Collection, compilation and dissemination of official vital statistics at the international level

United Nations Statistics Division
Outline

• Introduction
• Collection of vital statistics
• Analysis of responses
• Sources of data
• Dissemination programme
• Challenges
• Points for discussion
Introduction

- UNSD collects annually official demographic and social statistics of all countries and areas
  - Annual questionnaires
  - Census questionnaires
- Data collected:
  - Population census data, by several characteristics
  - Vital statistics
  - Population estimates
  - Migration data
Introduction

• United Nations *Demographic Yearbook*

• The focus of this presentation is on collection, compilation and dissemination of vital statistics by the United Nations Statistics Division
Collection of vital statistics

Vital Statistics questionnaire

- sent annually to each NSO
- in electronic format
- customized for each country
- instructions and metadata worksheets
- data tabulations, pre-filled with existing data
Collection of vital statistics

Fertility

Total live births by sex and urban/rural residence (time series)*
Live births by age of mother and sex of child*
Total Fertility rate (time series)*
Live births by sex of child and live birth order
Live births by age of mother and live birth order
Live births by plurality
Live births by marital status of mother
Live births in wedlock by duration of marriage
Live births by age of father
Live births by sex of child and birth weight
Live births by sex of child and gestational age
Live births by month of birth

Collection of vital statistics

General mortality

- Total deaths by sex and urban/rural residence (time series)*
- Deaths by age and sex*
- Life expectancy at birth*
- Deaths by month of death
- Complete life tables for males, females separately
- Abridged life tables for males, females separately
Collection of vital statistics

Infant deaths

- Total infant deaths by sex of infant and urban/rural residence of mother (time series)*
- Infant deaths by age and sex*
- Infant deaths by month of death

Foetal deaths

- Late foetal deaths by sex of foetus and urban/rural residence of woman (time series)*
- Late foetal deaths by age of woman
- Foetal deaths by gestational age

Abortions

- Legally induced abortions by urban/rural residence of woman (time series)*
- Legally induced abortions by age and number of previous live births of woman*

Collection of vital statistics

Marriage
- Marriages by urban/rural residence (time series)*
- Marriages by age of groom and bride*
- Marriages by marital status of groom and bride
- First marriages by age of groom and bride

Divorce
- Divorces by urban/rural residence (time series)*
- Divorces by age of husband and wife
- Divorces by duration of marriage
- Divorces by number of dependent children
### Analysis of responses

#### TABLE 1. DATA AVAILABILITY IN UNSD FOR THE PERIOD 2001-2010 - MAIN FERTILITY DATASETS

| Dataset                          | Total | No. | %  | Africa | No. | %  | America North | No. | %  | America South | No. | %  | Asia | No. | %  | Europe | No. | %  | Oceania | No. | %  |
|----------------------------------|-------|-----|----|--------|-----|----|---------------|-----|----|---------------|-----|----|------|-----|----|--------|-----|----|---------|-----|----|-------|-----|----|
| Total live births by sex         | 198   | 84  |    | 33     | 57  |    | 35            | 95  |    | 13             | 93  |    | 45    | 88  |    | 49    | 96  |    | 23     | 92  |    |
| Live births by age of mother and sex | 143  | 61  |    | 13     | 22  |    | 30            | 81  |    | 11             | 79  |    | 30    | 59  |    | 45    | 88  |    | 14     | 56  |    |
| Total fertility rate             | 143   | 61  |    | 19     | 33  |    | 21            | 57  |    | 11             | 79  |    | 40    | 78  |    | 44    | 86  |    | 8      | 32  |    |
# Analysis of responses

<table>
<thead>
<tr>
<th>Dataset</th>
<th>Number of countries</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Live births by month of birth</td>
<td>137</td>
<td>58</td>
</tr>
<tr>
<td>Live births by age of mother and birth order</td>
<td>102</td>
<td>43</td>
</tr>
<tr>
<td>Live births by sex and birth order</td>
<td>100</td>
<td>42</td>
</tr>
<tr>
<td>Live births by marital status of mother</td>
<td>100</td>
<td>42</td>
</tr>
<tr>
<td>Live births by plurality</td>
<td>97</td>
<td>41</td>
</tr>
<tr>
<td>Live births by age of father</td>
<td>86</td>
<td>36</td>
</tr>
<tr>
<td>Live births by sex and birth weight</td>
<td>78</td>
<td>33</td>
</tr>
<tr>
<td>Live births in wedlock by duration of marriage</td>
<td>60</td>
<td>25</td>
</tr>
<tr>
<td>Live births by sex and gestational age</td>
<td>57</td>
<td>24</td>
</tr>
</tbody>
</table>
## Analysis of responses

**TABLE 3. DATA AVAILABILITY IN UNSD FOR THE PERIOD 2001-2010 - General Mortality datasets**

Number of countries and percentage for each region

<table>
<thead>
<tr>
<th>Dataset</th>
<th>Total</th>
<th>Africa</th>
<th>America North</th>
<th>America South</th>
<th>Asia</th>
<th>Europe</th>
<th>Oceania</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
</tr>
<tr>
<td>Total deaths by sex</td>
<td>194</td>
<td>82</td>
<td>29</td>
<td>36</td>
<td>14</td>
<td>45</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>50</td>
<td>97</td>
<td>100</td>
<td>88</td>
<td>96</td>
</tr>
<tr>
<td>Deaths by age and sex</td>
<td>152</td>
<td>64</td>
<td>15</td>
<td>32</td>
<td>12</td>
<td>32</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>26</td>
<td>86</td>
<td>86</td>
<td>63</td>
<td>88</td>
</tr>
<tr>
<td>Life expectancy at birth</td>
<td>152</td>
<td>64</td>
<td>21</td>
<td>25</td>
<td>11</td>
<td>36</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>36</td>
<td>68</td>
<td>79</td>
<td>71</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Analysis of responses

