

# Integrating a Gender Perspective into Statistics





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# **Integrating a Gender Perspective into Statistics**



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# Department of Economic and Social Affairs

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# Preface

Gender equality has been increasingly recognized as being essential to the process of sustainable development and the formulation of effective national development policies and programmes. The demand for gender statistics has increased over the years owing to international conventions and gender mainstreaming in policies. However, while many national statistical offices have attempted to establish and succeeded in establishing sound gender statistics programmes, additional guidance is needed to improve the availability of data and to ensure a proper mainstreaming of gender issues in all areas of official statistics.

These concerns have been reflected in the statistical work of the United Nations. The United Nations Statistics Division has led many of the technical developments in the field of gender statistics since the early 1980s. Over the years, the Division has actively supported gender statistics programmes around the world, providing leadership particularly in the production of technical materials and the compilation of statistics. In an effort to revamp gender statistics programmes around the world, the Division, in collaboration with the United Nations Population Fund and the World Bank, established the Inter-agency and Expert Group on Gender Statistics (IAEG-GS) in 2006 and has subsequently convened various editions of the Global Forum on Gender Statistics to help to chart the path for further work in this field.

The present manual was prepared following the recommendation of IAEG-GS in 2009 and the request made by the United Nations Statistical Commission at its forty-second session in 2011 (see E/2011/24-E/CN.3/2011/37).

Recognizing that the systematic integration of gender in regular statistical programmes is still missing in many countries, the present manual aims to foster a gender perspective in national statistics. It provides information needed to accomplish three main goals: (a) to achieve a comprehensive coverage of gender issues in data production activities; (b) to incorporate a gender perspective into the design of surveys or censuses, by taking into account gender issues and avoiding gender biases in measurement; and (c) to improve data analysis and data presentation and to deliver gender statistics in a format that is easy to use by policymakers and planners. The manual is targeted primarily at statisticians working in less developed national statistical systems. It can also be used as a resource manual for training in gender statistics. The present manual supplements and brings up-to-date the extensive work on gender statistics carried out by the United Nations and its specialized agencies, other international organizations and national statistical offices. The manual acknowledges important milestones in the development of training materials on gender statistics, including the following comprehensive manuals: *Engendering Statistics: A Tool for Change* (Hedman, Perucci and Sundström, 1996); *Handbook for Producing National Statistical Reports on Women and Men* (United Nations, 1997); and “*Developing gender statistics: a practical tool*” (United Nations, Economic Commission for Europe, and World Bank Institute, 2010).

The present manual was produced on the basis of collaborative efforts. IAEG-GS initiated the process of developing the manual and provided guidance on its structure and content. The Statistics Division, with the assistance of Ms. Ionica Berevoescu as consultant to the Division’s secretariat, prepared the manual. Additional feedback was provided during two regional training workshops, which used materials from the draft manual, held in Kampala in 2012 and in Chiba, Japan, in 2013.

The present manual is also available online, in the form of a wiki platform (<http://unstats.un.org/unsd/genderstatmanual>). The dedicated wiki platform has been developed in such a way as to ensure a wide reach and distribution to potential users in national statistical offices as well as in other national and international agencies. The flexible design of the platform allows

for frequent updates and enhancement of the content to reflect the most recent developments in gender statistics.

# Abbreviation and Acronyms

BMI	Body mass index
CFSVA	Comprehensive Food Security and Vulnerability Analysis
CWIQ	Core Welfare Indicators Questionnaire
DHS	Demographic and Health Survey
EU-SILC	European Union Statistics on Income and Living Conditions
FAO	Food and Agriculture Organization of the United Nations
FGM	Female genital mutilation
GDP	Gross domestic product
ICT	Information and communications technology
IFAD	International Fund for Agricultural Development
ILO	International Labour Organization
ISCED	International Standard Classification of Education
ISCO	International Standard Classification of Occupations
ITU	International Telecommunication Union
LFS	Labour force survey
LSMS	Living Standards Measurement Study
LSMS-ISA	Living Standards Measurement Study – Integrated Survey on Agriculture
MICS	Multiple Indicator Cluster Survey
NGO	Non-governmental organization
OECD	Organization for Economic Cooperation and Development
SNA	System of National Accounts
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
UNECE	United Nations Economic Commission for Europe
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children’s Fund
UNIFEM	United Nations Development Fund for Women
UNODC	United Nations Office on Drugs and Crime
UN Women	United Nations Entity for Gender Equality and the Empowerment of Women
WFP	World Food Programme
WHO	World Health Organization

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## Chapter I.

# Users, uses and production of gender statistics: an overview

## What are gender statistics?

1. Gender statistics are defined as statistics that adequately reflect differences and inequalities in the situation of women and men in all areas of life (United Nations, 2006). This definition closely follows the Beijing Platform for Action, which was adopted at the Fourth World Conference on Women, held in Beijing in 1995, and in paragraph 206 (a) of which it was recommended that national, regional and international statistical services should ensure that statistics related to individuals are collected, compiled, analysed and presented by sex and age and reflect problems, issues and questions related to women and men in society (United Nations, 1996). There are several requirements imbedded in the definition of gender statistics (Hedman, Perucci and Sundström, 1996; United Nations, 2001a, 2001b, 2002, 2006, 2007; Corner, 2003). First, gender statistics have to reflect gender issues, that is, questions, problems and concerns related to all aspects of women's and men's lives, including their specific needs, opportunities and contributions to society. In every society, there are differences between what is expected, allowed and valued in a woman and what is expected, allowed and valued in a man. These differences have a specific impact on women's and men's lives throughout all life stages and determine, for example, differences in health, education, work, family life or general well-being. Producing gender statistics entails disaggregating data by sex and other characteristics to reveal those differences or inequalities and collecting data on specific issues that affect one sex more than the other or relate to gender relations between women and men. Second, gender statistics should adequately reflect differences and inequalities in the situation of women and men. In other words, concepts and definitions used in data collection must be developed in such a way as to ensure that the diversity of various groups of women and men and their specific activities and challenges are captured. In addition, data collection methods that induce gender bias in data collection, such as underreporting of women's economic activity, underreporting of violence against women and undercounting of girls, their births and their deaths should be avoided.

2. In summary, gender statistics are defined by the sum of the following characteristics:

- a)* Data are collected and presented by sex as a primary and overall classification;
- b)* Data reflect gender issues;
- c)* Data are based on concepts and definitions that adequately reflect the diversity of women and men and capture all aspects of their lives;
- d)* Data collection methods take into account stereotypes and social and cultural factors that may induce gender bias in the data.

3. Gender statistics are more than data disaggregated by sex. The characteristics listed above are useful in differentiating between sex-disaggregated statistics (the first requirement in the list above) and gender statistics (which incorporate all four requirements). Sex disaggregated statistics are simply data collected and tabulated separately for women and men. Disaggregating data by sex does not guarantee, for example, that the data collection instruments involved in the data production were conceived to reflect gender roles, relations and

inequalities in society (United Nations, 2001a). Furthermore, some statistics that incorporate a gender perspective are not necessarily disaggregated by sex. For example, national accounts statistics that incorporate a gender perspective take into account both women's and men's contribution to all social and economic areas, including unpaid work.

4. Confusion between “sex” and “gender” still persists among producers and users of statistics (United Nations, 2001a, 2002; Corner, 2003; UNECE, and World Bank Institute, 2010). The word “sex” refers to biological differences between women and men. Biological differences are fixed and unchangeable and do not vary across cultures or over time. “Gender”, meanwhile, refers to socially-constructed differences in the attributes and opportunities associated with being female or male and to social interactions and relationships between women and men. Gender determines what is expected, allowed and valued in a woman or man in a given context. In most societies, there are differences and inequalities between women and men in terms of roles and responsibilities assigned, activities undertaken, access to and control over resources and decision-making opportunities. These differences and inequalities between the sexes are shaped by the history of social relations and change over time and across cultures.

5. The term “gender” has often been wrongly used in association with data. “Gender disaggregation” or “data disaggregated by gender” are incorrect terms. Gender statistics are disaggregated by sex, an individual-level characteristic commonly recorded in censuses, surveys and administrative records, not by gender, a social concept relevant at the level of a population group (Corner, 2003). When data on demographic, social or economic characteristics are collected in the field, it is the sex of a person that is recorded, as female (woman) or male (man), not the gender. Sex-disaggregated data, however, when analysed, have the capacity to reveal differences in women's and men's lives that are the result of gender roles and expectations.

6. Gender statistics should not be equated with women's statistics. The understanding of gender statistics, their uses and their users has changed over time (Hedman, Perucci and Sundström, 1996; Corner, 2003). Initial work focused on producing statistics on women, in the context where many countries were collecting data by sex, but most of the data were analysed and/or made available to users as totals, without the possibility of differentiating between women and men. The demand for data and indicators on women came from women's organizations and women's advocates, who needed statistics to support new policies and programmes oriented towards reducing the disadvantages faced by women. Since then, however, the focus has shifted from “women only” to “women and men”, both in terms of statistics and in terms of policies. In terms of statistics, it became clear that the situation of women could be adequately described and analysed only by comparing it to that of men. In addition, statisticians have recognized that improvement is also needed in the area of statistics on men. (Hedman, Perucci and Sundström, 1996). Specific issues related to men's lives, such as harmful levels of drinking and smoking, greater risk of accidents or injuries and access to paid paternity leave, have increasingly been taken into account and covered by gender statistics. In terms of policies, the change of focus from women to gender stemmed from a recognition that isolating women's concerns from mainstream development policies and strategies limits the impact of such policies and strategies whereas paying more attention to the roles and responsibilities of both women and men and their interrelationships can make policies and strategies more effective.

## Users and uses of gender statistics

7. Similar to other statistics, gender statistics have to respond to the needs of policy-makers, advocates, researchers, the media and the public. Gender statistics can be used to promote understanding of the actual situation of women and men in society; to advance

gender analysis and research; to monitor progress towards gender equality and the full and equal enjoyment of all human rights and fundamental rights by women and girls; to develop and monitor policies and programmes oriented towards increased investments in human capital and the labour force; to support gender mainstreaming in development and poverty reduction policies; and to develop and monitor policies on the reduction of violence against women.

8. Gender statistics promote understanding of the actual situation of women and men in society. Gender statistics are about everybody, women and men. The production of gender statistics has the role of informing the public and the media, raising consciousness, encouraging public debate and promoting change in society. The dissemination of gender statistics to a large audience is crucial in reducing both gender stereotypes and the misrepresentation of the roles of women and men and their contribution to society and in promoting a new gender balance in the distribution of roles within the family, at the workplace and in positions of decision-making.

9. Gender statistics are crucial in advancing data-based gender analysis and research. Gender statistics provide researchers and analysts with the quantitative evidence necessary to assess gender gaps in all areas of life, to understand the interlinkages between cultural, social and economic factors that are at the basis of gender inequality and their dynamic over time and to evaluate the implications of unequal access of women and men to social and economic opportunities.

10. Gender statistics are used in monitoring progress towards gender equality and the full and equal enjoyment of all human rights and fundamental rights by women and girls. Gender equality means equal opportunities, rights and responsibilities for women and men, girls and boys (United Nations, 2002). Equality does not mean that women and men are the same or have to do the same things, but rather that women's and men's opportunities, rights and responsibilities do not depend on whether they are born female or male. It also implies that the interests, needs and priorities of both women and men should be taken into consideration (United Nations, 2002).

11. Gender statistics are the basis for constructing gender indicators, a useful tool in monitoring progress towards gender equality goals. Not all statistics are indicators. In general, a statistic becomes an indicator when it has a reference point against which value judgements can be made (Canadian International Development Agency, 1997). Indicators have a normative nature, in the sense that a change from the reference point (a norm or a benchmark) in a particular direction can be interpreted as "good" or "bad" (Canadian International Development Agency, 1997). In the case of gender statistics, the status of women in a particular country is usually evaluated by reference to (comparison with) the situation of men in that country. In a few cases, such as statistics on maternal mortality or access to antenatal services, the norm is the situation of women in other countries. Gender indicators can point out gender-related changes over time and therefore be used to measure whether the goal of gender equality is being achieved. For example, three gender indicators are used to monitor the Millennium Development Goal that refers to gender equality and the empowerment of women: gender parity index for gross enrolment ratio in primary, secondary and tertiary education; proportion of employees in non-agricultural employment who are women; and proportion of seats held by women in single or lower houses of national parliaments.

12. Gender statistics provide an evidence base for developing and monitoring policies and programmes oriented towards increased investments in human capital and the labour force. Gender statistics can show whether women and men have unequal access to education, health or economic resources and orient policies towards improving opportunities for the disadvantaged sex and a more effective use of both female and male human resources. Furthermore,

gender statistics can promote understanding of the causes of gender inequality in access to all types of resources. This aspect is very important, because policies tend to be more effective when targeting the causes of gender inequality and the structures and practices that perpetuate inequalities, not merely the outcome of gender inequality in an unjust and unsustainable development process (United Nations, 2002).

13. Gender statistics have a crucial role in gender mainstreaming in development and poverty reduction policies. Policies and measures tend to perpetuate and exacerbate inequalities when not adequately tailored to existing gender differentials (Hedman, Perucci and Sundström, 1996). One of the first steps in the gender mainstreaming strategy of a policy is the assessment of how and why gender differences and inequalities are relevant (United Nations, 2002). At this stage, gender statistics can provide information on the responsibilities, activities, interests and priorities of women and men and how their experience of problems may differ; on how women and men respond to social, economic and policy changes; and on the role of gender-differentiated access to economic resources and decision-making in the process of change.

14. Gender statistics have been the basis for proving that attention to gender perspectives and gender equality can result in efficiency gains. Research has revealed that reducing gender inequality could significantly increase productivity, total national output and the human capital of the next generation (United Nations, 2002). For example, based on gender statistics, the *World Development Report 2012: Gender Equality and Development* (World Bank, 2011) showed that eliminating barriers that discriminate against women working in certain sectors or occupations could increase labour productivity by as much as 25 per cent in some countries; that more educated women with greater control over household resources have spending patterns that benefit the current and future situation of their children; and that empowering women as economic, political and social actors can change policy choices and make institutions more representative of a range of voices.

15. The use of gender statistics can provide a more comprehensive understanding of the gender dimensions of poverty, which in turn can significantly change priorities in policy and programme interventions (Klugman, 2002). Gender statistics can address multiple dimensions of poverty and inequality, including gender-based asset inequality, intrahousehold allocation of resources, time poverty or vulnerability to external shocks. Understanding the gendered nature of poverty will significantly improve both the equity and efficiency of poverty reduction strategies (Klugman, 2002).

16. Gender statistics have an important role in developing and monitoring policies on *the reduction of violence against women*. Violence against women is an obstacle to the achievement of the objectives of equality, development and peace (United Nations, 1996). Statistics on the prevalence of various types of violence, causes and consequences of violence and access by victims of violence to formal and informal support for can lead to better focused and more efficient preventive and intervention efforts.

## Production of gender statistics

17. The production of gender statistics concerns the entire national statistical system and covers data from different sources and statistical fields (Hedman, Perucci and Sundström, 1996). Gender statistics may be considered a field of statistics (see, for example, UNECE and World Bank Institute, 2010); however, the production of gender statistics should not be misunderstood as being limited to the compilation of sex-disaggregated statistics from various statistical fields and their dissemination in gender-focused publications, reports or databases. Similar to the obtention of other statistics produced by national statistical systems, the obtention of gender statistics involves such stages as planning, data collection, data anal-

ysis and dissemination. Obtaining reliable gender statistics that adequately reflect differences and inequalities in the situation of women and men in all areas of life requires a strategy of gender mainstreaming in all stages of data production. This means that gender is brought into the “mainstream” of all statistical activities, rather than dealt with as an “add-on” (United Nations, 2002).

## Mainstreaming a gender perspective in statistics

18. Mainstreaming a gender perspective in statistics means that gender issues and gender-based biases are systematically taken into account in the production of all official statistics and at all stages of data production (Hedman, Perucci and Sundström, 1996; United Nations, 2001a, 2001b, 2002, 2006). The Inter-agency and Expert Group on Gender Statistics and the various editions of the Global Forum on Gender Statistics organized by the United Nations recognized that it is important to institutionalize gender statistics in all sectors in order to secure its sustainability (United Nations, 2006, 2009, 2012). Gender statistics produced as an “add-on” field are often marginalized and fail to reach a wide range of users, including policymakers in domains other than gender equality, analysts and researchers. Moreover, their production may be more dependent on irregular economic and human resources. Mainstreaming a gender perspective in the national statistical system may also lead to more efficient coverage of gender issues and better coordination among data collection programmes in producing gender statistics.

19. National statistical systems need to regularly collect, analyse and disseminate data that address relevant gender issues. Gender statistics should document women’s and men’s participation in and contributions to all social and economic areas and reflect the underlying causes and consequences of gender inequality (Hedman, Perucci and Sundström, 1996; United Nations, 2002). The coverage of gender issues by official statistical systems and the adequacy of such systems should be regularly reviewed, as recommended in paragraph 207 (b) of the Beijing Platform for Action (United Nations, 1996). The review should make clear whether relevant gender issues, as defined by major data users, are covered by existing data collection programmes and made available to users. Based on this review, the strategy of gender mainstreaming can involve collecting new types of data expanding data collection in some areas to fill existing knowledge gaps and better disseminating data already collected (Hedman, Perucci and Sundström, 1996; United Nations, 2002). The strategy of gender mainstreaming should be based on strong collaboration between users and producers of data, strong internal coordination within the national statistical office and the national statistical system, and data sharing agreements between the national statistical office and other agencies of the national statistical system or other producers of data.

20. Gender-sensitive concepts and methods should be used in data collection in all statistical fields. In order to provide reliable comparisons between women and men, gender statistics need to correctly measure women’s and men’s participation in and contribution to society (Hedman, Perucci and Sundström, 1996). Conventional concepts and methods used in data collection are often inadequate to reflect the realities of women and men. For example, some women’s activities and contribution to the economy and society are not adequately captured in statistics if old concepts of work and labour force, which do not take into account all forms of work, are used (see, for example, the section entitled “Work” in chapter II).

21. The units of enumeration and the units of data collection should be adequately chosen to support the production of data that would show meaningful gender differences. For example, gender statistics in agriculture should be based on an adequate coverage of all agricultural holdings, including smallholdings, where women are predominant; should include information on farm labour disaggregated by sex, age and other social and economic characteristics; and should cover aspects of management and ownership of agricultural resources at the most disaggregated level possible, such as the subholding and individual levels.

22. Furthermore, new concepts and new methods of data collection should be used for the production of gender statistics. For example, recent methodological developments in time-use surveys and violence against women surveys and changes towards more comprehensive statistics in national accounts so that unpaid work is covered should be integrated in the production of national statistics.

23. Improvement of content, methods, classifications and measurements from a gender perspective should be made part of the ongoing efforts to improve all statistical sources – censuses, surveys and administrative systems (Hedman, Perucci and Sundström, 1996). Mainstreaming a gender perspective in data collection programmes involves review and revision of the conceptual basis of data collection tools, review and revision of coding and classification systems and terminologies, gender training for all personnel involved in data collection, media campaigns that include gender-specific messages, gender-sensitive selection of field interviewers, and review and revision of tabulations and data presentation and dissemination (Corner, 2003).

24. The presentation and dissemination of gender statistics should reach all potential target groups. Most often, existing data are not fully exploited for obtaining gender statistics (United Nations, 2009). Furthermore, data are often analysed and presented without considering users' needs and therefore fail to reach the target audiences (Hedman, Perucci and Sundström, 1996). However, the presentation and dissemination of data is a crucial area of work in gender statistics. Gender statistics and the results of data-based gender analysis should be disseminated to a wide range of users with a clear language that highlights gender-based causes and consequences and their policy implications (United Nations, 2002).

