

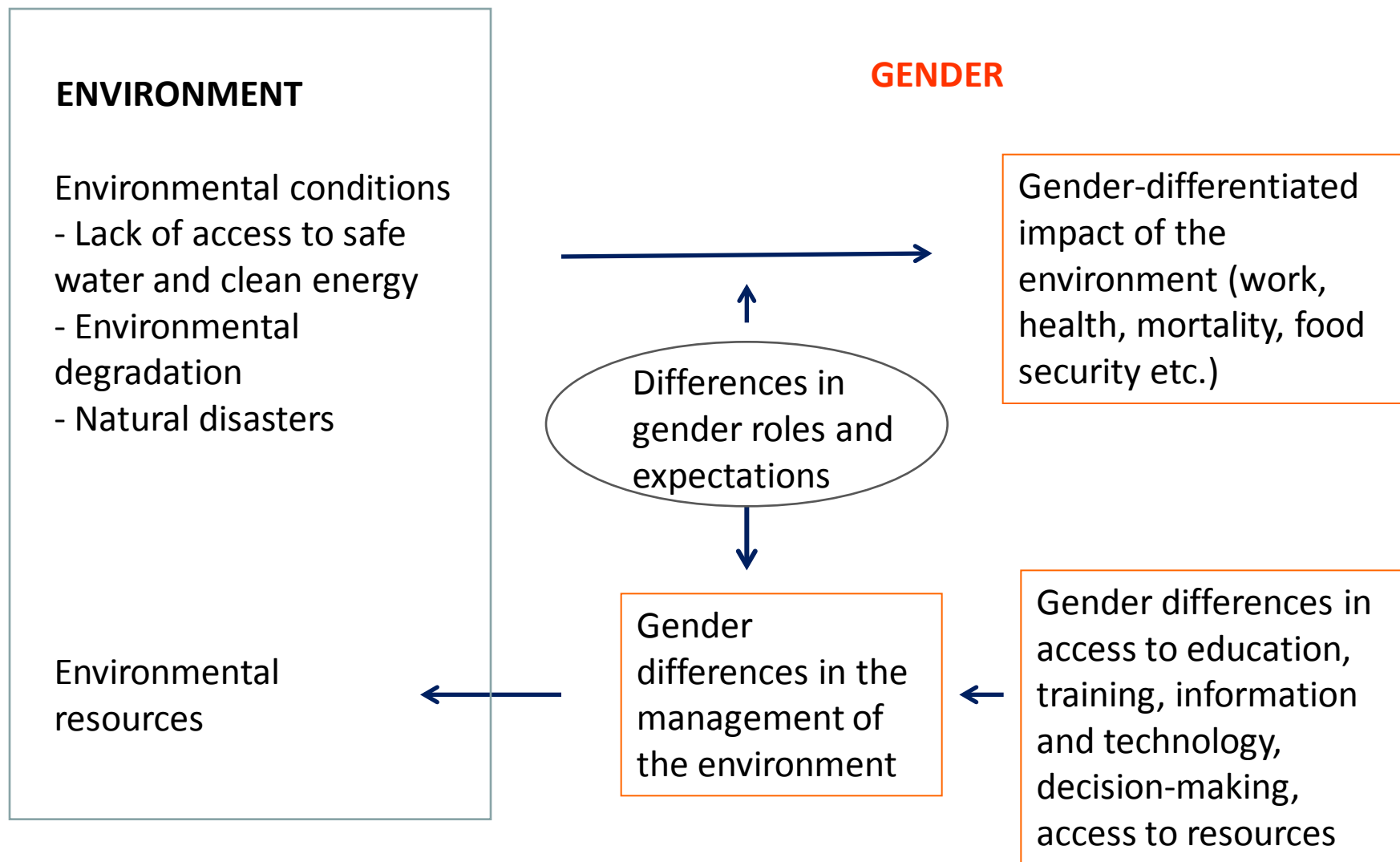


Integrating a gender perspective into environment statistics

United Nations Statistics Division



Gender statistics on (social dimensions of) the environment: the framework





Outline of the presentation

1. The gender-differentiated impact of the environment
 - Main challenges for statisticians
 - Statistics on access to water and firewood
 - Statistics on environmental factors with impact on health
 - Statistics on gender and natural disasters
2. Involvement of women and men in the management of the environment



