



# Environment statistics and environment-related statistics

Availability and challenges

5-7 December 2011

Environment Statistics for Low income countries in South-East Asia



# ESCAP

- Intergovernmental forum with a membership of 62 Governments (58 in the region)
- United Nations arm in the Asia-Pacific region
- Carries out work in the following areas: Macroeconomic Policy and Development; Statistics; Trade and Investment; Transport; Environment and sustainable development; Information and Communications Technology and Disaster Risk Reduction; and Social Development.





# ESCAP Committee on Statistics

- Intergovernmental forum dedicated to development of official statistics in the Asia-Pacific region
  - Track key socio-economic and environmental trends in the Asia-Pacific region
  - Identify data requirements for economic, social and environmental analysis in accordance with internationally agreed standards and good practices
  - Capacity-building for national statistical offices in the ESCAP region to produce, disseminate and analyse data in accordance with internationally agreed standards and good practices.
- In 2010 the Committee decided on two strategic goals
  - (a) ensuring that all countries in the region by 2020 have the capability to provide an agreed basic range of population, economic, social and environmental statistics, and
  - (b) creating a more adaptive and cost-effective information management environment for national statistical offices through stronger collaboration.



# Outline

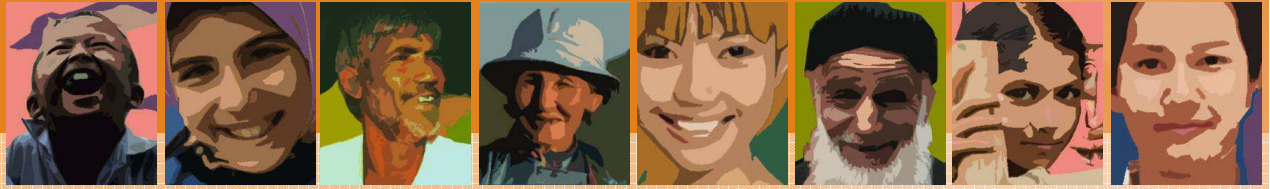
- Introduction:
  - Cambodia, Lao People's Democratic Republic, Myanmar, Timor-Leste and Viet Nam
- Key environmental statistics in the region
- Compilation of environment statistics



# Statistical systems

	Cambodia	Lao PDR	Myanmar	Timor-Leste	Viet Nam
Statistical law	2005	2010	1952	2003 (draft)	2004
GDDS	Yes	No	No	No	Yes
Statistical master plan	NSDS 2006-2015	NSDS 2010-2020	Planned	Statistics Work Plan 2010 – 2019	NSDS 2011-2020
NSS staff	830	Approx. 700 (1,400 by 2020)	?	18 perm. / 46 temp.	?

→ Different resource constraints in compiling environment statistics



# Profile statistics of

Cambodia, Lao People's Democratic Republic, Myanmar, Timor-Leste and Viet Nam

Population map (2010)



Value added by sector, 2009



- Diverse in population, size, economic structure and geography.



# Urbanization

**Cambodia, Lao People's Democratic Republic, Myanmar, Timor-Leste and Viet Nam**

- All 5 countries have relatively small urban populations which are rapidly urbanizing.
- Urban slums include a large percentage of the urban population.
- Access to water and sanitation, especially for rural dwellers, is low for all countries but Viet Nam

→ Statistics are needed for tracking the environmental impact of rapid urbanization, including the changing consumption patterns

	Urban population		Urban slum population	Access to			
				improved water		improved sanitation	
	%	% change per annum	%	Rural	Urban	Rural	Urban
	2010	05-10	2005	2008	2008	2008	2008
<b>South-East Asia</b>	<b>42.0</b>	<b>2.2</b>	<b>33.9</b>	<b>80</b>	<b>92</b>	<b>59</b>	<b>79</b>
Cambodia	20.1	2.6	78.9	56	81	18	67
Lao PDR	33.2	5.1	79.3	51	72	38	86
Myanmar	33.6	2.8	45.6	69	75	79	86
Timor-Leste	28.1	3.8		63	86	40	76
Viet Nam	30.4	3.2	41.3	92	99	67	94
<b>Asia and the Pacific</b>	<b>42.7</b>	<b>2.0</b>	<b>34.7</b>	<b>83</b>	<b>96</b>	<b>43</b>	<b>69</b>
<b>World</b>	<b>50.5</b>	<b>1.9</b>	<b>35.8</b>	<b>78</b>	<b>96</b>	<b>45</b>	<b>77</b>

ESCAP Statistical Yearbook: Source of urban population: World Population Prospects.  
 Source of slum and access to water: UN MDG database.