25. The dissemination of gender statistics should not be limited to gender-focused reports and databases. Restricting the activities concerning gender statistics to the compilation and dissemination of sex-disaggregated data and gender-sensitive indicators in gender publications only limits the audience and users of data. This restrictive approach may also perpetuate the perception that gender statistics are useful for women's or gender advocates only. Gender statistics need to be taken into account not only in policies and programmes created to reduce gender inequality, but in all policies and programmes. It is important that statistics made available on a regular basis to policymakers include a gender dimension. As recommended in paragraph 207 (d) of the Beijing Platform for Action, Governments should use more gender-sensitive data in the formulation of policy and implementation of programmes and projects (United Nations, 1996). Presentation of gender statistics in regular statistical products produced by national statistical systems increases the accessibility of gender statistics and their chances of being taken into account in policymaking. If these documents fail to highlight the importance of the goal of gender equality and to incorporate relevant gender perspectives, an important opportunity is lost (United Nations, 2002).

26. Mainstreaming a gender perspective in data collection and presentation should be seen as part of the overall process of improving the quality of data produced by national statistical systems. Four components of overall statistical data quality are particularly impacted (UNECE, and World Bank Institute, 2010):

- a) *Relevance.* This is defined as the degree to which statistics meet the needs of users. Gender mainstreaming in statistics entails taking into account users' needs. Gender statistics aim to address gender issues that are defined as relevant by policymakers, advocates, researchers and the public.
- b) *Accuracy.* This is defined as the closeness of statistical estimates to true values. Gender mainstreaming in data collection has a crucial role in reducing bias in data collection. For example, use of gender-sensitive data collection tools can prevent underreporting of women's economic activity, underreporting of violence against women and undercounting of girls, their births and their deaths.



- c) *Accessibility of data.* Data on a variety of topics that are often associated with women's interests are becoming available, such as statistics on time use, violence against women and family-work balance. Many gender statistics programmes also aim to make relevant gender-sensitive statistical information accessible to a wide range of audiences.
- d) *Clarity.* This is related to the presentation of data as well as to the availability of information on data quality and appropriate metadata. Gender mainstreaming pays particular attention to disseminating statistics in formats that are easily understood by a wide audience and making clear the limitations of data collected on the basis of concepts and methods that are not gender-sensitive.

## Implications of gender mainstreaming in statistics at the organizational level

27. *Leadership.* Mainstreaming a gender perspective in national statistical systems requires political will at all levels, not only in national statistical offices but also in the statistical services of other Government agencies and in all institutions that provide administrative data (United Nations, 2006). Sensitizing and raising the awareness of both users and producers of data is critical in linking gender statistics to policies. Moreover, policymakers and heads of national statistical offices should be fully involved in capacity-building and leadership in mainstreaming gender statistics in national statistical strategies (United Nations, 2006, 2009).

28. *Legal framework.* The development of gender statistics should be specified within the legal framework of official statistical systems (United Nations, 2006). Of crucial importance to improving the availability of gender statistics is the specification of formal requirements for sex-disaggregation and the incorporation of a gender perspective within the national statistical legislation that regulates the production and dissemination of official statistics. In order to expand the range of information available for gender analysis, requirements need to be established not only for statistics already officially collected by the national statistical office, but also for other sources of data, particularly administrative data being collected and disseminated by other Government agencies and by organizations in the public and private sectors (United Nations, 2006).

29. *Cooperation between users and producers of statistics.* A dialogue should be fostered between national statistical offices and interested stakeholders, including women's groups. The general approach in the development of gender statistics has involved efforts to promote dialogue and understanding between statisticians and the various users of statistics—policymakers, representatives of non-governmental organizations, activists and researchers (United Nations, 2000). Dialogue between national statistical offices and interested stakeholders can enable data users to understand, gain access to and use gender statistics more effectively and help to increase the capacity of statisticians to identify and understand gender issues and to present data in formats that better address the needs of users (United Nations, 2006).

30. *Collaboration in developing and improving concepts and methods.* National statistical offices need to work with international and regional organizations and agencies and academic and research institutions to mainstream gender in the development and revision of concepts, definitions and methods of collecting data on topics where methods are inadequate (United Nations, 2006). This collaboration extends to all methodological issues, including the design of survey questionnaires or modules within questionnaires, the revision of international classifications and standards and the development of analytical methods and appropriate indicators, among others.

31. *Training.* Statisticians should be trained in how to incorporate a gender perspective into their regular work, from the design of data collection tools and fieldwork to data analysis and presentation. At the second Global Forum on Gender Statistics, held in Accra in 2009, it was recognized that, despite global efforts and advocacy for gender statistics, including capacity- building activities, there still persist gaps in knowledge of gender statistics among many professionals in national statistical offices (United Nations, 2009). Regular training is a key component in ensuring the mainstreaming of gender in national statistical systems and the sustainability of programmes. In particular, producers of statistics need to be trained to become more proactive in making the value of gender statistics visible to Governments, the public and other stakeholders (United Nations, 2006).

32. *Refocusing of the activities and position of gender units and gender focal points within national statistical systems.* In paragraph 206 (d) of the Beijing Platform for Action, it was recommended that statistical services should designate or appoint staff to strengthen gender statistics programmes and ensure coordination, monitoring and linkage to all fields of statistical work and should prepare output that integrates statistics from the various subject areas (United Nations, 1996). Since the Fourth World Conference on Women, many countries have embarked on gender statistics programmes (United Nations, Economic and Social Council, 2010). In many instances, however, the activities of gender units and gender focal points are focused narrowly on the compilation and dissemination of sex-disaggregated data (United Nations, Economic and Social Council, 2010). In other cases, the activities are extended a step further, to the preparation of outputs that disseminate the compiled and analysed information on women and men. However, as recognized in paragraph 309 of the Beijing Platform for Action, strategies must be developed to prevent the inadvertent marginalization of gender units as opposed to the mainstreaming of the gender dimension throughout all operations (United Nations, 1996). National statistical offices can benefit from extending the functions of gender units. These extended functions would allow gender units to escape potential marginalization and to be more involved in the quality of statistics produced and their relevance for policymaking.

33. In particular, gender units can play a catalytic role in initiating and monitoring the process of integrating a gender perspective in national statistical systems, especially at the early stages (Hedman, Perucci and Sundström, 1996; United Nations, 2006). They can also play a crucial role in reviewing the existing production of gender statistics and in developing a gender statistics programme. Gender statisticians, meanwhile, can be more involved in the planning of data collection, including the coverage of gender issues and the use of gender-sensitive concepts and methods. They can also help to review data collection instruments and regular publications in order to ensure that a gender perspective is integrated in all statistical fields and programmes. Furthermore, gender units can play an important role in gender sensitization training as well as in training on how to avoid gender bias in data collection.

34. Through their contacts with national machineries for women and non-governmental organizations, gender units and gender focal points can facilitate communication between the producers and some of the end users of gender statistics (United Nations, 2006). These units can provide information to users and help them to understand the uses of existing statistics. At the same time, gender units and gender focal points can increase awareness among statisticians of the need to produce or disseminate statistics that address gender concerns and to develop gender statistics in such new areas as time use, violence against women and unpaid work.

## A guide to the present manual

### Background: existing manuals and training resources on gender statistics

35. The development of methodological materials on gender statistics has a rather short history. Compared to other types of statistics, few manuals and training resources have been dedicated to the development of gender statistics. The United Nations Statistics Division led many of the technical developments in the field of gender statistics, mainly during the period from 1975 to 1995, before the Fourth World Conference on Women (United Nations, Economic and Social Council, 2010). The Division provided leadership in the production of technical materials and the compilation of statistics on women and men. Although the materials and statistical databases have always focused on gender, most often the guidelines produced included only the word “women” in the title. The work covered three major domains: (a) improving concepts and methods for gender statistics, with a special focus on statistics on work; (b) compiling gender indicators and developing gender statistical databases; and (c) using household surveys to improve gender statistics and indicators (see the reference list at the end of this chapter for the list of publications).

36. The Beijing Platform for Action, adopted at the Fourth World Conference on Women, in 1995, is still considered the most comprehensive set of guidelines for the development of gender statistics at all levels, national, regional and global (United Nations, Economic and Social Council, 2010). After Beijing, many global and regional agencies embarked on producing technical materials on gender statistics. However, only a small number of manuals comprehensively covered the production and analysis of gender statistics. Soon after Beijing and as a result of years of training in gender statistics provided by international agencies to developing countries, two comprehensive manuals were developed. The first manual, entitled *Engendering Statistics: A Tool for Change*, was published by Statistics Sweden in 1996. This manual was the first to use as a framework the gender statistics production process and to draw attention to the importance of gender mainstreaming at all stages of data production. It highlighted the importance of gender issues as well as conceptual and measurement issues in developing adequate gender statistics in all statistical fields and the importance of user-producer cooperation in developing a comprehensive programme on gender statistics. The second manual, entitled *Handbook for Producing National Statistical Reports on Women and Men*, was published by the United Nations, in 1997. This manual provided guidance in producing gender-focused analytical publications and integrated data analysis and data presentation for a series of subject-matter topics related to gender. Following this model, national statistical offices from many countries around the world have produced publications on women and men.

37. After Beijing, a great deal of the work on gender statistics developed by global and regional agencies has focused on producing gender indicators, perhaps for two reasons. First, there has been a need to monitor, at the global and regional levels, countries’ progress in achieving gender equality goals. This development should also be seen in the broader context of producing indicators for measuring progress in human development following the adoption of the Copenhagen Declaration on Social Development in 1995 and, later, progress in achieving the Millennium Development Goals in the 2000s. Second, at the national level, there has been an increase in demand at the national level for gender statistics and indicators with a view to supporting policymaking and measuring the gender-related achievements of development projects, including the participation of women and men in such projects. Gender indicators on input, project participation and project output have been the focus of many agencies involved with development projects. As a result, a great deal of effort has been put into the compilation and dissemination of gender statistics and indicators and methodologi-

cal work on the calculation of indicators. Although limitations due to poor data quality and the limitations of indicators themselves in measuring progress have most of the time been acknowledged, little attention has been paid to how the basic data needed to calculate indicators are produced or how the coverage of gender issues in data collection can be improved in national statistical offices. The products of the dissemination of gender statistics and indicators have diversified recently and include the use of such platforms as Gender Info 2007, developed by the United Nations, and the Agri-Gender Statistics Toolkit, developed by the Food and Agriculture Organization of the United Nations (FAO).

38. Furthermore, most recent guidelines and manuals on data collection developed by specialized agencies of the United Nations and other international agencies in their specific fields of interest tend to incorporate a gender perspective. *Examples include Principles and Recommendations for Population and Housing Censuses* (United Nations, 2008); the World Bank manual *Designing Household Survey Questionnaires for Developing Countries: Lessons from 15 years of the Living Standards Measurement Study* (Grosh and Glewwe, 2000); the FAO guidelines entitled *“Agricultural Censuses and Gender Considerations: Concept and Methodology”* (2001) and *A System of Integrated Agricultural Censuses and Surveys* (2007); the methodological papers on gender and labour statistics developed by the International Labour Organization (ILO); and the Eurostat guidelines on living conditions surveys. Some agencies have also been involved in an active process of gender mainstreaming in data collection in some countries. For example, regional offices of the United Nations Population Fund (UNFPA), the former United Nations Development Fund for Women (UNIFEM) and FAO have worked with developing countries in Asia and Africa to integrate a gender perspective in data collection in censuses and surveys (UNFPA, Country Technical Services Team for South and West Asia, 2004; FAO, Regional Office for Africa, 2005). A more recent effort by UNFPA, in collaboration with United Nations Statistics Division and United Nations Entity for Gender Equality and the Empowerment of Women (UN Women) has been focused on the analysis of census data with a gender perspective. (UNFPA, Technical Division, 2014).

39. The integration of a gender perspective in some other data collection manuals has been driven by a close link between the subject matter of data collection and issues of gender inequality or issues specific to women. Examples include the methodological work on time-use surveys by the United Nations, Eurostat and the United Nations Economic Commission for Europe (UNECE); the measurement of maternal mortality through censuses and surveys by the United Nations Children’s Fund (UNICEF), the World Health Organization (WHO), the United Nations and academic groups; and the development of violence against women surveys by WHO, the United Nations, the United Nations Office on Drugs and Crime (UNODC) and UNECE.

40. Methodological work has rarely focused on the use of gender statistics in analytical background reports for policymaking. Nonetheless, two good examples of publications that do address integrating a gender perspective in data analysis for policymaking are the World Bank Publication *A Sourcebook for Poverty Reduction Strategies, Vol.1, Core Techniques and Cross-cutting Issues* (Klugman, 2002), especially the chapter on gender (Bamberger and others, 2002), and *Population Situation Analysis: A Conceptual and Methodological Guide* (UNFPA Technical Division, 2010).

41. The most up-to-date comprehensive manual on gender statistics is the manual entitled *“Developing gender statistics: a practical tool”*. (UNECE and World Bank Institute, 2010) The manual is addressed primarily to statisticians in countries with developed statistical systems and focuses in great detail on gender statistics in selected areas of concern. Some of the areas covered introduce new emerging topics in gender statistics, such as entrepreneurship, access to assets and social exclusion. Compared to previous methodological work on gender statistics, two other novel elements stand out. First, the manual is complemented by mul-

timedia presentations on gender statistics, available online, which can be used as training tools. Second, the manual dedicates an entire chapter to discussing, from an organizational and financial point of view, specific steps and actions for starting a new, or strengthening an existing, gender statistics programme.

## Purpose and audience of the present manual

42. The purpose of the present manual is to provide the methodological and analytical information necessary to improving the availability, quality and use of gender statistics in countries with less developed statistical systems. The approach and structure of the manual are based on the concept of gender mainstreaming in national statistics. As explained earlier in this chapter, mainstreaming a gender perspective in statistics means ensuring that gender issues and gender-based biases are systematically taken into account, in the production of all official statistics and at all stages of data production. This strategic process ensures (a) that national statistical systems regularly collect, analyse and disseminate data that address relevant gender issues; (b) that gender-sensitive concepts and methods are used in data collection in all statistical fields; and (c) that the presentation and dissemination of gender statistics aim to reach a wide range of users, including policymakers, advocates, researchers and analysts whose primary concerns are not necessarily focused on gender.

43. In the more developed regions, gender is already mainstreamed in the production of many national statistical systems and the quality of gender statistics is ensured by way of overall quality frameworks for statistics. However, in the less developed regions, many countries are still struggling to produce, on a regular basis, quality data that can be used to tackle relevant gender issues. This manual addresses the latter. Since the manual *Engendering Statistics: A Tool for Change* (Hedman, Perucci and Sundström) produced by Statistics Sweden in 1996 pointed out the importance of gender mainstreaming in national statistical systems, the issue has been addressed only briefly, primarily in United Nations materials and publications such as the gender and statistics briefing notes produced by the United Nations Statistics Division (United Nations, 2001), the manual entitled “*Gender mainstreaming: an overview*” produced by the Office of the Special Adviser on Gender Issues of the Department of Economics and Social Affairs of the Secretariat (United Nations, 2002) and, more recently, the publication *The World’s Women 2005: Progress in Statistics* (United Nations, 2006). The aim of the present manual, therefore, is to fulfil an as yet unmet need for more guidance on how to build bridges between gender issues, gender statistics and sources of data; how to improve data quality by incorporating a gender perspective in data collection programmes; and how to ensure a wider audience by improving the presentation of gender statistics and their dissemination in regular publications.

44. The present manual is targeted primarily at statisticians working in less developed national statistical systems and can be used as resource material for training in gender statistics. The following three chapters of the manual should help statisticians: (a) to improve the coverage of gender issues in statistics, as well as the quality of statistics, on a wide range of topics (see chapter II); (b) to incorporate a gender perspective into the design of surveys and censuses, by taking into account gender issues and gender bias in measurement (see chapter III); and (c) to improve data analysis and data presentation and to deliver gender statistics in a format that is easy to use by policymakers and planners (see chapter IV). The manual may also be useful for data users who wish to be able to interpret statistics correctly and to understand the problems involved in the production of gender statistics and therefore have a more efficient dialogue with data producers.

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## Chapter II.

# Bringing gender issues into statistics

## Introduction

45. Gender statistics are more than data disaggregated by sex. Although very important in obtaining gender statistics, disaggregation of statistics by sex is only one of the means of integrating a gender perspective in statistics. As explained in chapter I, gender statistics have to adequately reflect problems, issues and questions related to women and men in society. Therefore, besides disaggregating data by sex, four other elements are particularly important in producing gender statistics. First, the statistics have to reflect problems, issues and questions related to women and men in society. This element is taken into account in two ways: (a) by focusing on certain areas of concern where women and men may not enjoy the same opportunities or status (such as work status in the labour market and higher education) or where women's and men's lives may be affected in different ways (such as maternal mortality, domestic violence and occupational injuries); and (b) by taking into account specific population groups where gender inequality is likely to be present or more pronounced. Second, the concepts, definitions and measurement used should allow for an adequate reflection of women's and men's status, gender roles and relations in society. Third, data collection tools should take into account stereotypes and social and cultural factors that may introduce gender bias into data. Fourth, analyses and presentation of data should reveal meaningful differences and similarities between women and men.

46. This chapter focuses on the first three key elements in producing gender statistics, namely, coverage of gender issues, disaggregation of data by sex and other variables to show gender inequality at the level of specific population groups in a society and gender-specific conceptual and measurement issues. The other two key elements in producing gender statistics are discussed in chapters III and IV. Chapter III focuses on integrating a gender perspective in data collection, while chapter IV focuses on data analysis, construction of indicators and presentation of data that would reveal meaningful gender differences or similarities.

## Organization of the chapter

47. This chapter presents 10 subject-matter topics: education; work; poverty; environment; food security; power and decision-making; population, households and families; health; migration, displaced persons and refugees; and violence against women. Each topic is split into a number of subtopics and for each subtopic four interrelated aspects are discussed: gender issues; data needed to address those gender issues; sources of data; and gender-specific conceptual and measurement issues related to the data needed.

- a) The part relating to gender issues presents brief examples of relevant gender issues and aims to help statisticians to recognize the types of policy-relevant questions or concerns related to gender that can be raised within a particular topic of interest or field of statistics. This is important because, as explained, gender statistics have to reflect problems, issues and questions related to women and men in society. The examples given do not necessarily reflect the situation in all countries, nor are they limited to those countries for which statistics are widely available;
- b) The part relating to data needed shows what data are required to address the gender issues highlighted for each subtopic and at what level of disaggregation.

The disaggregation needed usually includes, besides sex and age, other variables identifying (i) population subgroups where gender inequality is likely to be more pronounced and (ii) some of the explanatory factors of gender inequality. Examples of indicators derived from the gender statistics presented are shown for each subtopic;

- c) The part relating to sources of data presents sources that can provide the data needed. In the many cases where data can be derived from more than one source, all sources are listed. This part also specifies when the data collection vehicle has to focus on the particular topic or subtopic discussed and when a module or a few questions added to another data collection vehicle is sufficient to obtain the data. The advantages and disadvantages of the various sources of data are presented only to the extent that they relate to gender issues or gender-specific measurement issues;
- d) Lastly the part relating to conceptual and measurement issues refers to aspects that may induce sex-biased misreporting or underreporting in data collection and affect the adequacy of gender statistics. More information on how to avoid gender bias in data collection is presented in chapter III.