Topic 1. The gender-differentiated impact of environmental conditions

Challenges for statisticians

- 1. Environmental conditions have a differentiated impact on the lives of women and men** due to existing gender inequality and gender-specific roles and expectations.
 - Data should refer to both
 - Environmental conditions creating a burden on the lives of people, such as poor infrastructure (lack of safe drinking water and clean energy), periods of droughts, floods, or areas affected by deforestation or desertification. These are not measured at individual level and are used as background variables.
 - and**
 - The social impact at the individual level of women and men, such as time use for specific types of work affected by the environment; and diseases and deaths due to unsafe environmental conditions and events. Measured at individual level.



Challenges for statisticians (2)

2. Existing statistics suggest that **women are disproportionately affected by lack of access to safe water and clean energy, environmental degradation and natural hazards in terms of unremunerated work, health and mortality.**
 - However, data availability is limited
 - Some of these statistics are produced only in a small number of countries
 - The areas covered by existing statistics represent a small fraction of all potential interactions between gender and environment (mainly some specific types of work, and health). The environment may also have a gender differentiated impact in other areas – such as education and food security – for which data are less easily available.



Challenges for statisticians (3)

3. Monitoring **impacts of climate change** on the lives of women and men remains particularly challenging, mainly due to two issues:
 - Establishing causal relations. Difficult to separate the effect of climate change on women and men's lives from other environmental and socio-economic factors (demographic pressure, over-exploitation of resources)
 - Coverage issues. The monitoring may need to take into account areas defined by other characteristics than administrative and geographical units traditionally used for data collection in social statistics.



Statistics on access to water and firewood

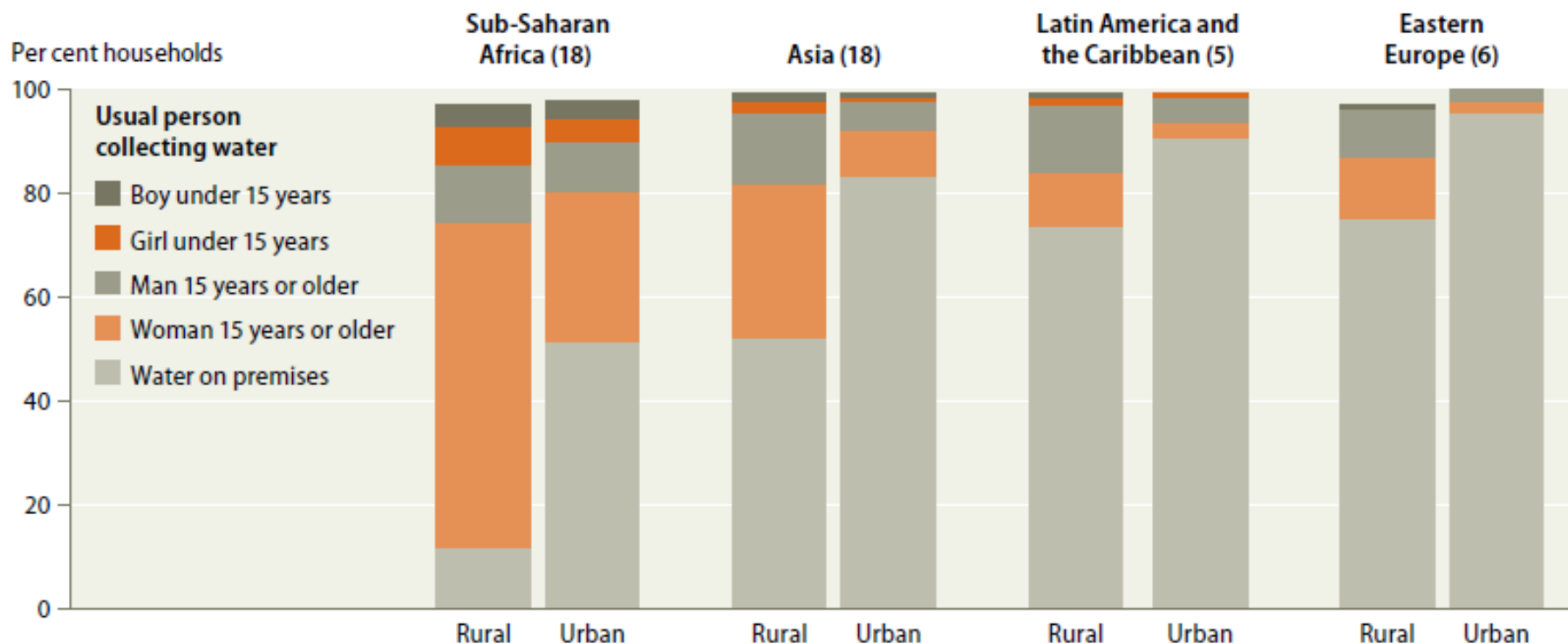
- Most frequently available among other statistics on gender and environment
 - Water and firewood collection are within the SNA production boundary
 - Access to infrastructure to reduce women's and girls' time burdens in water and firewood collection is one of the MDG global strategic priorities to achieve gender equality
 - Statistics on access to water are used to assess the achievement of the MDG on environmental sustainability
- Individual-level statistics refer to women and men's participation and time use in collection of water and firewood
- Background statistics refer to housing conditions / infrastructure available:
 - Main water supply system and source of drinking water
 - Fuels used for cooking and heating



