii. Mongolia—Best estimate for Ulaanbaatar only
 - iii. Philippines—Metro Manila only

Finance

F1–F6: Total Expenditure on Infrastructure—Includes available capital and current expenditure on transportation, telecommunications, WSS, power, and other urban (solid waste, housing, and so on) from national government, local government, state-owned enterprises (SOEs), and private sources. The totals presented are simply the sum of the components under F7 through F25. Thus, any figures not available from F7 through F25 are also omitted in the total. Furthermore, the available data in F7 through F25 may be from years other than those specified (denoted by italics) or have omissions/additions themselves (denoted by an asterisk next to the figures in that section). Given these limitations, the figures presented can be interpreted as a broad estimate of the true amount spent on infrastructure.

F7–F11: National Government Expenditure on Infrastructure—Includes capital and current expenditure on transportation, telecommunications, WSS, power, and other urban (solid waste, housing, and so on) from national government unless otherwise specified below.

- Country Notes
 - i. Cambodia—Telecom includes actual (current) expenditures incurred by Ministry of Post and Telecommunications; no figures on capital expenditure available; WSS figures are capital expenditures only; power figures are current expenditures incurred by the Ministry of Industry, Mines and Energy (MIME)
 - ii. China—Although Telecom and WSS expenditures are not available, most expenditures in these sectors come from SOEs

Table 6 Urban

Indicator	Unit	Cambodia		China		Indonesia		Lao PDR		Mongolia		Philippines		Thailand		Vietnam		
		1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	
U1	Slum Population	Percent of urban population	—	72	—	38	—	23	—	66	19*	24*	—	44	3	2	—	47
U2	Urbanization Rate	Percent	22*	19*	33	41	39	43	17	26	50	58	57	61	31	32	23	26
U3	Annual Growth Rate of Urban Population	Percent	4.6*	4.1*	5.5	4.3	4.2	3.7	4.9	4.8	1.3	3.0	3.6	3.2	2.2	2.8	3.7	4.2
U4	Number of Urban Cities with Population above 5 million	Cities	0	0	—	10	1	1	0	0	0	0	0	—	—	1	0	1
U5	Number of Urban Cities with Population from 1 to 5 million	Cities	0	1	—	164	6	6	0	0	0	0	3	—	—	0	3	2
U6	Number of Urban Cities with Population from 500K to 1 million	Cities	1	0	—	274	9	9	0	0	1	1	2	—	—	0	2	4
U7	Number of Urban Cities with Population in Cities under 500K	Cities	35	35	—	212	6	6	5	5	21	21	35	—	—	—	14	19
U8	Percentage of housing stock built of materials lasting 20 years or more	Percent	—	60*	—	—	—	—	7.4	11.6	100*	100*	64	—	—	—	—	—
U9	Percentage of housing stock built and managed by public sector	Percent	0	0	—	—	—	—	0	0	16	12	—	—	—	—	—	—
U10	Number of months to obtain permits for land subdivisions	Months	0.75	0.75	—	—	—	—	3	3	—	—	1	1	—	—	—	—
U11	Percentage of Solid Waste Collected	Percent	55*	60*	79	83	—	—	—	34*	68*	80*	73*	83*	—	91	65	71
U12	Percentage of Solid Waste Safely Disposed	Percent	—	—	—	—	—	—	—	33*	67*	38*	—	61*	—	91	—	—

- iii. Indonesia—Transport figures include transportation, meteorology, and geophysical sector; WSS figures include water and irrigation; telecom figures include tourism, post, and telecom (but most expenditures are on telecom)
- iv. Lao PDR—Road expenditure only
- v. Mongolia—Calculation based on fiscal data and gross domestic product (GDP) composition by sectors; F7 includes telecom
- vi. Philippines—All figures include capital outlays only; power figures include other energy also
- vii. Vietnam—F7 figures include investment by central and local government and SOEs for transport, storage, and telecom; F9 figures include investment by central and local government and SOEs for electricity, gas, and water; investment outlays are the total expenditure to achieve the goal of investment and include expenditure on investigation for construction planning, preparation of investment, expenditure on design and construction, purchase of equipment, and other expenditures

F12–F16: Local Government Expenditure on Infrastructure—

Includes capital and current expenditure on transportation, telecommunications, WSS, power, and other urban (solid waste, housing, and so on) from local government (noncentral government) unless otherwise specified below.