## Uses of the chapter

48. **As a framework for using gender statistics in analytical statistical publications or reports.** This chapter provides useful information for statisticians preparing analytical publications or reports. Such publications or reports can be either gender-oriented, covering various topics, or topic-oriented regular publications that integrate a gender perspective. The part relating to gender issues can be used to direct the analysis of gender statistics related to specific topics and subtopics. The parts relating to data needed and sources of data guide the statistician analyst as to which statistics are needed to address various gender issues and where those statistics can be found. Lastly, the information presented in the part relating to conceptual and measurement issues helps statisticians to understand the gender-specific limitations of statistics used in publications or reports and to correctly interpret the data.

49. **As a framework for assessing the availability and quality of gender statistics.** The part relating to section on data needed provides a list of statistics and their required level of disaggregation. This can be used by national statisticians as a standard of comparison to assess the availability of gender statistics produced in their own country. The information presented in the part relating to conceptual and measurement issues can be used to assess whether data quality is limited by the use of concepts, definitions, classifications or measurement that do not take into account gender-specific roles and gender relations in society or sex bias in data collection.

50. **As an overall framework for identifying gaps in gender statistics and developing a national coherent and comprehensive plan for gender statistics.** This chapter can be used by statisticians as a framework for identifying gender issues and the statistics needed in their particular countries and assessing existing sources in terms of topics covered and the availability and quality of gender statistics. This information is crucial in identifying gaps in gender statistics and developing a national coherent and comprehensive plan for gender statistics (see box II.1).

**Box II.1****Identifying gaps in gender statistics and developing a national coherent and comprehensive plan for gender statistics.**

All national statistical systems produce statistics disaggregated by sex. However, not all the data produced are adequate to reflect the gender issues in that society and their dissemination and interpretation often fails to underline gender differences and their causes. Furthermore, some of the gender issues considered important by policymakers or planners in a particular country may not be addressed at all by the data currently produced by the national statistical system. The gap between the statistics needed to address nationally defined gender issues and the statistics currently produced by national statistical systems can be identified and used as a basis for the further development of gender statistics.

Setting priorities in terms of the gender issues that need to be taken into account and the gender statistics needed to address those issues depends on current policy goals and plans and current standards in statistical concepts and measurement methods. With regard to gender issues that need to be taken into account, models are provided at the global and regional levels. For example, the Beijing Platform for Action identified several critical areas of concern, namely, poverty, education and training, health, violence against women, armed conflict, economy, power and decision-making, human rights of women, media, the environment and the girl child. At the regional level, priority areas for action on gender equality may also have been outlined (see, for example, the European Union roadmap on gender equality).

Although most of the areas of concern outlined in the Beijing Platform for Action are common to all countries, different countries may have specific priorities in addressing gender issues. It is important that these priorities are made clear during consultations between statisticians and the main users of statistics. National priorities in terms of the gender issues that need to be taken into account along with the desired depth of analysis become the basis of an inventory of the gender statistics needed in a particular country. It is also important to decide whether the causes or consequences of the issues in question are among the priorities because these aspects will influence the choice of statistics and the methods of data collection. Examples of gender issues that need to be taken into account and the statistics needed to address those issues are provided in chapter II.

Once the gender issues and the statistics needed have been identified, it is the task of statistical producers to assess existing sources in terms of data availability and quality, including the use of concepts, definitions and classifications that would allow for an adequate reflection of women's and men's status in a particular area. At this stage, consultations between statisticians involved in regular data production and gender statistics specialists are crucial. Gender statistics come from different statistical fields, such as labour force statistics, demographic statistics, social statistics, education statistics and health statistics. Those fields, as well as the specific stages of data collection, processing and dissemination, are the responsibility of different offices or units within the statistical system.

The assessment of sources of data in terms of the topics and subtopics covered and the gender-sensitive concepts and definitions used should be done on the basis of a review of the questionnaires, manuals and training materials used in conducting data collection (for more information on integrating a gender perspective into data collection, see chapter III). Furthermore, the assessment should identify whether the collected data are available processed, disaggregated by relevant characteristics and disseminated, by reviewing the tabulations and data presentation and dissemination in the regular as well as in the gender-focused outputs produced by the national statistical office.

On the basis of this assessment of existing sources of data and dissemination products and the determination, at an earlier stage of the gender statistics needed, statisticians can identify data gaps and decide whether (a) existing data need to be better utilized or reprocessed through a recoding, retabulation or reanalysis of the microdata; (b) the methodology of 22 existing data collections needs to be improved; or (c) a new form of data collection is needed, either a completely new instrument or additions to existing instruments. Priorities in developing gender statistics on those three dimensions should be set according to the human and economic resources available.

**Sources:** Hedman, Perucci and Sundström (1996). United Nations (2002) and United Nations, Economic Commission for Europe, and World Bank Institute (2010).

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## Education

51. This section covers five subtopics: educational participation; schooling environment; outcome of formal education; non-formal adult education and training; and scientific and technological knowledge.

### Educational participation

**Table II.1**

From gender issues to gender statistics on educational participation: illustrative examples

Policy-relevant questions	Data needed	Sources of data
Do the same proportions of girls and boys enter the first grade of school? Do girls start school later than boys?	New entrants in primary school by sex and age and population by sex and age.	School administrative records combined with population censuses, household surveys or population registers.
Are the same proportions of girls and boys participating in education?	Enrolment by sex, age, grade and level of education and population by sex and age.  School attendance by sex, age and level of education.	School administrative records combined with population censuses, household surveys or population registers.  Household surveys, such as the Demographic and Health Survey (DHS), the Multiple Indicator Cluster Survey (MICS), the Core Welfare Indicators Questionnaire (CWIQ) and the Living Standards Measurement Study (LSMS).  Population censuses.
Is the progression and transition to secondary education the same for girls and boys?	Enrolled students by sex, age, grade and level of education. Repeaters by sex, grade and level of education.	School administrative records.
Are the reasons for not attending school different for girls than for boys?	Reasons for dropping out of school by sex, age and last level of education attended.  Reasons for absenteeism by sex, age and level of education.  School attendance by sex, age and level of education, further disaggregated by urban/rural areas, wealth status of the household, and number of hours in employment or doing household chores.	Household surveys such as DHS, MICS, CWIQ and LSMS. Child labour surveys.
Do families invest less in the education of girls than in the education of boys?	Household expenditure on education for each child by sex of the child.	Household expenditure surveys and household living standards surveys.
Do girls and boys enrol in or graduate from the same types of programmes and fields of study?	Enrolment in secondary education by sex and type of programme.  Enrolment in and graduation from tertiary education by sex and field of study.	School administrative records.

*Gender issues*

52. In many countries, girls and boys do not have equal access to basic education. There has been a significant shift towards greater gender parity in participation in primary education. Progress occurred in all regions, but was more pronounced in those with the greatest gender disparities. Still, in low-income countries with low enrolment levels, girls are less likely than boys to enter primary schooling (United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics, 2011; UNICEF, Division of Policy and Practice, 2011).

53. Nevertheless, once enrolled, girls tend to progress as well as or even better than boys. In most countries, boys repeat more than girls in primary education (UNESCO Institute for Statistics, 2011). Also, boys usually drop out at much higher rates than girls. The number of countries with higher male dropout rates is almost twice the number of countries with higher female dropout rates (UNESCO, 2012). As a result, in many countries the gap faced by girls when entering the first grade of primary education is greatly reduced by the time that they reach the last grade of primary school. However, primary education completion rates<sup>1</sup> remain higher for boys than for girls in most regions. While there are countries where girls are more likely than boys to complete primary education in most countries with a gender imbalance, it is against girls (UNESCO Institute for Statistics, 2011).

54. In many countries, significantly fewer girls than boys are enrolled in secondary education. In most countries, girls who have completed primary education have the same chances as boys of making the transition to secondary education (UNESCO, 2011). Once in secondary school, however, girls are more likely to drop out (UNESCO, 2011). The extent to which girls are disproportionately excluded from education is higher at the secondary than at the primary level and increases further from the lower to the upper secondary levels (UNESCO Institute for Statistics, 2011; UNESCO, 2012). Remaining in school and completing the secondary level of education becomes more difficult, especially for girls in low-income countries. In those countries, although the rates of out-of-school children and the share of girls among out-of-school children have declined, the number of girls out of school still greatly exceeds the number of boys out of school (UNESCO Institute for Statistics, 2011; UNESCO, 2012). Poverty, longer hours of work, distance to school, schooling environment and factors related to puberty, early marriage or pregnancy tend to affect disproportionately school participation and completion of secondary school for girls.

55. Poverty may keep more girls than boys out of school. Children from poor households are more likely than their peers to be out of school (UNESCO Institute for Statistics and UNICEF, 2005; UNESCO, 2010). When the burden of schooling rests with the family, not with the Government, and when girls' education is perceived as being of less value and as generating lower returns than boys' education, poor families may consider that their limited resources are better invested in their sons' education than in their daughters'. Therefore, in many countries in the less developed regions, poor girls are less likely than poor boys to be in school (UNESCO, 2010; UNESCO Institute for Statistics, 2011). Secondary schooling, in particular, is more costly than primary schooling and few low-income countries provide that level of education for free (UNESCO Institute for Statistics, 2011); therefore, significant gender gaps may be observed in secondary school enrolment for children from the poorest households. As more employment opportunities for women become available in a country and as the education of girls yields greater returns, it is expected that parents will invest more in the education of their daughters.

56. Long hours of work affect children's school attendance, especially girls'. Both girls and boys may be engaged in work activities, but boys are more likely to be employed, while girls are more likely to do unpaid housework (Huebler, 2008; United Nations, 2010). The total

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<sup>1</sup> Primary education completion rate is the total number of new entrants in the last grade of primary education, regardless of age, expressed as a percentage of the total population of the theoretical entrance age to the last grade of primary school.

burden of work is generally higher for girls, especially older girls. Older girls are often asked to care for their younger brothers and sisters or to take over some of the household responsibilities, such as fetching water or firewood. In some countries, boys may take wage work only when their contribution to the household income is needed because of poverty, while girls may take work even when the household could survive (UNESCO, 2003). Many children combine working with attending school; however, irregular attendance generally results in lower achievements for both girls and boys.

57. For a number of countries, that the school participation rate is lower for boys than for girls is the new challenge. More developed countries with higher levels of educational participation have recorded gender gaps that favour females in education, but similar patterns are evident in some developing countries as well, especially in Latin America and the Caribbean and East Asia and the Pacific (UNESCO Institute for Statistics, 2011; UNESCO, 2012).

58. At the tertiary level, more women than men may pursue higher education. The number of female students in tertiary institutions has been growing and, in many regions, female enrolment rates in tertiary education have surpassed male enrolment rates (UNESCO Institute for Statistics, 2010a). This progress has occurred mostly in countries in the more developed regions, although lately it has been observed in countries in the less developed regions, too. In absolute terms, women in developing countries registered the highest gains in terms of number of students. Still, in countries in sub-Saharan Africa, where overall enrolment is low, women continue to be poorly represented at the tertiary level (United Nations, 2010).

59. Overall, the participation of women in higher education tends to diminish at the more advanced university levels. In programmes preparing for advanced research qualifications, such as PhDs, women are much more often in the minority, even in countries in the more developed regions (UNESCO Institute for Statistics, 2010a).

60. Young women do not follow the same programmes, fields of study or subjects as young men. Beginning with secondary education, girls' participation in science, mathematics and technological subjects is disproportionately low compared to boys'. In many countries, young women are less likely than young men to enrol in vocational education and are therefore less likely to acquire the practical skills, know-how and understanding necessary for employment in particular occupations or trades (United Nations, 2010; UNESCO Institute for Statistics, 2011). Young women continue to be overrepresented in programmes traditionally considered "female", such as health programmes, but underrepresented in programmes related to industrial production and engineering. Female students in tertiary education are still more likely to be trained in such fields as education, health and welfare and humanities and arts and less likely to be trained in such fields as science, engineering and manufacturing, although there has been an increase in the participation of women in these male-dominated fields (United Nations, 2010). Gender-stereotypical subject choice is a common phenomenon in tertiary education, even in countries where women have started outnumbering men at that level.

### *Data needed*

61. Based on school administrative records, several types of data can be used. They are:
- a) New entrants in primary education by sex and age;
  - b) Pupils enrolled in primary education by sex, age and grade;
  - c) New entrants in secondary education by sex and age;
  - d) Students enrolled in secondary education by sex, age, grade, International Standard Classification of Education (ISCED) level and type of programme;
  - e) Repeaters by sex, grade and level of education;
  - f) Students enrolled in tertiary education by sex, ISCED level and field of study;
  - g) Tertiary education graduates by sex and field of study.

62. In order to calculate various indicators of educational participation, additional data on population, disaggregated by sex and age, are needed from other sources, such as population censuses, population registers or a combination of population censuses and household surveys or civil registration systems.

63. Other data related to educational participation can be collected through household surveys and population censuses. They are:

- a) School attendance by sex, age and level of education:
  - (i) Additional breakdowns are usually available for statistics on school attendance, since such data are collected in household surveys along with data on individual and household characteristics. Examples of additional breakdown characteristics that can be used include urban/rural areas, geographical areas, ethnicity, wealth status of the child's household and parent's education. While the gender gap at the national level may be modest, considerable gender inequalities in education may be found at the level of some population subgroups, such as the rural population, the poor population and certain regions or ethnic groups with traditional attitudes towards women's status;
  - (ii) In surveys focused on children – such as DHS, MICS and child labour force surveys – other data of interest may be collected and used for cross-tabulations. For example, one of the factors associated with low school attendance is the burden of work for children, either as employment or as housework. Therefore, children's economic activity status and the number of hours they work either as employment or as housework can be used as a breakdown variable in addition to sex, age and level of education;
- b) Qualitative information on reasons for not attending school or dropping out by sex and level of education: Reasons for not attending school or dropping out may refer to (a) household-related factors such as insufficient economic resources to cover the expenses necessary to attend school, work to supplement the household income or work needed for household chores; or (b) factors related to the schooling environment, such as distance to school and non-availability of transportation, lack of separate toilets for girls and boys or abuse by other students or teachers;
- c) Education expenditure of households for each child by sex: The education expenditure of households for each child is of particular interest in countries with considerable gender inequality in education.

### List II.1

#### Examples of indicators derived from gender statistics on educational participation

- Adjusted net intake ratio in the first grade of primary education by sex
- Adjusted net enrolment rate in primary education by sex
- Share of girls among out-of-school children of primary school age and lower secondary school age
- Gross enrolment ratio in primary, secondary and tertiary education by sex
- Gender parity index in enrolment at the primary, secondary and tertiary levels
- Primary education completion rate by sex
- Effective transition rate from primary education to secondary education by sex
- Gross entry ratio in lower secondary education by sex
- Graduation from lower secondary education by sex
- Adjusted net attendance rate in primary education by sex and wealth status of the household
- Gross attendance rate in primary and secondary education by sex and total number of hours worked
- Share of women among tertiary education graduates
- Share of women in science, engineering, manufacturing and construction graduates at the tertiary level

**Note:** See [www.uis.unesco.org/Pages/Glossary.aspx](http://www.uis.unesco.org/Pages/Glossary.aspx) and [www.childinfo.org/education\\_methodology.html](http://www.childinfo.org/education_methodology.html) for a list of indicators related to educational participation, their definition and their method of calculation.

*Sources of data*

64. School administrative records are the source of data for gender statistics on school enrolment, new entrants, repeaters and graduates. These data are usually compiled by the Ministry of Education. In order to calculate various indicators of educational participation, additional data on population, disaggregated by sex and age, are needed from other sources such as population censuses, population registers or a combination of population censuses and household surveys or civil registration systems.

65. Household surveys can be used to collect data on school attendance along with data on individual and household characteristics that can be used to explain gender differences in education. Indeed, such surveys are regularly used to collect background information on urban/rural residence, geographical areas, ethnicity, wealth status of the child's household and parents' education. Moreover, they can accommodate questions on the reasons for not attending school or dropping out, including involvement in paid work and unpaid household work. The international surveys collecting such data include the Demographic and Health Survey (DHS), the Multiple Indicator Cluster Survey (MICS), the Core Welfare Indicators Questionnaire (CWIQ) and the Living Standards Measurement Study (LSMS).

66. Child labour surveys can be used to collect data on the involvement of girls and boys in employment or household chores along with data on school attendance and other individual and household characteristics.

67. Population censuses can be used to collect data on school attendance along with data on other demographic and economic characteristics of the individuals and their living conditions.

*Conceptual and measurement issues*

68. Enrolment statistics may overstate, to different degrees, the educational participation of girls and boys. Enrolment refers to the number of pupils or students officially enrolled or registered in a given grade or at a given level of education. Children who are enrolled but not attending school are included in enrolment statistics. In that regard, enrolment captures the intent to participate in education rather than the participation itself (UNESCO Institute for Statistics, 2010b).

69. Some population groups with distinct gender differences in educational participation may not be covered in statistics on enrolment or school attendance, resulting in biased overall estimates of these statistics. Statistics collected from administrative records, such as data on enrolled students or repeaters, focus on the regular education system; in some cases, they cover only the public school system (United Nations, 2006). Similarly, statistics on school attendance collected through household surveys may not cover certain populations, such as the homeless population, people living in remote areas and children living in institutions (UNESCO Institute for Statistics, 2010b).

70. Gender differences in the educational participation of the excluded groups will not be reflected in the overall statistics and, as a result, gender disparity may be underestimated or overestimated. For example, in some countries, there is a tendency to send boys more often than girls to schools that are not in the public system. If those schools are not adequately covered in the official enrolment statistics, the rates for boys are going to be more severely underestimated than the rates for girls. For example, the gender gap in education will be underestimated if the official rates are higher for boys than for girls but overestimated if the official rates are higher for girls than for boys. Moreover, students studying abroad are usually excluded from official counts. As young men pursue foreign study more frequently than young women, male enrolment in tertiary education in the country of origin is going to be more severely underestimated than female enrolment. In some of the countries where women appear to be gaining an advantage over men in tertiary education, the gender gap may actually be smaller than estimated.



## Schooling environment

**Table II.2**

**From gender issues to gender statistics on schooling environment: illustrative examples**

Policy-relevant questions	Data needed	Sources of data
Are women underrepresented among teachers in secondary education?	Teachers by sex and instruction level.	School administrative records.
Do all schools have separate toilets for girls and boys?	Schools by availability of separate toilets for girls and boys.	School administrative records.
Are there any gender-specific reasons related to schooling environment for not attending school?	Children not attending school for reasons such as lack of transportation, abuse by other students or teachers and lack of separate toilets for girls and boys.	Household surveys, such as DHS and MICS.

### *Gender issues*

71. Teaching and learning environment itself may reinforce gender roles and exacerbate gender stereotypes (UNESCO, 2003; UNESCO Institute for Statistics, 2010a). Textbooks and other teaching materials often contain gender-based biases, although there have been some changes towards more balanced representations of men and women. Still, in some textbooks, girls and women continue to be portrayed stereotypically or in a demeaning manner and women's roles in and contributions to society misrepresented. In addition, teacher training rarely focuses on gender awareness and, as a consequence, teachers' attitudes, gender-biased teacher-pupil interactions and use by teachers of gender-stereotypical language and imagery contribute to reinforcing gender stereotyping.