# Pollution

## Cambodia, Lao People's Democratic Republic, Myanmar, Timor-Leste and Viet Nam

- CO<sub>2</sub>, ozone-depletion, SO<sub>2</sub> and PM<sub>10</sub> are lower than the rest of the region and the world in general, but are rising.
- N<sub>2</sub>O emissions are quite high in Lao People's Democratic Republic and Myanmar
- There is a lack of timely and reliable national data.

	Consumption of ozone-depleting substances grams per capita	CO <sub>2</sub> emissions			CO <sub>2</sub> emissions by transport type			N <sub>2</sub> O emissions kilograms per capita	SO <sub>2</sub> emissions thousand tons	Concentration of PM <sub>10</sub> in urban area micrograms per m <sup>3</sup>	Biochemical oxygen demand emissions kilograms per day
		grams per capita	grams per 1,000 GDP in 2005 PPP	Million tons of CO <sub>2</sub>							
				Aviation	Road	Rail					
	2008	2008	2008	2008	2008	2008	2005	2005	2006	2006	
<b>South-East Asia</b>	<b>5.0</b>	<b>1.8</b>	<b>413</b>	<b>51.0</b>	<b>217.3</b>		<b>1.4</b>	<b>5,160.9</b>	<b>60.0</b>		
Cambodia	0.7	0.3	175	0.1	1.1		1.4	24.6	45.7	1456**	
Lao PDR	0.6						3.5	27.3	48.8		
Myanmar	0.0	0.2		0.2	3.2		2.2	85.3	57.7		
Timor-Leste	2.5*						0.7	0.1			
Viet Nam	3.2	1.2	463	1.4	23.2		0.9	342.7	55.3	500,482	
<b>Asia and the Pacific</b>	<b>7.8</b>	<b>3.5</b>	<b>576</b>	<b>227.5</b>	<b>1,389.8</b>	<b>52.8</b>	<b>1.0</b>	<b>69,137.5</b>	<b>62.7</b>		
<b>World</b>	<b>9.0</b>	<b>4.4</b>	<b>453</b>	<b>752.2</b>	<b>4,848.4</b>	<b>107.7</b>	<b>1.5</b>	<b>124,222.5</b>	<b>50.2</b>		

\* Data for 2007 displayed as 2008 not available.

\*\* Data for 1995 displayed as the most recent available data.

ESCAP Statistical Yearbook: Source of CO<sub>2</sub> data: IEA. Source of ozone data: MDG Indicators database. Source of N<sub>2</sub>O and SO<sub>2</sub>: United Nations Environment Programme, EDGAR. Source of PM<sub>10</sub> (particulate matter less than 10 microns) and BOD data: WDI. The estimates come from Kiren Dev Pandey and others.





# Biodiversity and forests

Cambodia, Lao People's Democratic Republic, Myanmar, Timor-Leste and Viet Nam

- For all 5 countries, forest area is relatively large; however, primary forest are quite low and threatened species are growing.
- Many countries in Asia have put into place policies/initiatives to promote green growth; including Cambodia (Green Growth Road Map, 2010); and Viet Nam (Capacity building and infrastructure for certified organic teas; and payments for ecosystem services policy)

	Total forest area		Forest, primary	Naturally regenerated forest	Planted forest	Marine areas protected	Terrestrial areas protected	Threatened species		
	km <sup>2</sup>	%	% of forest	km <sup>2</sup>	km <sup>2</sup>	%	%	number of species		
	2010	2010	2010	2010	2010	2009	2009	2008	2009	2010
<b>South-East Asia</b>	<b>2,140,640</b>	<b>49.3</b>	<b>30.0</b>	<b>1,355,400</b>	<b>145,330</b>	<b>1.8</b>	<b>13.6</b>			
Cambodia	100,940	57.2	3.2	97,030	690	0.9	24.0	193	201	204
Lao PDR	157,510	68.2	9.5	140,370	2,240		16.3	115	130	132
Myanmar	317,730	48.6	10.0	275,930	9,880	0.3	6.3	227	236	249
Timor-Leste	7,420	49.9		6,990	430	6.7	6.0	15	15	18
Viet Nam	137,970	44.5	0.6	102,050	35,120	2.1	6.2	408	417	424
<b>Asia and the Pacific</b>	<b>15,892,390</b>	<b>30.6</b>	<b>25.4</b>	<b>10,430,040</b>	<b>1,430,550</b>	<b>5.0</b>	<b>10.2</b>			
<b>World</b>	<b>40,330,638</b>	<b>30.7</b>	<b>33.7</b>	<b>21,815,340</b>	<b>2,640,010</b>	<b>6.5</b>	<b>12.4</b>			

ESCAP Statistical Yearbook: Source of marine and terrestrial areas protected: MDG Indicators Database. Source of forest data: FAO Global Forest Resources Assessment. Source of threatened species data: IUCN Red List of Threatened Species, version 2010.4: table 5.