Statistics on access to water and firewood

Using data collected in DHS and MICS surveys

Example: Distribution of households by person responsible for water collection, 2005-07 (latest available)



(Source: United Nations, 2010)



Statistics on access to water and firewood

Using Time Use Surveys

Example: Women and men engaged in water collection and average time burden

	Year	Percentage collecting water		Average time burden in population (<i>minutes per day</i>)		Gender gap
		Women	Men	Women	Men	
Sub-Saharan Africa						
Benin	1998	73	19	45	12	33
Ghana	1998/99	60	38	41	33	8
Madagascar	2001	44	16	27	9	18
Malawi	2004/05	54	6	48
South Africa	2000	13	7	8	3	5
Asia						
Lao People's Dem. Rep.	2002/03	12	6	6

(Source: United Nations, 2010)



Statistics on access to water and firewood

Using Time Use Surveys (2)

- Time use surveys are a particularly valuable source of data on gender and environment
 - Compared to DHS and MICS, they offer a clearer measure of women and men's burden in water and firewood collection
 - Have the potential of showing how gender-specific work burdens are associated with characteristics such as age, employment and economic status.
 - However,
 - Only a small number of countries from regions most lacking easy access to safe water and clean energy have implemented time use surveys.
 - Often, sex is just one of the variables by which data are tabulated .



Statistics on environmental factors with impact on health

- Among environment-related health risk factors with measurable population exposure and health impact, two are most important (the largest contribution to the world's burden of disease):
 - Access to improved water and sanitation. It is a very important health issue (globally, almost 2 million deaths estimated for 2004), but no clear gender dimension.
 - Globally, more male than female deaths are attributed to unsafe water, sanitation and hygiene (52% male deaths); however this is generally due to higher biological vulnerability of men
 - Indoor smoke from solid fuels, responsible for almost 2 million deaths in 2004 estimated at the world level. It has a clear gender dimension.
 - More than 1 million deaths (55%) are female deaths.