72. In some countries, women are underrepresented among teaching staff. The importance of female role models is widely accepted as a means of promoting greater gender equality. Girls look up to and emulate women as boys do men. In that regard, it is very important that there is a gender balance among the teaching staff at all levels of instruction and in various domains of teaching. Female participation in teaching at all levels has increased in most countries (UNESCO Institute for Statistics, 2011). However, in countries where overall enrolment levels are lowest and gender disparities highest, women tend to be underrepresented, even at the primary level of education. At higher levels of education, female teachers are underrepresented in many countries; they are also less likely than their male counterparts to teach subjects traditionally considered "male", such as mathematics or physics (UNESCO Institute for Statistics, 2011; United Nations, 2010).

73. Long distances to school and safety and privacy concerns may keep girls out of school. The need to travel long distances to school has a negative impact on school attendance for both sexes, but distance is a significant obstacle for girls, especially at the lower secondary level (UNESCO, 2012). In some cases where single sex schooling is the norm, only local schools for boys may be available. Other factors such as lack of separate toilets for girls and boys and potential threats from physical and sexual abuse by other students or teachers also keep girls out of school.

### *Data needed*

74. Data needed to analyse schooling environment from a gender perspective are:

- a) Teachers by sex and instruction level;
- b) Schools by availability of separate toilets for girls and boys;
- c) Children not attending school for reasons such as lack of transportation, abuse by other students or teachers and lack of separate toilets for girls and boys, by type of reason. Additional breakdowns that would account for disparities in infrastructure, such as urban/rural areas or geographical areas, should be considered.

75. Qualitative information on gender biases in curricular content can be used as background information when analysing statistics related to educational participation and schooling environment.

#### List II.2

##### Examples of indicators derived from gender statistics on schooling environment

- Share of women among teachers in secondary education
- Proportion of schools without separate toilets for girls and boys

**Note:** See [www.uis.unesco.org/Pages/Glossary.aspx](http://www.uis.unesco.org/Pages/Glossary.aspx) for definitions related to statistics on teachers

#### Sources of data

76. School administrative records, usually compiled by ministries of education, can provide information on number of teachers by sex and instruction level and, sometimes, on subject being taught. They can also provide information on the availability of separate toilets for girls and boys.

77. Household surveys, such as DHS and MICS, can be used to collect information on reasons for not attending school or for leaving school early, along with other information on individual and household demographic and economic characteristics.

78. Qualitative studies on curricular content can show the extent to which gender biases are incorporated in school manuals. Such information is usually a result of research studies produced outside the national statistical offices

#### Conceptual and measurement issues

79. Not all aspects of schooling environment with gender-specific impact can be easily measured. Statistics on sex-distribution of teachers are usually available and many countries have experience in collecting information on reasons for not attending school. However, aspects such as gender awareness of teachers, gender-sensitive teaching or even gender-responsive textbooks are more difficult to capture and require more in-depth qualitative analysis. Such qualitative studies are often conducted by research groups that are independent from the national statistical offices, sometimes at the request of or in collaboration with ministries of education.

### Outcome of formal education

**Table II.3**

**From gender issues to gender statistics on outcome of formal education: illustrative examples**

Policy-relevant questions	Data needed	Sources of data
Are young women more likely than young men to be illiterate?	Literacy by sex and age.	Population censuses. Household surveys, such as DHS, MICS, CWIQ and LSMS. Literacy surveys.
Are women less likely than men to have attained secondary or higher education?	Educational attainment by sex.	Population censuses. Household surveys, such as labour force surveys, living standards surveys and other multipurpose surveys.

#### Gender issues

80. Great gender disparities in adult literacy continue to exist, while disparities in youth literacy have narrowed (United Nations, 2010; UNESCO Institute for Statistics, 2011). Traditionally, women have had fewer educational opportunities than men, owing to differences in gender roles and expectations or educational policies that did not take into account gender-specific barriers in access to schooling. These differences are reflected in current gender disparities in literacy and educational attainment. Progress in reducing gender disparities in adult literacy has been extremely slow and women still make up the majority of the world's il-

literate. The slow pace of reducing gender disparity is due to the preponderance of older generations in the illiterate population and the fact that women make up the majority of these old age groups. However, youth literacy levels remain lower for women than for men only in some countries, reflecting great progress in reducing gender inequality in school achievement.

81. Gender disparities in educational attainment persist in the less developed regions, where substantial proportions of the population are concentrated at the primary level of educational attainment (United Nations, 2010; UNESCO Institute for Statistics, 2011). In these regions, women have lower educational attainment and, therefore, more limited opportunities in terms of employment, certain occupations, earnings, career and positions of power and decision-making.

82. Furthermore, women's lack of education has a significant impact on their family well-being. Women's education is an important factor in marriage and fertility patterns. A low level of education for women is often associated with early marriage and high fertility. It may also be associated with poor health status for both women and members of their household, particularly their children. Immunization, child nutrition and child survival may be significantly improved when the mother has a higher level of education.

### *Data needed*

83. Two types of data are usually needed to analyse outcome of formal education. They are:

- a) Literacy by sex and age;
- b) Educational attainment (highest level of education attained) by sex.

84. Additional breakdowns commonly used for both types of data are urban/rural areas, geographical areas and ethnicity. Variations in educational characteristics among the corresponding population subgroups are important input in defining specific educational policy measures at a more decentralized level. It is also important that literacy is disaggregated by other variables, such as school attainment or type of learning programme, in order to identify strategies for improving literacy.

85. Educational attainment itself is one of the most important breakdown variables for other statistics. Work, health or other statistics may be disaggregated by educational attainment in order to show the impact of education in various areas of concern. For example, the disaggregation of data on occupation by sex and level of education is crucial for understanding whether gender segregation in occupation is due to differences in education or other factors. Disaggregation by educational attainment of data on women's age at first marriage, women's age at first child, fertility and child mortality is crucial for understanding the implication of women's low education level on marriage and fertility patterns and on child health and survival.

#### **List II.3**

##### **Examples of indicators derived from gender statistics on outcome of formal education**

- Youth (age 15 to 24) literacy rate by sex
- Proportion of adult population (age 25+) with at least upper secondary education by sex

**Note:** See [www.uis.unesco.org/Pages/Glossary.aspx](http://www.uis.unesco.org/Pages/Glossary.aspx) for definitions of literacy, educational attainment and ISCED levels of education.

### *Sources of data*

86. Population censuses can be used to collect data on literacy and educational attainment, along with data on other demographic and economic characteristics of individuals and their living conditions. Censuses provide benchmark statistics on education, including at the level of small areas and small population groups. These statistics are essential for the development of educational policies.

87. Household surveys can be used to collect data on literacy and educational attainment. Some are specialized. For example, dedicated literacy surveys can be used to measure in-depth basic reading and writing skills or, in some contexts, functional literacy. In European countries, the European Union Labour Force Survey is an important source of data on educational attainment. In addition, the Survey's ad hoc module on transition from school to working life (conducted in 2000 and 2009) provides a framework for analysing how graduates of different education levels perform in the labour market.

#### *Conceptual and measurement issues*

88. Literacy statistics based on self-reporting or proxy reporting may overestimate literacy rates for children, women or other persons considered dependants (UNESCO Institute for Statistics, 2008). A literate person is one who can, with understanding, both read and write a short simple statement on his or her everyday life. The definition of literacy sometimes extends to basic arithmetic and other life skills. Literacy data are only in some cases based on tests of literacy skills. When literacy data are collected for all household members, for example, one person may respond on behalf of everyone in the household or individuals may declare their literacy abilities without any testing of their skills (see, for example, functional literacy). These types of self-reporting or proxy reporting tend to give higher rates of literacy than direct assessment.

### Non-formal adult education and training

**Table II.4**

**From gender issues to gender statistics on non-formal adult education and training: illustrative examples**

Policy-relevant questions	Data needed	Sources of data
Do employed women participate as much as employed men in vocational training?	Participation in job-related non-formal education and training by sex.	Household surveys.
	Participation in continuing vocational training in enterprises by sex.	Enterprise surveys.
Do women have less access than men to agricultural information and technology?	Use of agricultural extension services by sex.	Household surveys. Annual reports of extension offices.

#### *Gender issues*

89. In the more developed regions, employed women tend to participate less than employed men in job-related non-formal education and training (Eurostat, 2011). The obstacles to women's participation may include a lack of opportunities on the employer's side and individual constraints. For example, women tend to participate less than men in training in large companies where men dominate the managerial positions associated with more frequent opportunities for training. However, when equal training opportunities are available to women and men, women are able to participate less often than men for family-related reasons (UNESCO Institute for Lifelong Learning, 2009; Eurostat, 2011).

90. In the less developed regions, women use agricultural extension services less often than men (Swanson and Rajalahti, 2010). Agricultural extension is an educational process aimed at bringing information and technology to farmers in order to improve their agricultural productivity. Women's lower use of this type of educational service is due to several causes (Saito and Weidemann, 1990; Swanson and Rajalahti, 2010). First, women's role in the agricultural economy has been overlooked because their traditional products are consumed within the household or sold locally more often than men's. Second, female-headed farm households may have reduced labour availability and fewer assets than male-headed farm households,

constraining their farming system options and productivity. Third, women's heavy workload limits their time available to participate in extension services meetings. Lastly, social norms and perceptions may contribute to women's exclusion. Women have traditionally been regarded as having less decision-making power in the household. Also, cultural, including religious, factors sometimes inhibit male agents communicating with women farmers. However, awareness of the need to reach more women through extension services has increased, as women's involvement in agricultural activity, their decision-making power and their underutilized potential has gained more recognition (Swanson and Rajalahti, 2010).

### *Data needed*

91. Data on non-formal adult education and training may refer to:
- a) Participation in non-formal education and training by sex;
  - b) Participation in continuing vocational training in enterprises by sex;
  - c) Use of agricultural extension services by sex.

#### **List II.4**

#### **Examples of indicators derived from gender statistics on non-formal adult education and training**

- Proportion of the employed population participating in job-related training in the past 12 months by sex
- Share of women among users of agricultural extension services

### *Sources of data*

92. Household surveys on adult education and training, conducted thus far in the more developed regions, can be used to collect data on participation in job-related training along with information on types of obstacles to participation, reasons for participation, number of hours invested or cost of training.

93. Enterprise surveys may cover participation in vocational training, along with other individual, job and company characteristics.

94. Multipurpose household surveys conducted in countries with a substantial proportion of the population working in agriculture can be used to collect data on the use of extension services along with other information on extension subjects (crops, livestock or other activities) and individual-level information on ownership and use of assets, cultivated area, types of crops and literacy.

95. Annual reports of extension offices may include sex-disaggregated information on individuals who used agricultural extension services as well as data on the sex composition of the staff involved in delivering the agricultural information.

### *Conceptual and measurement issues*

96. Thus far, non-formal adult education and training has not been part of the regular programme of data collection in national statistical offices and ministries of education. Although lifelong learning activities received considerable attention in the Beijing Platform for Action, gender statistics related to this topic are rarely produced. In the European Union, guidelines on the measurement of formal and non-formal adult education were recently developed by Eurostat and surveys such as the Adult Education Survey and the Continuing Vocational Training Survey are conducted in many European countries. However, as yet there are no international efforts to develop data collection instruments focused on adult education and training specific to the less developed regions.

## Scientific and technological knowledge

Table II.5

From gender issues to gender statistics on scientific and technological knowledge: illustrative examples

Policy-relevant questions	Data needed	Sources of data
Are women underrepresented among researchers? In what fields of science are women most underrepresented?	Researchers by sex and field of science.	Administrative and other records from universities and research facilities.
Are young women less likely than young men to use the Internet?	Internet users by sex and age.	Household or individual information and communications technology (ICT) surveys. Records from Internet providers.

### *Gender issues*

97. Women tend to be underrepresented among researchers (UNESCO Institute for Statistics, 2006, 2010a; United Nations, 2010). Lower proportions of women in research are partially explained by the fact that men outnumber women in science-related fields of study at the level of doctorates, PhDs or other advanced research degrees. Although female participation in higher education has increased globally, surpassing male participation, it has remained weak in the most advanced degree programmes (UNESCO Institute for Statistics, 2006, 2010a).

98. Some research fields are gender-segregated (UNESCO Institute for Statistics, 2006, 2010a). For example, the fields of engineering and computing are most clearly dominated by men. In the life sciences, including medicine, on the other hand, women are more likely to be predominant.

99. A number of other gender differences with regard to science and research can be observed. Women are less likely than men to be employed in the private sector of research and experimental development than in the public sector, especially in high-income countries. Women in science and technology are often paid less than their equally-qualified male counterparts. They are also less likely to be promoted to positions of authority and decision-making. Lastly, fewer women than men are found on scientific boards and in other decision-making positions.

100. In many countries, fewer women than men use the Internet and computers (Seybert, 2007; United Nations, 2010; International Telecommunication Union (ITU), 2011). In nearly all European countries, men are more regular users of both computers and the Internet than women. The differences between women and men in computer and Internet use are greater in the older age groups and smaller in the younger age groups (Seybert, 2007). The gap between men and women is even wider for basic computer skills than it is for computer and Internet use (Seybert, 2007).

101. In the less developed regions, gender differences in computer and Internet use are difficult to assess owing to a lack of data (ITU, 2011). Nevertheless, the few data available confirm that in the less developed regions, women seem to use the Internet less than men (ITU, 2011). They also show that gender differences seem to have less to do with information and communications technology (ICT) as such, but to differences in social status (ITU, 2011). For example, studies based on data from countries in Africa and Latin America have shown that when women and men have similar income, education and employment status, women have comparable or even greater access to ICT vis-à-vis their male counterparts (Hilbert, 2011; Milek, Stork and Gillwald, 2011).

### *Data needed*

102. Data on scientific and technological knowledge usually refer to:

- a) Researchers by sex and field of science;
- b) Members of scientific boards by sex;

- c) Internet users by sex and age;
- d) Persons using mobile/cellular telephones by sex and age;
- e) Computer users by sex and age.

103. Additional breakdowns are necessary to assess access to ICT across various subgroups of population. They include variables accounting for differences in infrastructure, including urban/rural areas and geographical areas; variables reflecting differences in the wealth status of the household and, therefore, the resources to own computers and to have private access to the Internet; and educational variables reflecting the literacy level and educational attainment of users and non-users. Breakdowns by activity carried out over the Internet, for women and men, may also be useful.

#### List II.5

#### Examples of indicators derived from gender statistics on scientific and technological knowledge

- Share of women among researchers
- Proportion of individuals using the Internet, by sex
- Proportion of youth (age 15 to 24) using the Internet by sex
- Proportion of individuals using mobile/cellular telephones, by sex

#### *Sources of data*

104. Administrative and other records from universities and research facilities are a source of data for researchers and members of scientific boards. In addition, records from Internet providers may be a source of data on sex of Internet users, duration of use and Internet types of activities carried out.

105. Household or individual ICT surveys are a source of data on access to and use of the Internet, computers and other communication technologies. Additional data collected through these surveys, including on individual and household characteristics, can help to explain gender differences in access to and use of ICT.

#### *Conceptual and measurement issues*

106. The Share of women among researchers may be overestimated when only public universities and public research facilities are covered by statistics, as the private sector of research is more male-dominated than the public sector.

107. Some gender-specific aspects of ICT use are not yet captured through statistics, even in countries that are already producing statistics on ICT use on a regular basis. For example, women and men may seek different types of information and carry out different activities, for different purposes and for different amounts of time. Obstacles in accessing ICT may also be gender-differentiated.

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## Work

108. This section covers five subtopics: labour force participation; employment conditions; access to productive resources in agriculture; reconciliation of work and family life; and child work.

### Labour force participation

**Table II.6**

**From gender issues to gender statistics on labour force participation: illustrative examples**

Policy-relevant questions	Data needed	Sources of data
Are short-and long-term labour force participation trends the same for women and men?	Labour force participation by sex for multiple points in time.	Household surveys such as labour force surveys (LFS). Population censuses.
Do variations in women’s labour force participation by age suggest that women temporarily or permanently withdraw from the labour force to care for their children?	Labour force participation by sex and age.	Household surveys, such as LFS. Population censuses.
Are young women more likely than young men to be unemployed?	Unemployment by sex and age.	Household surveys, such as LFS. Population censuses. Administrative records.

### *Gender issues*

109. Women and men have different levels and trends of labour force participation (United Nations, 2010). Labour force participation rates are generally lower for women than for men and the share of women in the labour force is still far from parity in most countries. Different trends may be observed for women and men. For example, in the past two decades, men’s labour force participation declined in most parts of the world (United Nations, 2010). In contrast, women’s participation remained steady at the global level, increased in some countries and declined in others.

110. Gender differences in labour force participation tend to vary by age group. Of particular interest are the age groups corresponding to entry in or exit from the labour market and to women’s childbearing and the first years of life of their children. In that regard, age is a proxy for stages in life cycle. As shown in the subsection entitled “Reconciliation of work and family life” below, gender differences in childcare responsibilities are crucial in explaining participation in the labour market. Furthermore, changes towards more family-friendly policies, in particular employment protection during pregnancy, childbirth and maternity leave, as well as the increased education of women, declining fertility levels and increased life expectancy may be reflected in changes in the sex and age patterns of labour force participation.

111. In most countries, employment is lower for women than for men and unemployment is higher for women than for men. In general, women encounter more difficulties than men

in finding and keeping jobs, both at younger and older ages. Economic hardship may add to the barriers faced by women. For example, the recent economic crisis has had a disproportionate impact on the employment of women in developing countries, owing to tougher competition and gender-based discrimination (ILO, 2011). In developed countries, however, the impact on the employment of women could not be attributed to discrimination. In some countries men lost more jobs than women and there was a greater decline in the employment rates for men than for women.

### *Data needed*

112. Data on labour force participation refer to:

- a) Labour force participation by sex and age;
- b) Employment by sex and age;
- c) Unemployment by sex and age.

113. Additional breakdowns are available for labour force statistics when data are collected through household surveys or population censuses. Examples of additional breakdown characteristics commonly used include urban/rural areas, geographical areas, migration status and educational attainment. These characteristics are useful in assessing the need for job creation or the effect of employment policies at the level of certain population groups or regions within a country.

#### **List II.6**

##### **Examples of indicators derived from gender statistics on labour force participation**

- Labour force participation rate for age 15 to 24 and age 15+ by sex
- Employment to population ratio by sex
- Unemployment rate for age 15 to 24 and age 15+ by sex

### *Sources of data*

114. Statistics on labour force participation and the employed and unemployed populations can be collected primarily through the following:

- a) Labour force surveys;
- b) Household surveys integrating a labour force module, such as living standards surveys or other multipurpose household surveys;
- c) Population censuses.

115. Statistics on selected groups within the employed and unemployed populations can be collected through the following:

- a) Establishment censuses or surveys, primarily as a source of data on paid employment;
- b) Administrative records, mainly as a source of data on selected groups within the employed and registered unemployed populations.

### *Conceptual and measurement issues*

116. According to international guidelines on mainstreaming gender in labour statistics, definitions and measurement methods should cover and adequately describe all workers and work situations in sufficient detail to allow relevant gender comparisons to be made (International Labour Office, 2003a).