# Natural disaster

Cambodia, Lao People's Democratic Republic, Myanmar, Timor-Leste and Viet Nam

- South-East Asia is currently experiencing severe flooding. It is also susceptible to typhoons, earthquakes and draught.

→ Effective disasters planning and reduction strategies rely on urbanization, poverty, environmental degradation and water statistics.

	Natural disasters		
	Mortality	People affected	Economic damage
	Per million population	Per 1,000 population	% of GDP
	01-10	01-10	01-10
<b>South-East Asia</b>	<b>61.0</b>	<b>20.3</b>	<b>0.3</b>
Cambodia	2.4	37.9	0.2
Lao PDR	0.6	16.3	0.2
Myanmar	294.1	6.6	2.7
Timor-Leste	2.9	1.3	0.0
Viet Nam	3.7	20.0	0.8
<b>Asia and the Pacific</b>	<b>18.4</b>	<b>51.4</b>	<b>0.3</b>
<b>World</b>	<b>17.2</b>	<b>35.0</b>	<b>0.2</b>

ESCAP Statistical Yearbook: EM-DAT: Emergency Events Database.



# Water

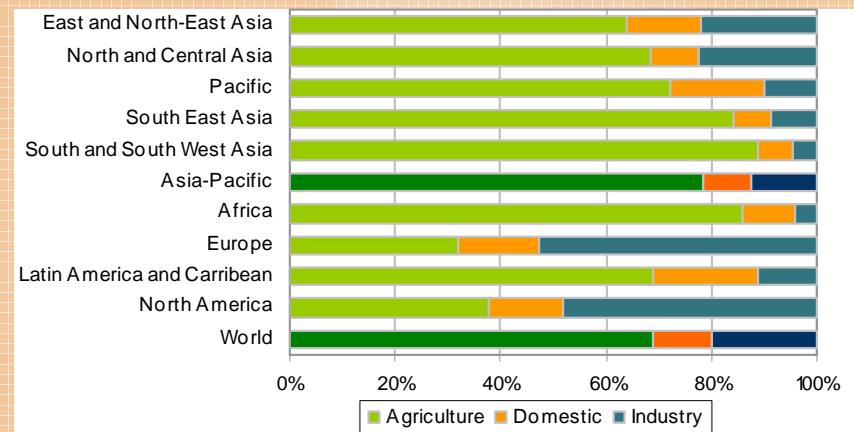
## Cambodia, Lao People's Democratic Republic, Myanmar, Timor-Leste and Viet Nam

- South-East Asia has high water availability.
- Most water is used for agriculture.

	Renewable water available		Water withdrawal			
	m <sup>3</sup> per capita per annum	Billion m <sup>3</sup> per annum	Total	Agriculture	Domestic	Industry
			Billion m <sup>3</sup> per annum	%	%	%
	2008	2008	2002	2002	2002	2002
<b>South-East Asia</b>	<b>12,444</b>	<b>7206.4</b>	<b>339.7</b>	<b>84.4</b>	<b>6.7</b>	<b>8.9</b>
Cambodia	34,443	476.1	4.1	98.0	1.5	0.5
Lao PDR	55,380	333.5	3.0	90.0	4.3	5.7
Myanmar	24,719	1168	33.2	98.2	1.2	0.5
Timor-Leste						
Viet Nam	10,286	884.1	71.4	68.1	7.8	24.1
<b>Asia and the Pacific</b>	<b>5,206</b>	<b>21282.299</b>	<b>2,261.3</b>	<b>78.5</b>	<b>9.3</b>	<b>12.3</b>
<b>World</b>	<b>8,158</b>	<b>54498.4585</b>	<b>3,689.0</b>	<b>68.7</b>	<b>11.3</b>	<b>20.0</b>

ESCAP Statistical Yearbook: AQUASTAT, obtained on: 10 January 2011.

→ Need for understanding the nexus of water related challenges in the region: access to water and sanitation, water quality, water availability and exposure to climate change and water-related disasters.





# Environmental statistics

Cambodia, Lao People's Democratic Republic, Myanmar, Timor-Leste and Viet Nam

- Lack of nationally compiled indicators on environment
  - International comparability of indicators
  - Need for full implementation of environmental statistics standards
  - Advocacy resource mobilization
- Based on the NSDS plans there is a funding gap to accomplish the goals in the NSDS
- NSDS of Cambodia and Lao People's Democratic Republic specifically mention environment indicators
- Environment statistics expertise and training opportunities are limited (note that only 1 country in the Asia-Pacific region noted environmental statistics as a priority in the 2009 SIAP training needs questionnaire)



Thank you