- Country Notes

- i. Cambodia—Available figures are actual current expenditures spent by the provincial department only
- ii. China—Transport includes urban transport capital construction
- iii. Indonesia—Transport figures include transportation, meteorology and geophysical sector; WSS figures include water and irrigation; telecom figures include tourism, post, and telecom (but most expenditures are for telecom)
- iv. Mongolia—Calculation based on fiscal data and GDP composition by sectors
- v. Philippines—All figures include capital outlays only; power figures include other energy also

F17–F21: SOE Government Expenditure on Infrastructure—

Includes capital and current expenditure on transportation, telecommunications, WSS, power, and other urban (solid waste, housing, and so on) from SOEs unless otherwise specified below.

- Country Notes
 - i. China—Telecom and WSS data include capital construction only
 - ii. Lao PDR—Electricité du Laos (EdL) only; 1998 power figure excludes investment (includes operating costs only)
 - iii. Philippines—All figures include capital outlays only

F22–F25: Private Investment in Infrastructure—Includes planned disbursements in assets and facilities based on financial closure year.

- Country Notes
 - i. Vietnam—F22 figures include nonstate and foreign investment outlays for transport, storage, and telecom; F24 figures include nonstate and foreign investment outlays for electricity, gas, and water; investment outlays are the total expenditure to achieve the goal of investment and include expenditure on investigation for construction planning, preparation of investment, expenditure on design and construction, and purchase of equipment

F26: Total Local Government Expenditures—Total local government expenditures as a share of total public expenditures.

- Country Notes
 - i. Cambodia—Current expenditure only

F27: Total Local Government Revenues—Total local government revenues as a share of total public revenues.

Table 7 Infrastructure finance

Indicator	Unit	Cambodia		China		Indonesia		Lao PDR		Mongolia		Philippines		Thailand		Vietnam		
		1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	
F1	Total Expenditure on Infrastructure*	Percent of GDP	2.9	2.3	2.6	7.3	3.1	2.7	1.7	4.7	2.7	4.0	5.6	3.6	5.3	15.4	9.8	9.9
F2	Total Expenditure on Transportation*	Percent of GDP	0.7	1.0	0.2	4.0	1.0	1.3	—	1.3	1.1	2.1	1.4	1.2	3.6	3.9	4.5	6.0
F3	Total Expenditure on Telecommunications*	Percent of GDP	1.7	0.4	0.0	0.4	0.8	0.9	0.1	0.3	Included in F2	Included in F2	1.1	0.6	0.1	2.0	Included in F2	Included in F2
F4	Total Expenditure on Water and Sanitation*	Percent of GDP	0.5	0.5	0.0	0.2	0.9	0.3	—	0.2	0.0	0.0	0.1	0.1	0.7	0.5	5.3	3.9
F5	Total Expenditure on Other Urban*	Percent of GDP	—	—	—	—	—	—	—	—	0.4	0.5	0.2	0.6	0.3	0.2	—	—
F6	Total Expenditure on Power*	Percent of GDP	0.0	0.3	2.4	2.7	0.3	0.2	1.6	2.9	1.1	1.3	2.8	1.1	0.5	8.7	Included in F4	Included in F4
F7	National Government Expenditure on Transportation	Percent of GDP	0.3	0.9	—	1.0	0.7*	0.4*	—	1.3*	0.8*	1.5*	1.0*	0.6*	3.6	1.0	3.5*	4.9*
F8	National Government Expenditure on Telecommunications	Percent of GDP	0.9*	0.2*	—*	—*	0.2*	0.1*	—	—	Included in F7	Included in F7	0.1*	0.0*	0.0	0.0	Included in F7	Included in F7
F9	National Government Expenditure on Water and Sanitation	Percent of GDP	0.5*	0.5*	—*	—*	0.4*	0.2*	—	—	—	—	0.0*	0.0*	0.7	0.2	3.5*	3.7*
F10	National Government Expenditure on Other Urban	Percent of GDP	—	—	—	—	—	—	—	—	0.4*	0.5*	0.1*	0.4*	0.3	0.2	—	—
F11	National Government Expenditure on Power	Percent of GDP	0.0*	0.0*	0.1	0.0	—	—	—	0.2	1.1*	1.3*	0.0*	0.0*	0.0	0.0	Included in F9	Included in F9
F12	Local Government Expenditure on Transportation	Percent of GDP	0.1*	0.1*	—	2.6*	0.3*	0.6*	—	—	0.0*	0.0*	0.2*	0.2*	—	—	Included in F7	Included in F7
F13	Local Government Expenditure on Telecommunications	Percent of GDP	0.0*	0.0*	—	—	0.0*	0.0*	—	—	—	—	0.0*	0.0*	—	—	Included in F7	Included in F7