117. Not all forms of work are covered by conventional labour force statistics. The population in the labour force is defined as comprising all persons, of either sex, who furnish or are

available to furnish the supply of labour for the production of goods and services as defined by the United Nations systems of national accounts and balances, during a specified time-reference period (International Labour Office, 1982). Therefore, conventional labour statistics are currently limited to activities that contribute to the production of goods and services as defined by the System of National Accounts (SNA). Employment and disaggregations of economic activity by industry, status in employment or occupation cover mainly paid work and some unpaid work. Included unpaid work refers to activities that produce goods for a person's own consumption, such as agricultural work, fishing, hunting, cutting firewood, carrying water, threshing and milling grain, making butter and cheese and slaughtering livestock. These unpaid productive activities are within the production boundary of the SNA. Own-account production of services, carried out mostly by women, is within the general boundary of the SNA but beyond its operational production boundary and therefore not covered in the definition of the labour force. This type of work refers to cleaning dwellings, carrying out small repairs, preparing and serving meals, caring for and instructing children, caring for other persons in the household and carrying out volunteer services directly rather than through organizations, including community service. Therefore, based on conventional labour statistics, the participation of women in work activities and their contribution to the economy tend to be underestimated (United Nations, 2001a; Mata-Greenwood, 2003). As all the work of women (as well as of men) needs to be reflected in statistics, the issue of own-account production of services should be addressed by using statistics such as those based on time-use data.

118. Women's participation in the labour force and employment may be underreported. The underestimation of women's participation in the labour force and employment may result from the incomplete measurement of all forms of work implied by the definition of the labour force and the SNA production boundary (United Nations, 2001a). Some economic activities may be omitted for the reason that it is difficult to separate production of goods by households for own final use (which are included in the SNA general production boundary) from own-account production of services (which are considered beyond the SNA production boundary). The assumption by respondents and interviewers alike that certain work does not imply participation in the labour force, as well as gender-based stereotypes of women as housewives in charge of domestic work, also contribute to the underreporting of economic activities.

119. Furthermore, the coverage of women's activities may depend on the reference period chosen to define the labour force. The labour force is measured on the basis of a brief reference period (one week or one day) and unless the measurement is carried out repeatedly over the year, it will not capture the subtleties of many women's seasonal and intermittent economic activity in agriculture and the informal economy. An alternative approach that is expected to capture the seasonal variations of specific types of work may be based on a longer reference period (for example, the previous 12 months) (United Nations, 1984; Mata-Greenwood, 2003).

120. Lastly, employment of some groups of women or men may be underreported in employment statistics owing to the limitations of the sources of data used. By definition, employment includes persons at work, even if only for one hour during the reference period of one week or one day, and persons temporarily absent from work. However, establishment-based surveys tend to cover only workers appearing on the payroll, who are usually regular employees; they may leave out managerial staff as well as employed persons who work part-time, are seasonal or are contracted from other agencies (Mata-Greenwood, 2003). These surveys may also exclude from their samples small enterprises, where women may be more often found.

121. Women's unemployment may be underreported. The unemployed population is defined as all persons above a specified age who, during the reference period, were "without work", that is, were not employed; "currently available for work", that is, were available for paid employment or self-employment; and "seeking work", that is, had taken specific steps in a specified reference period to seek paid employment or self-employment (International

Labour Office, 1982). The criterion of seeking work should be relaxed in situations where the conventional means of seeking employment are of limited relevance, where the labour market is largely unorganized or of limited scope, where labour absorption is, at the time, inadequate and where the labour force is largely self-employed (International Labour Office, 1982). The number of women in the unemployed population may be underreported for three main reasons. First, women may be perceived or may define themselves as not seeking work because (a) they are less likely to use in their search for work formal channels such as going to Government offices, applying formally or registering with unemployment agencies; and (b) they are more likely to look for work that is atypical and not therefore perceived as labour force participation (United Nations, 2006; Mata-Greenwood, 2003). Second, women are more likely to be “discouraged workers” or “seasonal workers” waiting for the busy season. These categories of women would be considered unemployed only if a relaxed criterion of seeking work was used. Third, when data on unemployment are collected from administrative records, the unemployed population is reduced to those receiving benefits and registered jobseekers and women are more likely to be excluded (Mata-Greenwood, 2003).

### Employment conditions

**Table II.7**

**From gender issues to gender statistics on employment conditions: illustrative examples**

Policy-relevant questions	Data needed	Sources of data
Are women concentrated in sectors and occupations that are usually low paid?	Industry (branch of economic activity) by sex. Occupation by sex.	Population censuses. Household surveys, such as Labour Force Survey (LFS).
Do women have the same chances as men of being in managerial positions?	Occupation by sex.	Population censuses. Household surveys, such as LFS.
Are women more likely than men to be in vulnerable employment?	Status in employment by sex.	Population censuses. Household surveys, such as LFS.
Are women found more often than men in unregulated and unprotected employment with no contract and no benefits?	Employment and informal employment by sex.	Surveys on the informal sector and informal employment. LFS that include a module on informal employment.
Do women get paid as much as men? Is the gender pay gap closing?	Wages or earnings by sex, detailed occupation, educational attainment and years of seniority. Statistics needed for at least two points in time.	Household surveys, such as LFS.

#### *Gender issues*

122. Women and men have different employment conditions and different opportunities for career advancement (United Nations, 2010). Women are usually overrepresented in the agricultural sector and low-paid occupations. In contrast, managerial positions and other positions of decision-making are less accessible to women. When it comes to status in employment, women are less likely than men to have regular jobs with contracts providing security and stable conditions. Instead, they are more likely than men to be in vulnerable employment as contributing family workers, with insecure employment, low earnings and low productivity. Women may also be found more often than men among the underemployed, working fewer hours than desired or working in low-paid jobs that underutilize their skills.

123. Representation in informal employment is different for women than for men. More men than women tend to be in informal employment; however, a larger share of female employment tends to concentrate in informal jobs (ILO, Department of Statistics, 2011). These jobs are unregulated and unprotected, with no written contracts, social protection or benefits. Women may turn to informal employment for different reasons than men. The working conditions – status in employment and income, in particular – may also be different. In addition, women in informal employment may have an increased risk of being exposed to violence and harassment (United Nations, 2001a).

124. Women tend to earn less than men (United Nations, 2010). Women's income tends to be lower than men's. First, women are employed less often than men and receive no direct pay for their work on household chores. Second, a larger proportion of women than men are employed as unremunerated contributing family workers. Third, when working in paid employment, women on average receive lower wages than men. The wage gap may reflect not only differences in occupation and sectoral segregation and number of hours worked, but also gender discrimination in payment for the same job.

### *Data needed*

125. Data on employment conditions refer to:

- a) Industry (branch of economic activity) by sex;
- b) Occupation by sex;
- c) Status in employment by sex;
- d) Informal employment by sex;
- e) Hours worked by sex;
- f) Underemployed population by sex;
- g) Wages or earnings by sex and detailed occupation.

126. Additional breakdowns may be available, especially when the statistics are collected through household surveys and censuses. In addition to sex, age and level of educational attainment are two most basic individual characteristics that are useful for understanding women's and men's type of occupation or level of earnings. Together with years of seniority in employment, these variables are crucial in assessing whether women's concentration in low-paid jobs is due to less experience or gender discrimination. Other family and household characteristics are also useful. Marital status, the number of young children or other household members in need of care or employment of the partner may explain some gender differences in status in employment or number of hours worked. Nevertheless, commonly available characteristics such as urban/rural areas or geographical areas can be used as breakdown variables for status in employment, informal employment and underemployment in order to better understand employment conditions for women and men in specific types of labour market.

#### **List II.7**

##### **Examples of indicators derived from gender statistics on employment conditions**

- Share of women in the agricultural sector
- Share of women among legislators, senior officials and managers
- Proportion of vulnerable employment (own-account and contributing family workers) in total employment by sex
- Proportion of the employed population constituting own-account workers by sex
- Proportion of the employed population working as contributing family workers by sex
- Proportion of the employed population constituting employers by sex
- Proportion of informal employment in total non-agricultural employment by sex
- Ratio of female to male earnings in manufacturing

### *Sources of data*

127. Labour force surveys are usually used to collect data on employment (or, in some cases, the labour force) by industry, occupation, status in employment, hours worked, institutional sector of employment, and employment-related income. They may also be used to collect additional information on the individual and his/her household characteristics that is necessary to understanding women's and men's positions in the labour market. Subjective information on the reasons for choosing a particular job may also be collected.

128. Population censuses are usually used to collect data on the labour force, industry, occupation and status in employment. In a small number of countries, they are also used to collect data on employment-related income and time worked.

129. Surveys on the informal sector and informal employment focus on the informal economy. Modules on informal employment may also be attached to labour force surveys or multipurpose household surveys.

130. Establishment censuses or surveys are a source of data on paid employment by industry, formal working time and earnings or wages.

131. Administrative records can be used as a source of data on earnings or wages in the public sector.

### *Conceptual and measurement issues*

132. Occupation and status in employment are often not recorded in enough detail. Differences in the forms of work carried out by women and men and specific employment conditions can be assessed properly only when occupation and status in employment are measured in detail. An occupation is defined by the tasks and duties of a given job and the skill level necessary to carrying out those tasks and duties. It is recommended that a detailed classification is used when collecting data on occupations. Sub-major, minor and unit groups within the International Standard Classification of Occupations (ISCO) may be used to explore in depth the occupations where women and men are overrepresented or underrepresented. It is important that those details are not compacted into major occupation groups by coding or processing data.

133. Status in employment refers to the type of explicit or implicit contract of employment that an individual has with his or her employer or other persons or organizations. The criteria used in the classification of status in employment refer to (a) economic risk (where the strength of the attachment between the person and the job is the main element) and (b) authority over the establishment or other workers (International Labour Office, 1993). Such criteria are essential in differentiating employment conditions for women and men. Women are less likely than men to be attached formally and on a continuous basis to a particular job and to be in a position of authority over the establishment or other workers.

134. It is recommended that status in employment data are collected and disseminated separately for employees and for each of the four categories of self-employment, that is, employers, own-account workers, contributing family workers and members of producers' cooperatives. Besides the five main categories of status in employment, other groups were specified within the International Conference of Labour Statisticians (ICLS) resolution concerning the International Classification of Status in Employment (International Labour Office, 1993). These groups are either subcategories of the five main categories of status in employment or they cut across two or more categories. Such groups may be relevant for some countries and from a gender perspective. For example, "owner-managers of incorporated enterprises" and "employees with stable contracts" may be groups with underrepresentation of women. "Casual workers", "short-term workers", "seasonal workers" – all part of "workers in precarious employment" – and "subsistence workers" may be groups with overrepresentation of women. When relevant, efforts should be made to collect data on those groups in addition to the five standard categories of employment.

135. Women may be misclassified in status in employment categories. Inadequate measurement of status in employment with an impact on gender statistics may derive from a misclassification of jobs. For example, according to international guidelines, women who work in association and on an equal footing with their husbands in a family enterprise should be classified in the same status-in-employment category as their husbands, that is, either "own-account workers" or "employers". However, women in these situations are sometimes classified as contributing family workers (Mata-Greenwood, 2003). Caution should also be exercised in

order to avoid a misrepresentation of status in employment when a person has two or more jobs during the reference period, a situation which may be more relevant for women than for men. Status in employment should refer to the job “at which he/she has worked the longest hours, or which has provided the highest income from employment” (International Labour Office, 1993). Depending on the criterion used – time or income – women may be recorded, for example, as “contributing family workers” (when most time is spent on that job) or as “own-account workers” (when the income obtained from that job is perceived as more significant).

## Access to productive resources in agriculture<sup>2</sup>

**Table II.8**

**From gender issues to gender statistics on access to productive resources in agriculture: illustrative examples**

Policy-relevant questions	Data needed	Sources of data
Do women manage land and livestock as frequently and as much as men?	Agricultural holdings/subholdings by sex of the holder/subholder. Size of land by sex of the holder/subholder. Size of livestock by type of livestock and sex of the holder/subholder.	Agricultural censuses or surveys. Living Standards Measurement Study (LSMS). LSMS - Integrated Survey on Agriculture (LSMS-ISA).
Are there differences in land tenure between women and men holders?	Land tenure by sex of the holder.	Agricultural censuses and surveys.
Do women own land and livestock as frequently and as much as men?	Ownership of land by size of land and sex of the owner. Ownership of livestock by type of livestock, size of livestock and sex of the owner.	LSMS-ISA. LSMS or other multipurpose survey.
Do women holders use agricultural inputs and irrigation as much as men holders?	Agricultural holdings using fertilizers, machinery, improved seeds, irrigation etc. by sex of the holder.	Agricultural censuses or surveys. LSMS. LSMS-ISA.
Are there gender disparities in access to agricultural information and technology services?	Persons receiving extension services by sex. Agricultural holdings receiving extension services by sex of the holder.	LSMS-ISA. Agricultural surveys. LSMS.
Do women access credit for agricultural purposes as often as men?	Persons applying for credit for agricultural purposes by sex. Agricultural holdings receiving credit for agricultural purposes by sex of the holder.	LSMS-ISA. LSMS. Agricultural censuses or surveys.
Do women participate as much as men in agricultural work and farm labour?	Employed population by sex and industry (branch of economic activity). Farm labourers (members and non-members of the household) by sex.	Labour force surveys. Population censuses. Agricultural censuses or surveys.

### Gender issues

136. Women tend to have lower access to agricultural productive resources than men owing to gender-specific constraints (FAO, 2011). Access to productive resources in agriculture involves several dimensions: (a) ownership of land, livestock or other agricultural resources; (b) management of agricultural resources; (c) use of financial services and other inputs for agriculture; (d) access to education, knowledge and skills related to agriculture; and (e) participation in agricultural labour activities. Women tend to be disadvantaged in regard to all these dimensions (FAO, 2011).

137. For example, in most countries, fewer women than men own agricultural land, livestock or other agricultural resources and the resources owned by women tend to be of smaller size. Furthermore, women tend to have less control and decision-making power over productive resources in agriculture than men. The share of female agricultural holders is lower than that of male holders and women tend to keep fewer livestock and those livestock are typically smaller breeds and of less value. Moreover, women hold smaller farms than men and use fewer inputs such as fertilizers, improved seeds and mechanical equipment. They also tend to have lower access to credit and extension services than their male counterparts. Lastly, women are more likely than men to be involved in agriculture in part-time, seasonal and low-paying

<sup>2</sup> A first draft of this subsection was prepared by FAO, Regional Office for Europe and Central Asia in collaboration with the FAO Statistics Division.

jobs and to receive lower wages for the same type of work, even if they have similar experience and qualifications to men (FAO, 2011).

138. These inequalities not only limit women's opportunities, but also implying high costs for the agricultural sector, food security and economic growth. It is estimated that closing the gender gap in agriculture would generate increased yields on women's farms, raise the total agricultural output, especially in developing countries, and reduce significantly the number of people suffering from hunger in the world (FAO, 2011, 2013).

### *Data needed*

139. Data on access to productive resources in agriculture cover such dimensions as ownership, management and farm labour and refer to such resources as land, livestock and use of inputs, information technology, agricultural machinery, irrigation and financial services. Several types of data can be used. They are:

- a) Data on ownership of agricultural resources collected at the individual level, such as:
  - i) Ownership of land by type of land use (cropland, meadows or pastures, forest land, aquaculture) and sex of the owner;
  - ii) Distribution of land size by sex of the owner;
  - iii) Ownership of livestock by type of livestock and sex of the owner;
  - iv) Distribution of livestock size by type of livestock and sex of the owner;
- b) Data on management of agricultural holdings and subholdings. Such data provide a basic understanding of the gender gap in decision-making and in control over productive resources in agriculture and may refer to:
  - i) Holdings/subholdings by sex of the holder/subholder;
  - ii) Area of the holdings by type of land use (cropland, meadows or pastures, forest land, aquaculture) and sex of the holder;
  - iii) Land tenure type (legal ownership, non-legal ownership, rented, other) of the holding by sex of the holder/subholder;
  - iv) Livestock (including poultry) by type of livestock (species) and sex of the holder/subholder;
- c) Data on use of irrigation and agricultural inputs, such as:
  - i) Holdings/subholdings with irrigated land by method of irrigation and sex of the holder/subholder;
  - ii) Holdings using chemical inputs (fertilizers, pesticides, insecticides, fungicides) by type of chemical and sex of the holder;
- d) Data on access to agricultural information and technology, such as:
  - i) Holdings receiving agricultural extension services by sex of the holder;
  - ii) Holdings using selected machinery and equipment by ownership of machinery and sex of the holder;
- e) Data on access to financial services, such as:
  - i) Holdings receiving credit for agricultural purposes by sex of the holder. When possible, information on the size of credit and individual-level information on the demographic characteristics of the actual applicant for credit should also be obtained;
- f) Data on employment in agriculture and farm labour, such as:
  - i) Labour force participation and employment by sex of the employed population and industry (branch of economic activity);
  - ii) Labourers (paid in cash or in exchange) working on the holding by sex, age and time worked and by sex of the holder;



- iii) Household members working on the holding by sex, age and time worked and by sex of the holder;
- iv) When possible information on the type of contract (permanent, seasonal, occasional labour, labour support groups) and the type of payment (in cash, in kind or in exchange) should also be obtained. Information on household members working on other agricultural holdings or on non-agricultural activities on and off the holding should also be considered.

#### List II.8

#### Examples of indicators derived from gender statistics on access to productive resources in agriculture

- Share of agricultural holdings that are female headed
- Average size of agricultural land by sex of the holder/subholder
- Average size of livestock by type of livestock and sex of the holder/subholder
- Proportion of agricultural land owners in the population by sex
- Average size of agricultural land by sex of the owner
- Proportion of agricultural holdings using irrigation by sex of the holder
- Proportion of users of agricultural credit by sex (or by sex of the holder)

#### *Sources of data*

140. Agricultural censuses and surveys are the main sources of data on agricultural holdings and subholdings and can serve as a vehicle for collecting data on the type and amount of work contributed by women and men to agricultural production. Among others, they provide data on agricultural productivity, the characteristics of agricultural holdings, the socioeconomic characteristics of the holder and of household members, the use of agricultural inputs and services in the holding, and farm labour. The unit of enumeration in agricultural censuses and surveys is the agricultural holding and most of the data are collected at this level. Therefore, the information provided can be used to conduct an analysis of access to productive resources at the level of female- and male-headed holdings. In some countries, some of the data are also collected at the level of subholdings. However, other sources of data, such as the Living Standards Measurement Study – Integrated Survey on Agriculture (LSMS-ISA) or thematic agricultural surveys, should be considered in order to obtain more finely disaggregated data at the individual level of household members.

141. Agricultural censuses and surveys have a distinctive perspective on agricultural labour compared to other data sources. The information collected refers not only to the person's main job (as in labour force surveys and population censuses), but also to secondary and tertiary economic activities. Agricultural censuses and surveys may also favour a "usual activity" approach when collecting data on the economic activity of persons living in agricultural households, as opposed to the "current activity" approach commonly used in labour force surveys and population censuses. The "usual activity" approach is expected to better capture the subtleties of seasonal and intermittent economic activity in agriculture.

142. LSMS surveys often integrate in their data collection aspects related to access to agricultural resources, including data on ownership, decision-making, access to financial services, and labour. In particular, LSMS-ISA surveys are designed to have a strong focus on agriculture: Detailed data are collected on basic crop production, storage/sales, productivity of main crops, land holdings, farming practices, input use and technology adoption, access to and use of services, infrastructure and natural resources, and livestock and fishery. Households are the units of enumeration and most of the data are collected at the household level. Nevertheless, some of the data on access to productive resources in agriculture are collected at the individual level or disaggregated at the level of subholdings, such as by plots of land and types of livestock.

143. Labour force surveys are the main sources of data on labour force participation, employment and unemployment by industry (branch of economic activity). Data by industry, which are usually collected only with regard to a person's main job and classified according to the International Standard Industrial Classification of all Economic Activities, are the basis for obtaining statistics on the labour force in agriculture. A person's main job is defined as the job where he/she spends most time working or, sometimes, as the job that provides the highest income from employment. However, many women and men are involved in agricultural work as a secondary or tertiary economic activity, either on their own agricultural holding or for an employer. Data on these types of farm labourer are captured in other sources, such as agricultural censuses and surveys.