Statistics on indoor smoke from solid fuels

- Indoor smoke from solid fuels increases the risk of developing acute lower respiratory infections, chronic obstructive pulmonary disease and lung cancer and causes an estimated 6% of total number of deaths in Eastern Asia and almost 5% in Southern Asia and sub-Saharan Africa.
- Epidemiological studies show that women are more likely than men to develop such health outcomes.
- Three factors are responsible for varying levels of exposure to indoor smoke for women and men across countries and, consequently, for varying levels of relative health risk:
 - **Type of fuel used for cooking (and heating):** solid fuels, especially biomass fuel produce the highest level of pollutants
 - **Ventilation factors:** type of stove (improved stoves with a chimney or hood versus open fire) and place of cooking (outdoor versus indoor)
 - **The time spent indoors and near fire by women and men.** Compared to men, women spend more time indoors and near the fire while cooking, and are therefore more exposed to high-intensity pollution episodes
- Statistics for these factors + information on health risk obtained from small scale epidemiological studies are the required input in estimating the burden of disease due to indoor smoke from solid fuels.



Statistics on indoor smoke from solid fuels (2)

Example: Epidemiological study showing that the type of fuel, type of stove and the place of cooking have a considerable impact on health outcomes, particularly on women

Reduction in acute respiratory infections and acute lower respiratory infections for women and men aged 15–49 by switching the cooking from indoor open fires to different indoor and outdoor stoves, Central Kenya, Laikipia District, Mpala Ranch, 1999

	Disease rate (%)	Disease reduction (%) by switching to...			
	Open fire inside	Ceramic woodstove inside	Charcoal stove inside	Open fire outside	Ceramic woodstove outside
Acute respiratory infection					
Female	7	14	68	15	37
Male	4	2	62	50	58
Acute lower respiratory infection					
Female	2	15	65	17	43
Male	1	10	45	38	42

Source: Ezzati and Kammen, Evaluating the health benefits of transitions in household energy technologies in Kenya (2002).

Note: Disease rate was calculated as the percentage of weekly examinations (in a two-year period) during which a person was diagnosed with acute respiratory infection or acute lower respiratory infection.