(Continued on the next page)

Table 7 (Continued)

Indicator	Unit	Cambodia		China		Indonesia		Lao PDR		Mongolia		Philippines		Thailand		Vietnam		
		1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	1998	2003	
F14	Local Government Expenditure on Water and Sanitation	Percent of GDP	—	—	—	—	0.0*	0.1*	—	—	—	—	0.0*	0.0*	—	—	Included in F9	Included in F9
F15	Local Government Expenditure on Other Urban	Percent of GDP	—	—	—	—	—	—	—	—	0.0*	0.0*	0.0*	0.1*	—	—	—	—
F16	Local Government Expenditure on Power	Percent of GDP	0.0*	0.0*	0.3	0.1	—	—	—	—	0.0*	0.0*	0.0*	0.0*	—	—	Included in F9	Included in F9
F17	SOE Expenditure on Transportation	Percent of GDP	—	—	—	0.3	—	—	—	—	—	—	0.2*	0.3*	—	2.9	Included in F7	Included in F7
F18	SOE Expenditure on Telecommunications	Percent of GDP	—	—	—	0.4*	—	—	—	—	—	—	0.0*	0.0*	—	1.8	Included in F7	Included in F7
F19	SOE Expenditure on Water and Sanitation	Percent of GDP	—	—	—	0.2*	—	—	—	0.2	—	—	0.1*	0.1*	—	0.3	Included in F9	Included in F9
F20	SOE Expenditure on Other Urban	Percent of GDP	—	—	—	—	—	—	—	—	—	—	0.1*	0.1*	—	0.1	—	—
F21	SOE Expenditure on Power	Percent of GDP	—	0.3	1.7	2.5	—	—	1.6*	2.7*	—	—	0.9*	0.6*	—	7.8	Included in F9	Included in F9
F22	Private Investment in Transportation	Percent of GDP	0.3	0.0	0.2	0.1	0.0	0.3	0.0	0.0	0.0	0.4	0.0	0.1	0.0	0.0	1.0*	1.1*
F23	Private Investment in Telecommunications	Percent of GDP	0.8	0.2	0.0	0.0	0.6	0.8	0.1	0.3	0.3	0.2	0.0	0.6	0.1	0.2	Included in F22	Included in F22
F24	Private Investment in Water and Sanitation	Percent of GDP	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8*	0.2*
F25	Private Investment in Power	Percent of GDP	0.0	0.0	0.3	0.1	0.3	0.1	0.0	0.0	0.0	0.0	1.9	0.5	0.5	0.9	Included in F24	Included in F24
F26	Total Local Government Expenditures	Percent of total public expenditure	3.3*	4.8*	71	70	—	—	—	—	35	8	5	16	8	12	—	—
F27	Total Local Government Revenues	Percent of total public revenue	2.1	3.1	78	83	—	—	—	—	34	9	16	21	11	14	—	—