144. Time-use surveys are useful in achieving a better understanding of the duration and type of labour invested by women, men, girls and boys in family farming in the general context of household production.

#### *Conceptual and measurement issues*

145. The exclusion of small agricultural holdings from agricultural censuses or surveys induces a gender bias in the statistics obtained, as women holders tend to concentrate in this subsector. The unit of enumeration in agricultural censuses and surveys is the agricultural holding. An agricultural holding is an economic unit of agricultural production under single management, comprising all livestock kept and all land used wholly or partly for agricultural production purposes, without regard to title, legal form or size (FAO, 2007). There are two types of agricultural holding: (a) holdings in the household sector, that is, operated by household members; and (b) holdings in the non-household sector, for example, corporations and Government institutions. In most countries, the majority of agricultural production is in the household sector (FAO, 2007). Proper coverage of the household sector is extremely important from the perspective of generating gender statistics and the inclusion of all types of unit needs to be carefully considered when preparing the frame for censuses and surveys.

146. Comprehensive coverage of gender issues in access to productive resources in agriculture requires use of units of data collection and data analysis that are disaggregated beyond the holding level. More finely disaggregated data may be collected and analysed at the subholding level. A subholding is defined as a single agricultural activity or group of activities managed by a particular person or group of persons (subholders) in the holder's household on behalf of the agricultural holder (FAO, 2007). A subholding may be a single plot, a whole field, a livestock operation associated with a plot, field or parcel or a livestock operation without any land. What is commonly reported as a male-headed agricultural holding may comprise various subholdings where women are the main decision-makers. When data are collected at the subholding level, the role of women in agriculture becomes more visible.

147. More finely disaggregated data can also be obtained at the individual level, especially with regard to ownership, farm labour, time use (including for agricultural activities) and access to formal financial services, informal credit or support groups. Such data provide a more nuanced picture of gender differences in access to productive resources in agriculture, including within the household.

148. Many "male-headed" agricultural holdings are in fact holdings headed jointly by women and men that are incorrectly recorded owing to omissions and gender bias on the part of interviewers and/or respondents. The role of women as decision-makers in agriculture should be adequately measured by clear identifying the agricultural holder. By definition, the agricultural holding is under single management; however, there may be cases where more than one person – for example, husband and wife - is involved in major decisions regarding resource use and management control over the operations of the agricultural holding. Such persons can be classified as joint holders. This concept should help to better reflect the realities of farm management practices, especially those related to the role of women.

149. For further information on improving data collection in agricultural censuses and surveys from a gender perspective, see the section entitled “Agricultural censuses and surveys” in chapter III.

## Reconciliation of work and family life

**Table II.9**

**From gender issues to gender statistics on reconciliation of work and family life: illustrative examples**

Policy-relevant questions	Data needed	Sources of data
Do women and men spend the same amount of time caring for children? Is the total time spent on housework the same for women and for men?	Time use by type of activity within and outside the System of National Accounts production boundary by sex and detailed activity.	Time-use surveys. Time-use module in household surveys, such as labour force surveys and living standards surveys.
Is it the man or the woman who is working part-time or not at all when the couple's children are young?	Employment status by sex and number of hours worked for both partners by number of children below a certain age.	Labour force survey, living standards surveys and other multipurpose surveys.
What benefits are provided for pregnant women? If granted, what is the length of paternity leave and what are the related benefits?	Qualitative information.	Legislative and administrative records.
Are affordable childcare services available?	Subjective assessment of availability of affordable formal childcare services in the community.  Enrolment in pre-primary education.	Community surveys. Household surveys.  School administrative records.

### *Gender issues*

150. Women and men have different family constraints when it comes to participating in the labour market. Women tend to temporarily withdraw from the labour force and to seek shorter hours or other flexible working arrangements during childbearing and the first years of life of their children. In some countries, women's participation in the labour market is subject to approval from male family members. In addition, the hiring of women in certain jobs is sometimes denied on the basis of their pregnancy or maternity leave (ILO, 2011). Furthermore, although many countries have policies on employment protection during pregnancy, childbirth and maternity leave, women working in atypical forms of work are not usually covered. Maternity leave, while widely granted across countries, is often inadequate in terms of length and pay. The proportion of countries meeting ILO standards related to maternity benefits is much lower in the less developed regions than in the more developed regions. Paternity leave has become more common only recently and only in some countries in the more developed regions.

151. Balancing work and family is particularly challenging for employed parents with young children. Childcare services may be unavailable or expensive. When family-friendly working arrangements such as flexible hours, part-time work, job-sharing and working from home are not available, one member of the couple, usually the woman, may be forced to stay out of employment.

152. Women are the primary caretakers of the family (United Nations, 2010). Caring for children and other dependent household members, preparing meals, cleaning and repairing are tasks disproportionately carried out by women. In many countries, more than half of women's total work time is spent on unpaid domestic work. When time used for paid employment and unpaid domestic work is added up, women work longer hours than men. Women's increased participation in paid employment has not been accompanied by an increase in men's participation in unpaid domestic work. However, the sharing of domestic tasks between the sexes is becoming more equitable in some countries in the most developed regions (United Nations, 2010).

*Data needed*

153. Several types of data are needed to capture reconciliation of work and family life. They are:

- a) Time use by type of activity within and outside the SNA production boundary by detailed activity, sex, age and employment status;
- b) Total employment and employment in flexible working arrangements, such as flexible hours, part-time work, job-sharing and working from home, by sex and age, further disaggregated by individual and household characteristics;
- c) Availability of formal childcare services;
- d) Enrolment in pre-primary education;
- e) Qualitative information on the length and related benefits of maternity and paternity leave.

**List II.9****Examples of indicators derived from gender statistics on reconciliation of work and family life**

- Average number of hours spent on unpaid domestic work by sex
- Average number of hours spent on paid and unpaid work combined (total work burden) by sex
- Employment rate of persons aged 25 to 49 with a child under the age of 3 living in the household and with no children living in the household by sex
- Proportion of couples with children under the age of 3 where the woman is not working and the man is working full-time
- Proportion of the employed population working part-time by sex
- Enrolment in pre-primary education

*Sources of data*

154. Time-use surveys provide data on time-use allocation for all activities, including paid and unpaid work, along with the contextual information necessary to distinguishing between paid and various types of unpaid activities and background information at the individual and household levels. These data are input for (a) identifying time-use patterns; (b) measuring and valuing unpaid domestic and volunteer work; and (c) improving estimates of standard labour-force statistics, including time spent on informal sector activities and unpaid productive activities (United Nations, 2005).

155. Modules on time-use may be attached to labour force surveys, living conditions surveys or other multipurpose household surveys. Most often, these modules involve a set of questions targeted to certain activities of concern, for example, time allocated to a specific list of unpaid work activities (such as water collection) or time allocated to a specific list of unpaid domestic chores (such as caring for ill persons, cooking and preparing meals and carrying out small house repairs).

156. Labour force surveys or multipurpose surveys are an important source of statistics on work-family balance because they collect, at the same time, information related to a person's job and information related to that person's family and household. In terms of the person's job, in addition to employment and status in employment, important information refers to the number of hours worked, the schedule of work and the place of work. Individual and household characteristics of interest include marital status, employment status of the partner, presence in the household of preschool children or other dependants in need of care and availability of childcare services.

### *Conceptual and measurement issues*

157. Time-use statistics should allow for the measurement of unpaid housework for women and for men. In that regard, there should be a distinction between (a) work activities that are within the general production boundary of the System of National Accounts but beyond its operational production boundary and therefore not counted within the labour force, such as cleaning, maintaining and repairing, preparing food and caring for children and older people; (b) work activities that are within the operational production boundary of the SNA but not remunerated, such as producing goods for own final use, including growing or gathering field crops, or fetching water and firewood; and (c) work activities that are within the operational production boundary of the SNA and remunerated, such as formal employment in producing goods and services that are supplied to other units. The separation between these types of activity is possible only when additional contextual information is collected through time-use surveys. This information refers to whether the activities were paid or unpaid and for whom the work was performed (United Nations, 2005).

158. Specific types of activity, often related to unpaid work and often performed by women, can be identified only when all simultaneous activities are recorded. When estimates of time use are based only on primary activities, many activities, such as caring for children or ill or older persons, are clearly underestimated. These “missing” activities would typically be reported as secondary or simultaneous activities.

## Child work

**Table II.10**

**From gender issues to gender statistics on child work: illustrative examples**

Policy-relevant questions	Data needed	Sources of data
Are boys employed more often than girls?	Children in employment by sex and age.	Child labour force surveys. Child labour and youth employment surveys. LFS.
Are girls engaged in household chores more often than boys?	Children engaged in household chores by sex and age.	Child labour force surveys. Child labour and youth employment surveys. Modules in other household surveys, such as DHS and MICS.
Do older girls spend the same amount of time working as older boys?	Hours worked doing housework by sex and age.	Child labour force surveys. Child labour and youth employment surveys.
Is girls' school attendance affected by long hours of work as much as boys'?	School attendance by number of hours worked, sex, age and level of education.	Child labour force surveys. Child labour and youth employment surveys.

### *Gender issues*

159. Similar to their adult counterparts, girls and boys are involved in different types of work. Boys are more likely than girls to be employed and to work in hazardous conditions (United Nations, 2010). However, girls are more likely than boys to do unpaid domestic work. Long hours of work affect children's ability to participate fully in education and to develop the basic skills necessary to participating fully in society as adults. When the time spent on household chores is very high, the school attendance of girls, especially older girls, is more affected than the school attendance of boys.

### *Data needed*

160. Child labour statistics are particularly necessary in countries where a significant number of children work in contravention of agreed international labour standards and national legislation safeguarding the interest and welfare of children (International Labour Office,

2008). However, countries should not restrict their data collection to child labour (defined as worst forms of work, work below minimum age and work in hazardous conditions). It is recommended that data collection cover all paid and unpaid activities performed by children, including unpaid household services. By so doing, the total employment of children (child labour and other work activities) and the work of children on household chores should be recorded.

161. Several types of data are needed. They are:

- a) Children in employment by sex and age;
- b) Children engaged in worst forms of work, work below minimum age and work in hazardous conditions (child labour) by sex and age;
- c) Children engaged in household chores by sex and age;
- d) Hours worked by children in employment and unpaid housework by sex and age.

162. Additional breakdowns are needed in order to understand some of the causes and consequences of child work. Living in poor rural areas or urban slums and household poverty are factors usually associated with child employment and overburden with household chores. Gender differences in child employment may not be the same in rural areas and urban areas. Furthermore, as low school attendance is one of the main consequences of work burden, it is important that data on school attendance are collected and disaggregated by sex, age, labour force participation status or hours worked in employment and unpaid housework.

#### List II.10

##### Examples of indicators derived from gender statistics on child work

- Proportion of children aged 5 to 17 in employment by sex
- Proportion of children aged 5 to 14 engaged in 66 household chores by sex
- Time spent by children aged 15 to 17 on work in employment and housework by sex
- School attendance rate of children aged 5 to 14 working 21 hours per week or more on household chores by sex

#### *Sources of data*

163. Child labour surveys can be used to collect comprehensive information on children's employment and on their involvement in household chores. Areas covered include types of activity performed by the child, hours of work by type of activity, school attendance of the child, health of the child, orphanhood, wealth status of the household and demographic and economic characteristics of the child and other household members.

164. Household surveys, such as DHS and MICS may also include a few questions or an entire module on child work, along with questions on the demographic and economic characteristics of the child and other household members and the wealth status of the household.

165. Labour force surveys may be used to collect information on employment of children over 10 years old.

166. Some establishment surveys may focus on child labour.

#### *Conceptual and measurement issues*

167. It is important that statistics on children's work cover all forms of work, paid as well as unpaid activities. In particular, the inclusion of household chores in statistics on children's work is important for obtaining a more accurate measure of the burden of work borne by girls and boys.

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## Poverty

168. Statistics on gender and poverty can be produced at the household level or at the individual level, as shown in the subsections below. At the household level, statistics on gender and poverty are based on a traditional concept of poverty and are measured on the basis of consumption or income aggregated at the household level (see the subsection entitled “household-level income/consumption poverty”). In this case, the analysis focuses on whether female-headed household or certain types of female-headed households are more at risk of poverty than male-headed households. This type of analysis does not take into account intrahousehold inequality in consumption and does not provide individual counts of female or male poverty.

169. At the individual level, statistics on gender and poverty are based on a broader concept of poverty and are mainly measured through non-consumption indicators. In this case, the analysis focuses on gender inequality in allocation of resources (see the subsection entitled “Inequality in intrahousehold allocation of resources”) and gender differences in access to



economic resources such as income, property and credit (see subsection entitled “Economic autonomy of women”).

## Household-level income/consumption poverty

**Table II.11**

**From gender issues to gender statistics on household-level income/consumption poverty: illustrative examples**

Policy-relevant questions	Data needed	Sources of data
What types of female-headed households have a higher risk of poverty? Do they fare better or worse than similar households headed by males? Are lone mothers with children more likely to be poor than lone fathers with children? Are old women living alone more likely to be poor than old men living alone?	Equivalent household income/consumption disaggregated by detailed types of household and sex of the head of household; poverty threshold.	Household surveys designed to measure poverty, such as living standards surveys, household income and expenditure surveys, household budget surveys, etc.

### *Gender issues*

170. Certain types of households headed by women are more vulnerable to poverty than those headed by men (United Nations, 2010). This is the case, for example, of households of lone mothers with children compared to those of lone fathers with children. Likewise, households of women living alone tend to be poorer than those of men living alone. The higher risk of poverty for these types of households headed by women is linked to the gender gap in access to economic resources. For example, women participate less than men in the labour market and when they do participate, their earnings are usually lower than men's (United Nations, 2010). Older women are covered less than older men by the pension system and when they are covered, the pension that they receive is much lower than the pension that men receive (United Nations, 2009b). Lower access to economic resources increases women's economic dependency on men. When men with higher earnings are not around anymore because of divorce, migration or death, women as lone mothers and older women living alone have a higher risk of poverty. Households of lone mothers and single women may also be more vulnerable to economic or environmental shocks, owing to the obstacles faced by women in accessing the economic resources necessary for recovery and survival (United Nations, 2009b).

171. However, an overall higher vulnerability to poverty for female-headed households compared to male-headed households cannot be generalized, mainly because female- and male-headed households cover a broad range of situations in terms of demographic and economic composition (Lampietti and Stalker, 2000; United Nations, 2010). Examples of female-headed households include one-person households, such as older women with a small or no income and young women who are economically independent, households of lone mothers with children who may or may not receive financial support from the father, households where the male partner is temporarily absent and contributes remittances, households of visiting unions where the male partner is polygamous and does not provide economic support and households of couples with or without children where the woman rather than the man is reported as the household head. Because of their different demographic and economic composition, these types of female-headed households tend to have a different risk of poverty. Similarly, different types of male-headed households have a different risk of poverty depending on their demographic and economic composition. Furthermore, as the share of the detailed types of female- and male-headed household in total households varies across countries and within countries, the overall gap between the poverty of female-headed households and that of male-headed households also varies, to the extent that, in many developing countries, the overall poverty incidence of female-headed households is lower than that of male-headed households (Lampietti and Stalker, 2000; United Nations, 2010).

*Data needed*

172. Household-level consumption or income adjusted for differences in the age and sex composition of households and the poverty line chosen to separate poor from non-poor are the basis for measuring poverty. On the basis of this information, several measures of poverty can be constructed. Those frequently used are headcount poverty index, poverty gap (or poverty depth) index and severity of poverty index.<sup>3</sup>

173. Poverty measures should be calculated separately for various types of female- and male-headed households. These types of households can be identified on the basis of the demographic composition of the household or a combination of the demographic and economic characteristics of the household members. For instance, households of one female or male adult with or without children, such as lone mothers with children, lone fathers with children, female one-person households, male one-person households, older female one-person households, older male one-person households, can be identified on the basis of information on sex and age for all household members and family relations among them.

174. Depending on the context, additional types of female- and male-headed households can be distinguished on the basis of the individual demographic, social and economic characteristics of all household members. For example, based on marital status, a distinction can be made between female heads of households who do not have a partner, female heads who are in visiting unions and whose partners are usually living in another household and female heads whose formal partners are temporarily absent. Similarly, a distinction can be made between monogamous and polygamous male-headed households.

175. Taking into account the age and economic characteristics of all members of the household, households may be classified further by the level of dependency burden. Statistics on the age, education and economic characteristics of the household head can be used for more detailed analysis. Additional breakdowns commonly used in poverty analysis, such as urban/rural areas or geographical areas, are also useful.

**List II.11****Examples of indicators derived from gender statistics on household-level income/ consumption poverty**

- Headcount poverty index for lone parents with young children by sex of the parent
- Poverty gap for lone parents with young children by sex of the parent
- Headcount index for one-person households aged 65+ by sex
- Poverty gap for one-person households aged 65+ by sex

*Sources of data*

176. Household surveys, such as household income and expenditure surveys, household budget surveys, household integrated surveys and living standards/living conditions surveys, are the main source of income or consumption data. However, these surveys are not equally adequate for poverty measurement. In general, shorter recall periods tend to be sufficient for the estimation of averages of income or expenditure, whereas longer recall periods are often needed for adequate poverty estimates. Living standards surveys are one of the types of surveys used to collect data on consumption that are based on longer recall periods. They are therefore more adequate for poverty analysis. Living standards surveys are also used to collect more comprehensive information on the individual characteristics of all household members, thereby allowing for an analysis of household-level poverty by detailed types of female- and male-headed households as well as a broader analysis of non-consumption individual-level indicators of poverty.

<sup>3</sup> For more information on measures of poverty, their definition and method of calculation, see Haughton and Khandker (2009).

*Conceptual and measurement issues*

177. A lack of explicit criteria in identifying the household head impacts the adequacy of poverty statistics for female- and male-headed households. The traditional notion of head of household assumes that one person has primary authority over and responsibility for household affairs and is, in the majority of cases, its chief economic support. However, where spouses are considered equal in household authority and responsibility and may share economic support, the concept of head of household is no longer considered valid. In countries where this is the case, either the concept should no longer be used or provisions for joint headship should be made. Even in the many countries where the traditional concept of head of household is still relevant, it is important to recognize that the procedures followed in applying the concept may distort the true picture, particularly with regard to female heads of households. The most common assumption that can skew the facts is that no woman can be the head of a household that also contains an adult male. This fact is often neglected, resulting in a biased interpretation of the association between gender and poverty.

178. The use of different criteria in defining the household headship leads to the identification of different sets of households with different poverty rates (Fuwa, 2000). The criteria used to identify a household head should be clearly specified in the survey design so that they are the same for all households surveyed. Depending on the criteria selected, the identification of the household head can be done at the time of the interview or at the analysis stage. For example, at the time of the interview, the head of the household may be defined as the person considered by the household members as the main economic provider with most authority and decision-making power on economic resources, while at the analysis stage, the head of the household may be defined as the person with the highest income or the person with a regular stable income. Analysis of poverty differences between female- and male-headed households based on self-reporting should be avoided when the respondents interviewed were not given any criteria for identifying the household head.