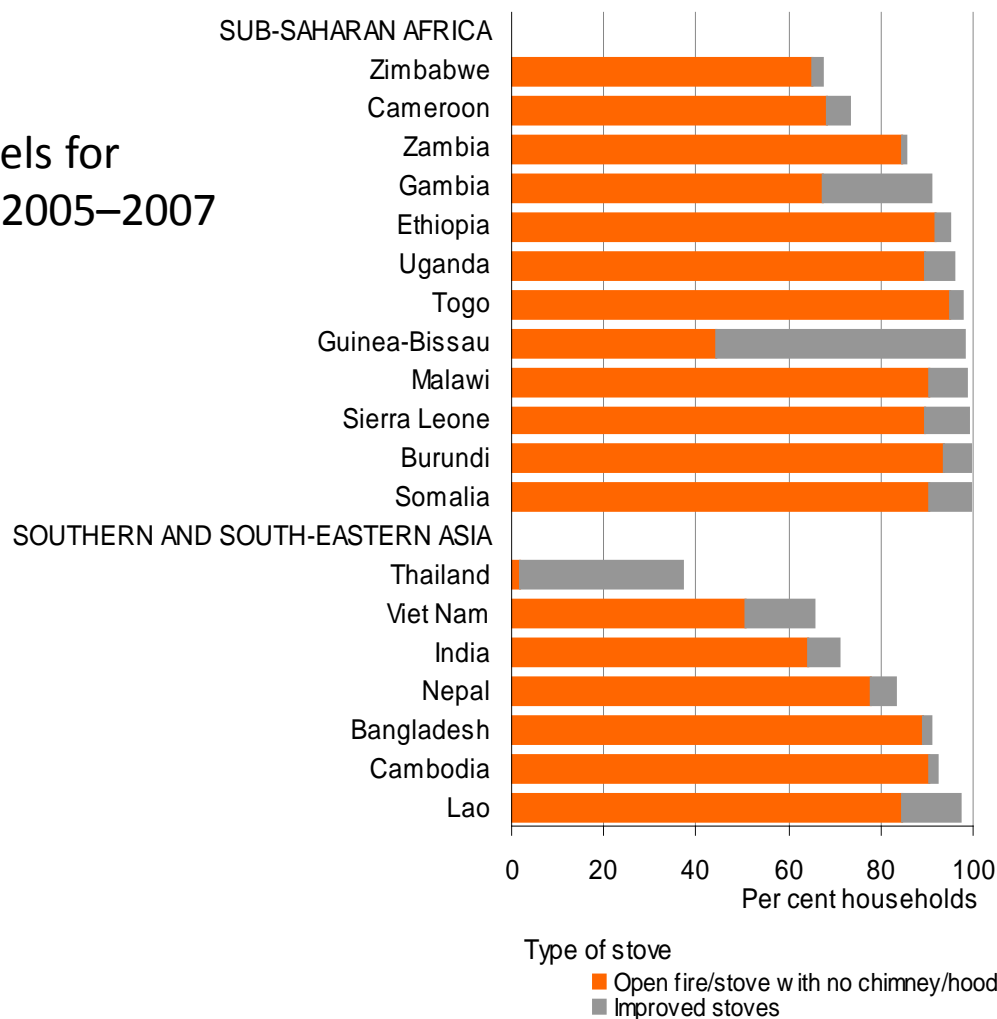


Statistics on indoor smoke from solid fuels (3)

Example: Statistics on exposure to indoor smoke from solid fuels

Households using solid fuels for cooking by type of stove, 2005–2007 (latest available)

Source: United Nations, 2010

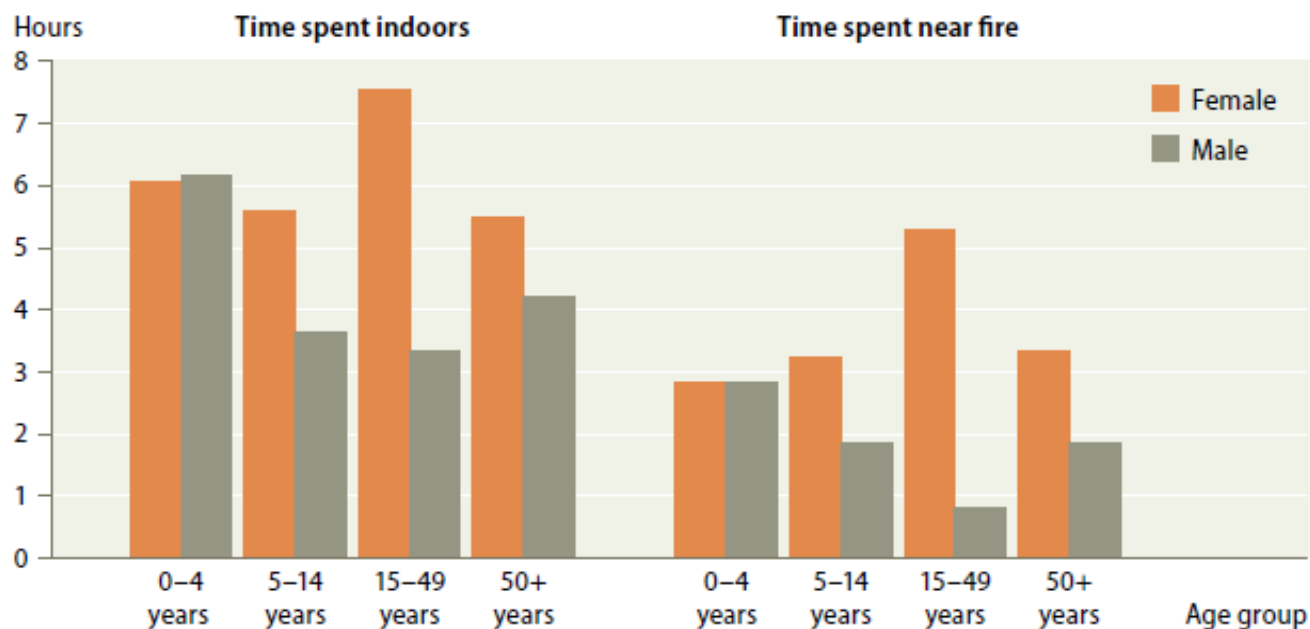




Statistics on indoor smoke from solid fuels (4)

Example: Statistics on time spent indoors and near fire (small-scale study)

Time spent indoors and near fire by age group and sex in central Kenya, Laikipia District, Mpala Ranch, 1999



Source: Ezzati and Kammen, Evaluating the health benefits of transitions in household energy technologies in Kenya (2002).