**TABLE 4. DATA AVAILABILITY IN UNSD FOR THE PERIOD 2001-2010 - Infant Mortality datasets**

Number of countries and percentage for each region

<table>
<thead>
<tr>
<th>Dataset</th>
<th>Total</th>
<th>Africa</th>
<th>North</th>
<th>South</th>
<th>Asia</th>
<th>Europe</th>
<th>Oceania</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Total infant deaths by sex</td>
<td>161</td>
<td>68</td>
<td>17</td>
<td>29</td>
<td>32</td>
<td>86</td>
<td>11</td>
</tr>
<tr>
<td>Infant deaths by age and sex</td>
<td>109</td>
<td>46</td>
<td>7</td>
<td>12</td>
<td>22</td>
<td>59</td>
<td>9</td>
</tr>
<tr>
<td>Infant deaths by month of death</td>
<td>106</td>
<td>45</td>
<td>8</td>
<td>14</td>
<td>21</td>
<td>57</td>
<td>9</td>
</tr>
</tbody>
</table>
# Analysis of responses

## TABLE 5. DATA AVAILABILITY IN UNSD FOR THE PERIOD 2001-2010 - Foetal deaths and Abortions

<table>
<thead>
<tr>
<th>Dataset</th>
<th>Number of countries</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Late foetal deaths by sex</td>
<td>106</td>
<td>45</td>
</tr>
<tr>
<td>Late foetal deaths by age of woman</td>
<td>78</td>
<td>33</td>
</tr>
<tr>
<td>Foetal deaths by gestational age</td>
<td>59</td>
<td>25</td>
</tr>
<tr>
<td>Legally induced abortions by urban/rural residence of woman</td>
<td>63</td>
<td>27</td>
</tr>
<tr>
<td>Legally induced abortions by age and number of previous live births of woman</td>
<td>49</td>
<td>21</td>
</tr>
</tbody>
</table>
## Analysis of responses

**TABLE 6. DATA AVAILABILITY IN UNSD FOR THE PERIOD 2001-2010 - Marriage and Divorce**

<table>
<thead>
<tr>
<th>Dataset</th>
<th>Number of countries</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marriages by urban/rural residence</td>
<td>148</td>
<td>63</td>
</tr>
<tr>
<td>Marriages by age of groom and bride</td>
<td>110</td>
<td>47</td>
</tr>
<tr>
<td>First marriages by age of groom and bride</td>
<td>85</td>
<td>36</td>
</tr>
<tr>
<td>Marriages by marital status of groom and bride</td>
<td>62</td>
<td>26</td>
</tr>
<tr>
<td>Divorces by urban/rural residence</td>
<td>133</td>
<td>56</td>
</tr>
<tr>
<td>Divorces by duration of marriage</td>
<td>81</td>
<td>34</td>
</tr>
<tr>
<td>Divorces by age of husband and wife</td>
<td>77</td>
<td>33</td>
</tr>
<tr>
<td>Divorces by number of dependent children</td>
<td>67</td>
<td>28</td>
</tr>
</tbody>
</table>
Sources of data

Sources of vital statistics data reported to UNSD are:

- Civil registration
- Population censuses
- Sample surveys
- Health statistics reports, hospital records
- National estimates and projections

The majority of data reported to UNSD are from vital registration at varying degrees of reported completeness.
Sources of data

Population census as a source: Benin, Bhutan, Burkina Faso, Democratic People’s Republic of Korea, Ethiopia, Liberia, Malawi, Namibia, Nepal, Sierra Leone, Swaziland, Zimbabwe, Tonga. Some of these countries have reported both births and deaths during the 12 month period preceding the census; others have reported only the births or only the deaths.

Sample surveys as a source: Bangladesh – reports crude birth and death rates obtained from the Sample Vital Registration System of Bangladesh; China – births’ and deaths’ estimates based on National Sample Survey on Population Changes; India – reports crude birth and death rates obtained from the Sample Registration System of India which is a large demographic survey; Pakistan – estimates of births and deaths from the Pakistan Demographic Survey.
Sources of data

Botswana reports births and deaths from health statistics reports, and Niger has reported deaths from hospital records.

There are also countries that report for some years national projections of births and deaths, e.g. Benin, Burkina Faso, Malawi, Namibia, Senegal.
Dissemination programme

UN Demographic Yearbook

Published annually:

- Total live births, live births by age of mother and sex, asfr-s, TFR
- Total deaths, deaths by age and sex, age-specific mortality rates, life expectancy at birth, and at every fifth age
- Total infant deaths, infant deaths by age and sex and respective rates
- Late foetal deaths and late foetal death ratios
- Legally induced abortions and legally induced abortions by age of woman and number of previous live births
- Total marriages and crude marriage rates, marriages by age of groom and bride
- Total divorces and crude divorce rates
Dissemination programme

- **UN Demographic Yearbook online**
  

- **Population and Vital Statistics Report**
  

  
Challenges

• non-agreement between datasets of the same topic
• numerators, denominator not referring to the same population group
• missing metadata
• unclear or unreported levels of completeness
Points for discussion

- Data collection programme of UNSD compared to reality of data availability in your countries

- Any datasets to be added or removed to the data collection programme on vital statistics

- Suggestions for improvement of vital statistics data collection (processes, content, etc)

- Suggestions for improvement of vital statistics dissemination