179. The current practice of disaggregation of household-level poverty data by sex of the household members gives only a poor measure of the gender gap in poverty. Poverty is traditionally measured on the basis of income or expenditure at the household level, whereas the number of poor people (women or men) is calculated as the number of people living in households below a poverty line. The inequality within the household in satisfying individual basic needs is not taken into account, mainly because it is difficult to measure how household income is spent or consumed on an individual basis and how expenditures are distributed to each household member. The results of disaggregation of household-level poverty data by sex of the household members will not reflect possible gender inequality within households, only the distribution of population by sex in poor households. If, in the same household, the women consume or spend less than what they need to function properly physically and socially (and are therefore considered poor), while the men consume or spend what they need or more (and are therefore considered non-poor), they will still be considered to have the same poverty status, either poor or non-poor, depending on the average consumption estimated at the household level. This approach may lead to the undercounting of women in poverty, because additional poor women might be found in some non-poor households.

180. In addition, the gender gap measured on the basis of simple poverty counts by sex is heavily influenced by country-specific living arrangements and ageing factors (United Nations, 2010). Poverty rates for women may appear higher than those for men, especially in countries with a significant proportion of households with an overrepresentation of adult women, such as households of lone mothers with young children and female one-person households, in particular one-person households of older women. Such countries are more likely to be located in the more developed regions, where, by other standards of well-being, such as education and health, women enjoy an improved status and less gender discrimination.

## Inequality in intrahousehold allocation of resources

Table II.12

From gender issues to gender statistics on inequality in intrahousehold allocation of resources: illustrative examples

Policy-relevant questions	Data needed	Sources of data
Do households spend the same amount of income on girls' and boys' education, health and nutrition?	Weight of children under five years of age by sex, age and wealth status of the household. Household expenditure on education for each child by sex and age of the child. Household expenditure on health for each child by sex and age of the child.	Household surveys, such as DHS, MICS and LSMS. Household income and expenditure surveys, household budget surveys and living standards surveys.
Do women and men spend the same amount of time on household chores? Do women and men have the same amount of time for leisure?	Time use by type of activity and sex.	Time-use surveys or time-use module included in other surveys, such as LSMS and labour force surveys.
Do married women have a say in how their own cash earnings are spent? Do married women participate in decision-making on major household purchases?	Women by employment status, type of income, marital status and selfdeclared participation in decision-making on (a) how their own earnings are spent and (b) major household purchases.	Household surveys, such as DHS.

### *Gender issues*

181. In certain contexts, fewer resources are allocated to the female members of the household. Lower returns may be expected from investing in girls' education as opposed to boys' in countries where women have considerably fewer opportunities than men in the labour market and where young women are expected after marriage to devote their time and resources towards their husband's family (UNESCO, 2003). As a consequence, when household resources are limited, fewer girls than boys may be able to attend school. Girls may also have more housework responsibilities than boys, even when the household is not fighting for survival, and their school attendance and performance may therefore be more affected (UNESCO, 2003). In general, the use of time is not the same for women and for men. Overall, women work longer hours and have less leisure time than men, because domestic tasks are not equally distributed in the household (United Nations, 2010). Lastly, in contexts characterized by both limited resources and discrimination of girls and women, gender-biased access to nutrition and paid health services may also be observed (United Nations, 1998). In such contexts, girls and young women may be more likely to be undernourished and anaemic and may use health services less often than boys and young men.

182. Many women are unable to fully participate in intrahousehold decision-making on economic resources, thereby limiting their influence on the intrahousehold allocation of resources. In countries in the less developed regions, particularly in the poorest households, significant proportions of married women have no say on how the household earnings, including their own cash earnings, are spent or invested (United Nations, 2010; World Bank, 2011). In countries with gender inequality in property and inheritance rights, many women are unable to participate in decision-making on the use or disposal of land (United Nations, ECE, and World Bank Institute, 2010). On the other hand, educated women, women owning assets and women with a visible in-cash contribution to the household income may have more bargaining power within the household and may be able to influence the intrahousehold allocation of resources towards more investments in children's health and education and more gender equality (World Bank, 2011).

### *Data needed*

183. It is difficult to measure intrahousehold inequality using consumption as an indicator of individual welfare, as traditionally used at the household level. When collecting data on

individual consumption, only part of the goods can be assigned to specific members of the household. Countries collecting detailed consumption data may be able to obtain the following types of sex-disaggregated data:

- a)* Household expenditure on education for each child by sex and age of the child;
- b)* Household expenditure on health for each child by sex and age of the child;
- c)* Household expenditure on some specific adult goods (e.g., clothing, footwear, tobacco) by sex of the household members consuming them.

184. The use of non-consumption indicators has been more successful in illustrating gender inequality in the allocation of resources within the household. Poverty is increasingly seen not only in terms of adequacy of economic resources to avoid deprivation, but also in broader terms of the actual level of deprivation, not only in terms of food and clothing, but also in such areas as education and health outcomes and resources of time. Deprivation in those areas can be illustrated through the use of sex-disaggregated data, such as:

- a)* Children's school attendance by sex, age and level of education;
- b)* Children's weight by sex, age and height;
- c)* Children's immunization by sex and age;
- d)* Time use by type of activity, sex and age.

185. Data reflecting participation in intrahousehold decision-making may refer to:

- a)* Participation of women in decision-making on spending their own income by marital status;
- b)* Participation of women in decision-making on spending the household income by marital status.

186. If possible, the above statistics should be disaggregated by wealth status of the household, as gender-biased allocation of resources are often more pronounced in households with limited economic resources. Breakdowns by urban/rural areas and geographical areas, reflecting differences in infrastructure and the geographical distribution of education and health services, should be taken into account. Other variables that distinguish between subgroups of populations with specific sociocultural norms and status of women, such as ethnicity, religion or migration status, should also be considered.

187. The above statistics can also be disaggregated by some measures of the contribution of women to the total income of the household and their control over resources. The proportion of total income that is contributed by women and women's ownership of land or other property are examples of such variables, although the data are not often available. More easily available and more frequently used as a breakdown variable is the female headship of the household. However, this variable can give only a partial measure of women's control over resources, because it does not take into account women who live in male-headed households and who have control over the household resources.

#### **List II.12**

##### **Examples of indicators derived from gender statistics on inequality in intrahousehold allocation of resources**

- Ratio of household expenditure on education for girls to household expenditure on education for boys
- Proportion of underweight children among children aged 24 to 59 months in the poorest quintile by sex
- Proportion of married women aged 15 to 49 who are employed and have a cash income but do not participate in decision-making on how their own earnings are spent
- Proportion of married women aged 15 to 49 who are usually excluded from decision-making on major household purchases

*Sources of data*

188. Living standards surveys can be used to collect the data necessary to understanding intrahousehold allocation of resources. For example, some LSMS surveys are used to collect data on the consumption of certain goods at the individual level, including expenditures on education and health. LSMS surveys are also used to collect data on access to and outcome of education and health services and on time use. The European Union Statistics on Income and Living Conditions (EU-SILC) has a module on material deprivation and a module on intrahousehold sharing of resources, with some of the questions formulated at the individual level.

189. Demographic and health surveys, such as DHS and MICS, are a valuable source of data for non-consumption indicators of poverty. Education and health status of children and women are the focus of those types of surveys. Women's participation in intrahousehold decision-making may also be covered, as is the case with DHS. Both DHS and MICS provide data on household assets and housing conditions that can be used to construct wealth indices and to assess whether gender gaps in education and health are larger in poorer households than in wealthier households.

190. Time-use surveys can be used to show women's and men's time burden and how this burden is affected by poverty status or poor housing conditions.

*Conceptual and measurement issues*

191. No standard measures of gender-related intrahousehold poverty and inequality based on consumption data are as yet available. Such measures would require collection of data on consumption or expenditure level for each member of a household. However, when collecting data on individual consumption, only part of the goods, for example, adult clothing, alcohol or tobacco or, in some cases, education and health expenditure, can be assigned to specific members of the household. It is less easy to measure how much of the food or household common goods (such as housing, water supply or sanitation) is consumed or used by each individual household member. In addition, if data are collected at the individual level and different patterns of consumption are observed, it is not always clear if such patterns are related to different individual levels of need (for example, women may require a lower caloric intake than men), to different preferences or to an unequal distribution of resources.

192. Individual non-consumption measures of gender-related intrahousehold poverty and inequality need further development. Education, health and time use are key elements in the broader concept of poverty and well-being. However, the standard individual-level measures needed to capture overall gender inequality in the intrahousehold allocation of resources are not equally available for all three areas. Only for education are there international standards guiding, for example, the measurement of school attendance, literacy or educational attainment for each individual. No international standards are as yet available for summary measures of individual-level health status or time use, although some indicators are currently used by some national statistical offices or academia. For example, in the case of adult health, such individual-level measures would refer to self-reported health status or limitations on daily activities or formal work. When it comes to children, measures of immunization or nutrition are fairly standardized and widely used. In the case of time use, the summary measures of time poverty would refer to time available for leisure, total time spent on work or time spent on household chores.

## Economic autonomy of women

**Table II.13**

From gender issues to gender statistics on economic autonomy of women: illustrative examples

Policy-relevant questions	Data needed	Sources of data
Do women earn cash income as often as men and do they earn as much as men?	Employment by type of income and sex.	Household surveys, such as living standards surveys, labour force surveys, DHS and MICS.
	Value of individual income by sex.	Living standards surveys, such as LSMS and EU-SILC.
Do women own land as often as men and do they own as much as men? Do women appear on housing property titles as often as men?	Individual ownership of land by sex.	Household surveys, such as living standards surveys, population and housing censuses, agricultural censuses and surveys.
	Distribution of land size by sex of the owner.	Multipurpose household surveys and administrative records.
Do women apply for and obtain credit as often as men? Are some types and sources of credit associated with women more often than with men?	Distribution of housing property titles by sex of the owner.	
	Applicants for credit by sex, purpose of credit, source of credit and approval response.	Household surveys.

### *Gender issues*

193. Women's income tends to be smaller, less steady and more often paid in kind than men's. More women than men work in vulnerable employment with low or no cash returns and women spend more of their time on unpaid domestic tasks (United Nations, 2010). This gender division of labour increases women's economic dependency on men. When men with higher earnings or a pension are not around anymore because of divorce, migration or death, women as lone mothers and older women living alone have a higher risk of poverty (United Nations, 2010). The employment of women in non-standard or atypical work decreases their chances of benefits associated with maternity or unemployment and results in fewer assets in formal pension systems (United Nations, 2009b; World Bank, 2011). Even in countries where women are covered as often as men by the pension system, the amount accumulated in pensions is much lower for women than for men, mainly because of women's smaller contribution to the social security system (United Nations, 2009b).

194. In many countries, women have less access than men to ownership of land, housing, livestock and other property. Elements of gender inequality with regard to inheritance rights, rights to acquire and own land and rights to own property other than land have been identified in many countries (United Nations, 2009b, 2010; UNECE, and World Bank Institute, 2010; World Bank, 2011). In such countries, women are at a disadvantage in terms of their access to ownership of economic assets at various stages of their life cycle. For instance, not all women are able to obtain their share of inheritance: upon marriage, their rights to or control over the property may be transferred to their husband or they may lose control of the household property when they become widows. Even if there are no formal restrictions, women may not be able to obtain property that is rightfully theirs owing to a lack of knowledge about their entitlements or a lack of information and means with regard to obtaining the property.

195. Women's chances of obtaining formal credit are smaller than men's. On the one hand, women lack income and property ownership to be used as collateral more often than men; on the other hand, women may have more difficulty than men in obtaining loans for developing their business, since women's businesses are more often in informal and low-growth sectors (United Nations, 2009b; UNECE, and World Bank Institute, 2010; World Bank, 2011). The type of credit accessed and the source of the credit also tend to vary between women and men. Women may be just as successful as men in accessing microcredit that would help them to escape temporarily from poverty, but not as successful as men in accessing the credit necessary to start a business and which would ensure their long-term removal from poverty (United Nations, 2009b; UNECE, and World Bank Institute, 2010; World Bank, 2011).

*Data needed*

196. Data needed to analyse the economic autonomy of women may refer to:

- a) Access to income, such as:
  - (i) Individual access to cash income by sex and regularity of source of income;
  - ii) Monetary value of individual income by sex;
- b) Ownership of assets, such as:
  - i) Individual ownership of housing property by sex;
  - ii) Individual ownership of land by sex;
  - iii) Distribution of land size by sex of the owner;
  - iv) Individual ownership of livestock by sex and type of livestock;
  - v) Distribution of livestock size by type of livestock and sex of the owner;
  - vi) When data on asset ownership are collected through household surveys, information may also be obtained on how the assets were acquired, how much they are worth, and whether female and male household members have decision-making power regarding their use and disposal (UNECE, and World Bank Institute, 2010);
  - vii) Contextual information on property and inheritance rights that may discriminate against women should be gathered from non-statistical sources, such as qualitative studies of laws or cultural norms that may have a gender-differentiated impact on access to property;
- c) Access to credit, such as:
  - i) Individual use of credit by sex, purpose of credit and source of credit. Individual use of credit should be further disaggregated by individual ownership of key assets, such as land, housing and major durable goods, in order to see, for example, whether a lack of housing, land or other assets leads women to make use of informal or semi-formal sources of credit.

**List II.13****Examples of indicators derived from gender statistics on economic autonomy of women**

- Proportion of the population of economically active age that is earning cash income by sex
- Proportion of land owners in the population by sex
- Average size of land privately owned by sex of the owner
- Proportion of users of credit from formal institutions

*Sources of data*

197. Living standards surveys, such as LSMS, usually include questions on access to various types of economic resources, such as income, land and other property, and credit. In countries in the less developed regions, household surveys may not include detailed data on individual income, but may be the only source of data on use of credit from all types of sources of credit. In the more developed regions, surveys such as EU-SILC usually collect data on income at the individual level.

198. LSMS-ISA surveys may be used to collect data at the individual level on asset ownership and access to various types of economic resources, including agricultural resources. Information on control over household resources is collected at the disaggregated level of



agricultural subholdings (such as plots of land and types of livestock) and subholders (the main decision-maker or manager for a particular subholding).

199. Demographic and health surveys, such as DHS, provide data on access to cash income.

200. Population and housing censuses may be used to collect data on property ownership, although most of the time the data are collected at the household level, without taking into account joint ownership.

201. Agricultural censuses and surveys may be used to collect data on land and livestock ownership and on the “agricultural holder” (basically defined as the decision-maker or manager), although most of the time the data are collected at the household or agricultural holding level, without taking into account joint ownership or decision-making. Agricultural surveys are a potential source of individual data on use of agricultural credit.

### *Conceptual and measurement issues*

202. In less developed regions, individual income and its share in the total household income are difficult to measure and may be more severely underrepresented for women. In these regions, a substantial part of income comes from household agricultural production, non-farm self-employment income or commodities obtained from natural resources. It is difficult not only to measure the exact income generated through these activities, but also to calculate separate income for women and men when the work is done together. Activities that do not generate cash income, done by women more often than by men, are more likely to be excluded from the calculation of income. For example, women are often involved in producing food for own consumption. If this work is not taken into account, women’s income and their contribution to the household income is underreported. By comparison, cash income from paid employment, obtained by men more often than by women, is easier to measure and therefore more likely to be taken into account.

203. The status of women and men in regard to ownership and their decision-making roles in regard to land may be misrepresented when data are collected at the level of total area managed by the household. In some countries, distinct areas of land are owned or managed separately by the wife and the husband. In such cases, data on ownership of and control over land should be collected at the level of individual plots of land by ownership and persons involved in decision-making (Fuwa and others, 2000). It is also important to identify the owner of the assets separately from the decision-maker or manager of the business.

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## Environment

204. Environment statistics describe the state of and trends in the environment, covering the media of the natural environment (air/climate, water, land/soil), living organisms within those media and human settlements (United Nations Environment Programme, 2012). This is one of the statistical fields traditionally considered gender-neutral and often developed without much consideration of all the aspects and implications relating to individuals. Yet, environmental conditions have a different impact on the lives of women and men owing to existing gender inequality. In particular, lack of access to safe water and energy, environmental degradation and natural disasters disproportionately affect women in terms of unremunerated work, health and mortality. In addition, women's role in environmental protection is hampered by gender inequality in access to education and training, information and technologies, and decision-making. These issues are covered, in this section, under two subtopics: environmental aspects with gender-differentiated impacts and involvement of women and men in the management of the environment.

## Environmental aspects with gender-differentiated impacts

**Table II.14**

From gender issues to gender statistics on environmental aspects with gender-differentiated impacts: illustrative examples

Policy-relevant questions	Data needed	Sources of data
When water is not available on household premises, do women and men participate equally in water collection?	Households/population by availability of water on the premises and sex of the person usually collecting water. Persons involved in water collection by sex and age. Time spent on water collection by sex and age.	Household surveys, such as DHS and MICS.  Time-use surveys.
Are women more likely than men to develop health problems due to indoor smoke from solid fuels?	Relative risks of lower respiratory infections, chronic obstructive pulmonary diseases and lung cancer by sex and age.	Epidemiological studies and health administrative records.
How many women and men are exposed to indoor smoke from solid fuels used for cooking?	Population using solid fuels for cooking by type of stove, indoor/outdoor location of cooking and sex.	Household surveys, such as DHS and MICS.
Do women and men in the same household have different exposure to indoor smoke?	Time spent indoors and time spent near the fire by sex and age.  Time spent cooking by sex.	Small-scale studies.  Time-use surveys.
Are female or male deaths overrepresented among deaths due to various natural disasters?	Deaths due to natural disasters by type of hazard, sex and age.	Health and other administrative records, including post-disaster assessments.  Population censuses.  Household surveys.

### *Gender issues*

205. Poor infrastructure and living conditions increase the work burden of women and men, but especially that of women. Lack of access to drinking water on the premises or within a short distance continues to affect the lives of women and men in countries in the less developed regions, especially in rural areas. When water is not available on the premises, women are responsible for water collection more often than men (United Nations, 2010; WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation, 2011). Girls are also more likely than boys to be in charge of water collection. The resulting time spent fetching water tends to be much greater for women than for men, especially in rural areas. The gender-specific time burden of water collection may be associated with such factors as age or economic status. For example, water collection may be the task of younger women rather than older women. In addition, in households where mothers are busy working outside the home, older girls may be responsible for fetching water.

206. Similarly, lack of access to modern cooking and heating services increases the time burden of women and men (United Nations, 2010). In some countries, a large proportion of households still use firewood for cooking and heating. In communities from poor areas affected by deforestation or where nearby forests are protected, women and men may need to take longer and longer trips to collect firewood. The time spent by women and men collecting firewood as well as the purposes for which they collect it are often different. When the wood is being collected for household needs, such as cooking and heating, women tend to spend more time than men collecting it. When the wood is being collected for selling and gaining income, men tend to spend more time than women collecting it.

207. Environmental degradation, difficult access to natural resources and natural disasters may have a different impact on women's and men's livelihoods and food security. Women in the less developed regions are particularly vulnerable. They tend to be more dependent on natural resources affected by environmental degradation or natural disasters and yet they may be involved very little in the management of natural resources. Furthermore, women tend to have fewer of the assets (such as land or income) that would help them to access the additional resources necessary to cope with environmental scarcity or to speed up recovery when natural disasters strike.

208. Environmental conditions have a major impact on women's and men's health. Among the health-risk factors related to the environment, two make the largest contribution to the world's burden of disease: unsafe water, sanitation and hygiene, and indoor smoke from solid fuels (WHO, 2009). Other factors may refer to outdoor air pollution, chemical exposure and occupational risks. These factors often have a different impact on women's and men's health. In particular, indoor smoke from solid fuels affects more women than men. In households where the cooking is done with solid fuels and the ventilation is poor, women are more likely than men to develop acute lower respiratory infections, chronic obstructive pulmonary diseases and lung cancer (Desai, Menta and Smith, 2004; Ezzati and others, 2004). The increased health risk for women is mainly due to the fact that women spend more time indoors and more time near the fire while cooking and are therefore more exposed to high-intensity pollution episodes (WHO, 2006).