Note: The results are averages among different days, and the time calculated refers to the interval between 6:30 a.m. and 8:30 p.m.

(Source: United Nations, 2010)



Statistics on indoor smoke from solid fuels (5)

Example: Statistics on time use on cooking based on time use surveys

Proportion of women and men involved in cooking and the average time used for cooking in two countries



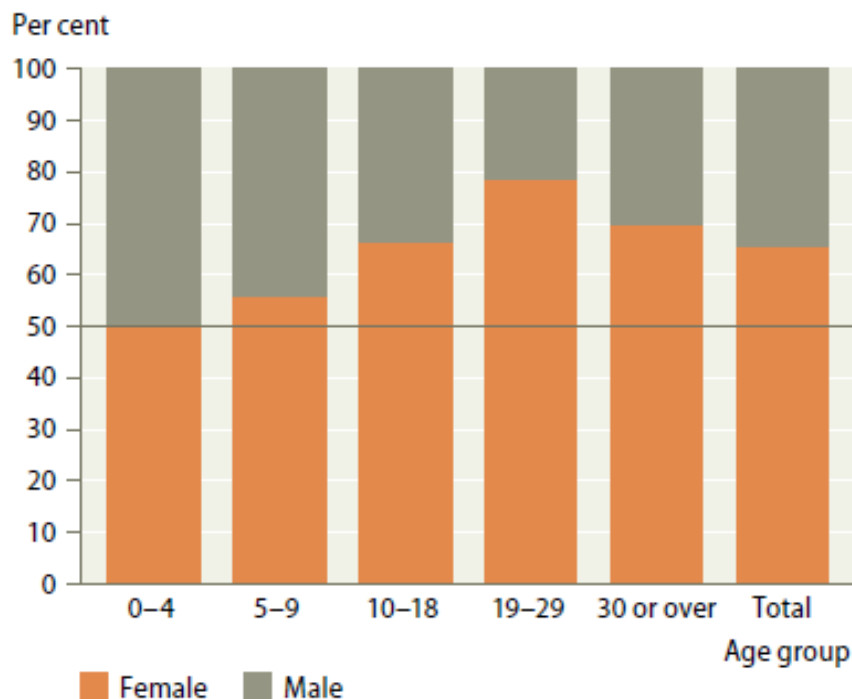
Source: Pakistan Bureau of Statistics, 2007; Statistics South Africa, 2000



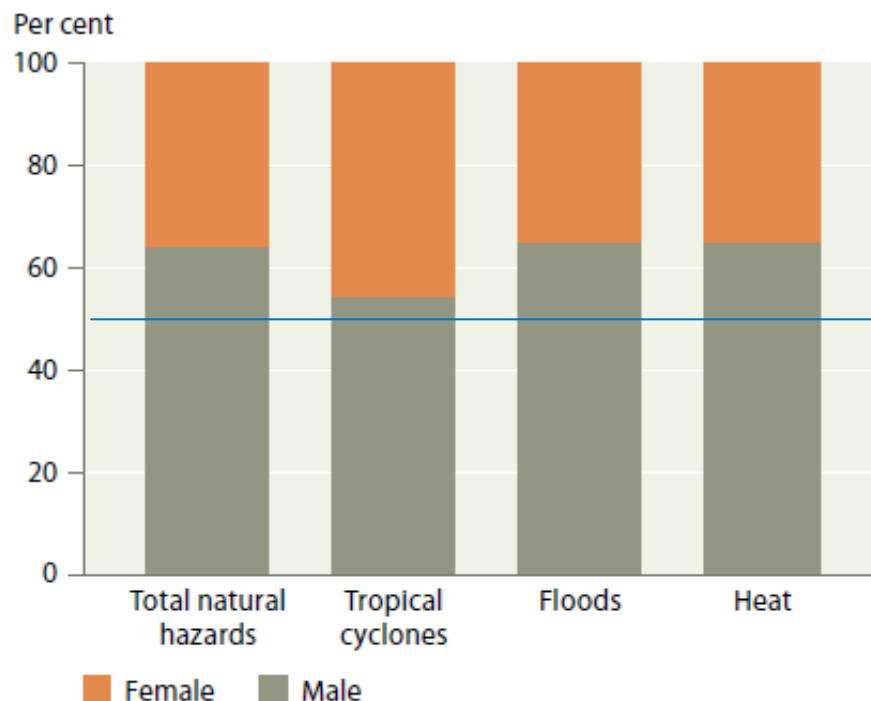
Statistics on gender and natural disasters

- Systematic collection and compilation of statistics on gender and natural disasters are lacking.
 - Data on deaths due to natural disasters disaggregated by sex are available for a small number of countries

Distribution of deaths due to the 2004 tsunami in Sri Lanka by sex within age category



Average share of female and male deaths in total deaths due to natural hazards for selected types of hazard, United States of America, 2000–2008





Excess mortality by age group and by sex in Rome, Milan and Turin during 2003 summer heat wave

	Rome		Milan		Turin	
	Number of deaths	%	Number of deaths	%	Number of deaths	%
Age category						
0–64	-58	-6	-35	-9	21	7
65–74	51	5	-23	-5	58	16
75–84	397	26	305	43	213	40
85+	554	38	312	40	285	50
Sex						
Male	246	10	141	12	215	25
Female	698	27	418	33	362	40
Total	944	19	559	23	577	33

Source: Michelozzi and others, Heat waves in Italy (2005).

Note: Expected daily mortality was computed as the mean daily value from a specific reference period: 1995–2002 for Rome and Milan and 1998–2002 for Turin. Daily excess mortality was calculated as the difference between the number of deaths observed on a given day and the smoothed daily average for the previous years. Negative figures are shown when daily mortality observed was lower than expected.



Statistics on gender and natural disasters

- Sex-disaggregated data on the effects of natural disasters on other dimensions are non-existent. Some important aspects that should be considered:
 - Access to resources after disasters: food, shelter, water and sanitation, health services, financial services
 - Changes in food consumption patterns (skipping meals / eating less expensive food, cutting the size of meals) by reasons of food shortages (some related to natural disasters) + strategies to alleviate food shortages
 - School attendance and labour force participation before and after disaster



Topic 2. Involvement of women and men in the management of the environment

Policy-relevant questions on gender	Data needed	Sources of data
Are women underrepresented in high-level decision-making related to environmental issues?	Managerial positions in environment ministries or environment-related ministries (such as forestry, fisheries, energy, urban planning, water and sanitation or agriculture) by sex of holder and type of ministry. Positions in national coordinating bodies related to environment, climate change, or desertification by sex	Administrative sources
Are women as likely as men to be enrolled or graduate from environment-related fields of study (such as environment, water, agriculture, forestry, energy)?	Number of students in tertiary education by detailed fields of study and sex Number of tertiary graduates by detailed fields of study and sex	School administrative sources



Involvement of women and men in the management of the environment (cont'd)

Policy-relevant questions on gender	Data needed	Sources of data
Are women more involved than men in sustainable consumption and environmentally-friendly behaviour such as recycling, saving water, saving energy, or buying of eco-friendly products?	Distribution of adult population by sex and various types of self-reported behaviour related to environment protection	Population-based surveys, including opinion and value surveys
Do women use public transportation for commuting more often than men?	Distribution of adult population and population using public transportation for commuting by sex.	Population-based surveys, including opinion and value surveys; public transport usage surveys
Are women more often than men active members of local NGOs involved in environmental protection?	Distribution of adult population by sex and active membership in local NGOs related to environment protection	Population-based surveys, including opinion and value surveys