209. Female and male mortality due to natural disasters may differ. The lives of thousands of women and men are lost worldwide every year as a result of natural disasters. Mortality differences by sex may vary from one country to another and by type of hazard (United Nations, 2010), suggesting that it is, rather, the socially-constructed vulnerability of women or men that leads to gender-differentiated mortality rates during natural disasters (United Nations Development Programme, 2011). For example, more women than men died during the 2004 Indian Ocean tsunami, as a result of women's lack of access to information and life skills development and their culturally-constrained mobility outside the home (United Nations, 2010). Natural hazards in other countries, particularly in the developed regions, however, caused larger shares of male deaths, suggesting that men were more inclined towards risk-taking or more involved in activities that would put them at risk (United Nations, 2010).

#### *Data needed*

210. Several types of data can be used to assess the impact of the environment on women's and men's lives. They are:

- a) Data on water and firewood collection, such as:
  - i) Persons involved in water collection by sex and age;
  - ii) Time spent on water collection by sex and age;
  - iii) Population by availability of water on the premises, time needed to collect; water per trip and sex of the person usually collecting water;
  - iv) Persons involved in firewood collection by sex and age;
  - v) Time spent on firewood collection by sex and age;
  - vi) The statistics above should be further disaggregated by variables that would account for disparities in infrastructure, such as urban/rural areas or geographical areas. When feasible, information on the deforestation status of geographical areas should be considered as a breakdown variable for statistics on water and firewood collection. For firewood collection, a further breakdown variable, by purpose of firewood collection, should be added, as men and women may collect firewood for different reasons;
- b) Data on the health impact of environmental conditions, such as:
  - i) Population using solid fuels for cooking by type of fuel, type of stove, indoor/outdoor location of cooking. These data should be further disaggregated by variables that would account for disparities in infrastructure, such as urban/rural areas or geographical areas;
  - ii) Relative risks of lower respiratory infections, chronic obstructive pulmonary diseases and lung cancer by sex and age;

- c) When possible, additional data necessary to estimate the gender-differentiated impact of natural disasters should be considered, such as:
- i) Deaths due to natural disasters by type of hazard, sex and age;
  - ii) School attendance before and after natural disasters by sex, age and level of education;
  - iii) Labour force participation before and after natural disasters by sex and age;
  - iv) Access to resources, such as food, shelter, safe water and sanitation, health services or financial services, such as loans and credit, by sex.

**List II.14****Examples of indicators derived from gender statistics on environmental aspects with gender-differentiated impacts**

- Proportion of population involved in water collection by sex
- Average time spent by population on water collection by sex
- Proportion of population involved in firewood collection for household needs (cooking and heating) by sex
- Average time spent by population on firewood collection for household needs (cooking and heating) by sex
- Share of female deaths in total deaths due to natural disasters

*Sources of data*

211. The collection of gender statistics related to the environment does not take place within the usual field of environmental statistics, but, rather, is integrated within social statistics. Gender statistics related to the environment may be produced, for example, as part of statistics on time use, housing conditions, health or education.

212. Time-use surveys are an important source of data on work burden due to poor infrastructure and poor housing conditions. When access to water and energy is an issue, it is important that time-use surveys are used to collect not only data on time use for water and firewood collection, but also other information, such as (a) the individual characteristics of the persons involved in those activities, such as sex, age, employment other than collecting water or firewood, or purposes for which women and men collect firewood; (b) the basic demographic and economic characteristics of other household members; and (c) information on household assets that can be used to construct wealth indices.

213. Household surveys, such as DHS and MICS, may provide information on environmental conditions; however, they provide very little information on the impact of such conditions on women's and men's lives. For example, some of the housing conditions data collected by these surveys refer to access to water and sanitation. Data are collected on whether the household has access to water sources and sanitation, how far the source of water is, how much time is needed to fetch the water and whether women or men are usually in charge of fetching it. With regard to the potential health effects of solid fuels used for cooking, demographic and health surveys provide valuable background information on the types of fuels used for cooking and heating as well as on ventilation factors, such as the place where cooking is done or the type of stove that is used for cooking.

214. Multipurpose household surveys conducted within the regular programme of a national statistical office can be used to assess the gender-differentiated impacts of a natural disaster when conducted within a short interval of the disaster. It is important to compare, for example, data on school attendance, employment or work burden collected in the last survey before the disaster with data on the same issues collected in the first survey after the disaster. When possible, the post-disaster survey should also assess loss of life, loss of assets and access to the economic resources necessary for recovery.

215. Population and housing censuses usually provide important background information related to households/population with poor access to water and households/population using solid fuels for cooking. This background information is useful in assessing the work and health burden of women and men, especially when additional information on gender roles or health risks is available from other sources of data.

216. Epidemiological studies and health administrative records are valuable in providing sex-disaggregated information on diseases associated with environmental factors, such as unsafe water and sanitation, lack of hygiene and indoor smoke from solid fuels. The health risks calculated on the basis of these records can be used in combination with background data obtained through household surveys or population and housing censuses to estimate the burden of disease associated with such environmental factors. Health or other administrative records may also be used to obtain sex-disaggregated data on deaths due to natural disasters.

217. Administrative records can be useful in assessing mortality due to natural disasters. It is important that basic individual characteristics, such as sex and age, are systematically collected for all deaths. Other information related to circumstances of death, such as where and how the death occurred, is also important. Furthermore, administrative records may be used to assess post-disaster access to resources, such as food, shelter, safe water and sanitation, health services and financial services, such as loans and credit. It is important that individual characteristics, such as sex and age, as well as household characteristics, such as size of the household, number of children and sex of the household head, are systematically recorded.

### *Conceptual and measurement issues*

218. The adequacy of statistics on gender and environmental conditions is limited by several factors. First, there are no international guidelines on producing environment-related gender statistics. Second, some of the sources needed to produce environment-related gender statistics, such as time-use surveys or health studies, may not be part of the regular programme of data collection in national statistical offices. Third, even when potential data collection instruments exist, they may not be designed to capture the links between gender and environment. Therefore, the data provided by existing sources are often insufficient for a coherent and comprehensive understanding of the impact of environmental aspects on women's and men's lives.

## **Involvement of women and men in the management of the environment**

**Table II.15**

**From gender issues to gender statistics on the involvement of women and men in the management of the environment: illustrative examples**

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

Policy-relevant questions	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 eco-friendly products?	Distribution of adult population by sex and various types of self-reported behaviour related to environmental 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, and public transport usage surveys.
Are women more often than men active members of local nongovernmental organizations (NGOs) involved in environmental protection?	Distribution of adult population by sex and active membership in local NGOs related to environmental protection.	Population-based surveys, including opinion and value surveys.

### *Gender issues*

219. Women are underrepresented in environmental education and environmental high-level decision-making. Women are still not electing to enter education programmes related to the environment that may be perceived as “male”. In many countries, women are underrepresented among students in tertiary education and graduates in fields of study related to the environment, such as environmental protection, forestry, agriculture, water and sanitation, energy and life sciences. Furthermore, women tend to be underrepresented among professional occupations that may be connected to the environment, such as life sciences, agriculture and certain domains of engineering. Adult women and men may also have different levels of access to non-formal adult education and training, and information and technology. Lastly, in terms of high-level decision-making, women are a minority in the managerial positions of environment ministries and in other environment-related national coordinating bodies (United Nations, 2010).

220. Women and men may also have different roles in protecting the environment at the community and domestic levels of decision-making, in local non-governmental or grass-roots organizations and through day-to-day activities (United Nations Development Programme (UNDP), 2011). Often, women and men are not equally represented in the management of local natural resources. Their representation in local non-governmental or grass-roots organizations related to the environment may also be unequal. Furthermore, women’s and men’s day-to-day choices may have a differentiated impact on the environment. For example, in some developed countries, women tend to recycle more often than men, tend to choose public transport for commuting and, when they get a car, choose smaller, less polluting and more efficient cars (Organization for Economic Cooperation and Development, 2008).

### *Data needed*

221. Data needed to analyse the management of the environment from a gender perspective refer to:

- a) Managerial positions in environment or environment-related ministries (such as forestry, fisheries, energy, urban planning, water and sanitation, and agriculture) by sex of the holder and type of ministry;
- b) Positions in national coordinating bodies related to the environment, climate change or desertification by sex;
- c) Tertiary education students by detailed fields of study (such as environment, water, agriculture, forestry, energy) and sex;
- d) Tertiary education graduates by detailed fields of study (such as environment, water, agriculture, forestry, energy) and sex;
- e) Participation in non-formal education or training related to environment by sex;
- f) Active members of local NGOs or grass-roots organizations related to the environment by sex;

- g) Members of local managing groups of community natural resources, such as local forests or local watersheds, by sex;
- h) Population regularly involved in sustainable consumption and environmentally-friendly behaviour, such as recycling, water saving, energy saving, use of eco-friendly products and proper garbage disposal, by sex;
- i) Adult population and population using public transportation for commuting by sex.

#### List II.15

##### Examples of indicators derived from gender statistics on the involvement of women and men in the management of the environment:

- Share of women among staff in managerial positions in environment ministries
- Share of women among graduates of environment-related fields of study
- Proportion of active members of local NGOs involved in environmental protection by sex

#### *Sources of data*

222. Population-based surveys, including opinion and value surveys, can be used to collect data on (a) involvement of the population in sustainable consumption and environmentally-friendly behaviour, such as recycling, water saving, energy saving, use of public transportation for commuting and proper garbage disposal; (b) active membership in environment-related local NGOs; and (c) participation in non-formal education or training related to the environment. As the proportion of people involved in these kinds of activity can be quite small, it is important that the survey chosen to integrate these questions has a sample large enough to disaggregate the results not only by sex, but also by other characteristics, such as age, educational attainment, urban/rural areas and geographical areas.

223. School administrative records can provide data on students and graduates disaggregated by sex and detailed fields of study.

224. Other administrative records may be used to obtain sex-disaggregated data on managerial positions in environment ministries or membership in relevant national coordinating bodies.

225. Community surveys, often conducted at the same time as multi-topic household surveys, can be a rich source of data on the participation of women and men in the local management of environmental resources, such as local forests or large watersheds. They may also be able to provide data on the sex distribution of members of local groups involved in environmental protection.

226. When available, public transport usage surveys may be able to provide data on women and men using public transportation for commuting.

#### *Conceptual and measurement issues*

227. Collection of data on involvement in the management of the environment is not usually part of the regular programme of national statistical offices. However, collection of such data can be integrated into (a) existing multipurpose household surveys; (b) existing data collections on education from administrative records, by requesting detailed fields of study for tertiary education students and graduates; and (c) data collections on women and men in positions of decision-making in environment or environment-related ministries.



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## Food security<sup>4</sup>

228. As noted in paragraph 1 of the World Food Summit Plan of Action, FAO, 1996, food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. Three dimensions are key in defining, measuring and analyzing food security: availability, access and utilization of food (FAO, 2006; WFP, 2009a, 2009b). Food availability refers to the physical presence of food in the area of concern supplied through domestic production, national stocks, commercial imports and food aid. Food access refers to people's ability to acquire and/or access an adequate amount of food through own production and stocks, purchase, in-kind payment of work, bartering, gifts and formal/informal aid. Food utilization refers to households' use of food as well as individuals' ability to absorb the nutrients. It includes a variety of issues, such as food storage/processing, preparation practices, infant and young child feeding practices, hygiene practices and access to safe water and sanitation. The first dimension – food availability – is measured through aggregated macro-level statistics and is not therefore meaningful from a gender perspective. The second and third dimensions – food access and food utilization – can be measured at the household level and/or at the individual level and are, therefore, the most relevant from a gender perspective, as shown in the following two subsections.

### Food access

**Table II.16**

**From gender issues to gender statistics on food access: illustrative examples**

Policy-relevant questions	Data needed	Sources of data
Do female-headed households have similar levels of food consumption as male-headed households?	Food quantities consumed/acquired per adult equivalent by sex of the head of household and detailed type of household.  Insufficient food supply and intake and anxiety about food, as reported by the household, by sex of the head of household and detailed type of household.	Household income and expenditure surveys / household budget surveys.  Living standards surveys.  Food and nutrition security surveys.  Thematic agricultural surveys.
Do female-headed households have the same quality diet as male-headed households?	Type of food groups consumed during a specified period and their frequency/quantity by sex of the head of household and detailed type of household.  Insufficient quality, as reported by the household, by sex of the head of household and detailed type of household.	Household income and expenditure surveys / household budget surveys.  Living standards surveys.  Food and nutrition security surveys.  Thematic agricultural surveys.
Do female-headed households invest more in food and the nutrition of family members than male-headed households?	Food expenditure and total expenditure per adult equivalent by sex of the head of household and detailed type of household.	Household income and expenditure surveys / household budget surveys.  Living standards surveys.
Do female-headed households and male-headed households implement different types of coping strategies in order to maintain acceptable food consumption levels?	Changes in eating patterns due to food shortage and steps to alleviate food shortage by sex of the head of household and detailed type of household.	Food and nutrition security surveys.  Living standards surveys.  Thematic agricultural surveys.
Are female-headed households exposed to changes in food access as often as male-headed households? Are female-headed households more affected by major shocks, including natural disasters, than male-headed households?	Insufficient food supply, intake and quality and anxiety about food, as reported by the household, over the months of a year, by sex of the head of household, detailed type of household and reasons for food shortage.  Food quantities consumed/acquired per adult equivalent and number of times specific food groups are consumed by sex of the head of household and detailed type of household, before and after major shocks.	Food and nutrition security surveys.  Living standards surveys and other multipurpose surveys.  Thematic agricultural surveys.  Panel surveys, surveys conducted regularly at short intervals, and surveys conducted before and after major shocks.

<sup>4</sup> A first draft of this section was prepared by FAO Statistics Division

### *Gender issues*

229. The world is producing enough food to feed its entire population, yet millions of people are undernourished (World Bank, 2007; World Bank, FAO and IFAD, 2009; FAO, 2011a). Food availability remains a concern in some agriculture-based societies, owing to declining domestic production per capita of food staples, large weather-induced fluctuations in agricultural yields obtained from rain-fed agricultural holdings and the high costs associated with getting food to remote areas (World Bank, 2007; World Bank, FAO and IFAD, 2009). However, food availability in a given area is only one constraint in ensuring food security. Most food-insecure people live in rural areas where food is produced. However, they are net food buyers rather than sellers and their access to food is limited by their low and irregular income (World Bank, 2007; World Bank, FAO and IFAD, 2009).

230. Women tend to have less access than men to agricultural resources and inputs and agricultural and non-agricultural income-producing activities (World Bank, FAO and IFAD, 2009; United Nations, 2010; World Bank, 2011; FAO, 2011a). Therefore, households headed by women may not be as food secure as similar households headed by men. However, female-headed households cannot simply be assumed to have less access to food than male-headed households. Female- and male-headed households comprise a wide range of types of households that have different demographic, social and economic compositions, and which vary in terms of the livelihood strategies/portfolio of economic activities that would ensure adequate access to food.

231. Nevertheless, when women are in a position to control income and resource allocation within the household, they tend to devote a significantly higher proportion of earnings to basic needs (e.g., good health education) by comparison to men (International Development Research Centre, 2004; Ramachandran, 2007). As a result, female-headed households may eat more or have a higher quality diet than male-headed households with a similar level of income.

232. Stability of food access and vulnerability to potential shocks, such as economic crises, natural disasters and seasonal/cyclical weather events, may also be gender differentiated. Resiliency to shocks may be different for female-headed households than for male-headed households. Women and female-headed households have fewer assets and less access to agricultural resources to cope with change (FAO, 2011a; United Nations, 2010; World Bank, 2011). Individual women and men may also have different coping strategies. For example, a number of studies have shown that one of the most common mechanisms adopted by households facing a seasonal food shortage is for the women in the household to reduce their food consumption, as a first step, and then to skip meals, in order to ensure larger portions for the men and children (Barme and Ramachandran, 2002; Rahman, 2002; Ramachandran, 2007).

### *Data needed*

233. Data on food access are mainly collected at the household level and refer to food consumption in terms of dietary energy (calories), quality and diversity, and monetary value. Perception- or experience-based measures of food deprivation and coping strategies (changes in eating patterns and steps to alleviate food shortage), at the household level or at the individual level, are also used.

- a) Quantities of food consumed/acquired in the household over a certain period of time by sex of the head of household. Based on this minimum set of data, a variety of measures can be constructed, such as dietary energy consumption/acquisition, the share of calories from protein/carbohydrates/fats, the contribution of each acquisition source to the total calories (if data on sources are collected) and dietary energy unit values (if data on household expenditures or prices are collected). Dietary energy consumption/acquisition should be adjusted for the sex and age composition of the household (i.e., use of adult equivalents);

- b) Frequency of consumption of specific food groups over a certain period of time by sex of the head of household. According to the type of data collected and the recall period, information can be used to construct measures of food quality and diversity, such as the food consumption score (WFP, 2009a), the household dietary diversity score (Kennedy, Ballard and Dop, 2011) or both, as prescribed in the existing guidelines;
- c) Insufficient food supply and intake, insufficient food quality and anxiety about food, as reported by the household, by sex of the head of household. These data can be used to construct perception- or experience-based measures of food deprivation, such as the household hunger scale and the Latin American and Caribbean food security scale;
- d) Seasonality of food shortage (months in which food shortage occurred), reported changes in eating patterns (i.e., skipping meals, eating less expensive and less nutritious food and cutting the size of meals) and reported steps taken to alleviate food shortage (i.e., using savings, taking out loans, selling land, getting help from relatives, etc.) by sex of the head of household. Such data should also be collected in relation to major shocks, including natural disasters;
- e) When possible, experience-based measures of food security at the individual level should also be considered and results should be disaggregated by sex, age and other individual and household characteristics. For example, the food insecurity experience scale, based on a set of eight questions designed to reveal whether and how respondents have experienced food insecurity in the past 12 months, is being piloted by FAO in collaboration with Gallup, Inc. Data are to be collected at the individual level, thereby making it possible to estimate the severity of food insecurity by sex, age and other individual characteristics. The use of an individual measure of the experience of food insecurity represents a novelty, since most often food security is measured at the household level, and an important step in measuring food insecurity from a gender perspective.

234. The household-level measures listed above should be calculated separately for female- and male-headed households and further disaggregated by demographic and socioeconomic characteristics of the head of the household (including education and economic characteristics) and of the household (including size, composition, dependency level, income level and livelihood strategies/portfolio of economic activities) in order to understand which types of male- and female-headed households are disadvantaged in accessing food.

235. Further breakdowns relevant for targeting aid and development programmes should be considered for all the data above. Commonly used breakdowns include urban/rural areas and geographical areas. Measures of remoteness from market places, including information on transportation and infrastructure, should also be considered. Additional data for cross-tabulation may refer to sex-differentiated access to property and productive resources in agriculture (see the subsection entitled “Access to productive resources in agriculture” in the section entitled “Work” above).

#### List II.16

##### Examples of indicators derived from gender statistics on food access

- Mean adult equivalent daily dietary energy 102 consumption/acquisition by sex of the head of household
- Dietary energy unit value (\$/1,000 kcals) by sex of the head of household
- Share of calories from protein/carbohydrates/fats in total calories (%) by sex of the head of household
- Share of food expenditure in total household expenditure by sex of the head of household
- Mean household dietary diversity score or food consumption score by sex of the head of household

### *Sources of data*

236. Large scale household surveys, such as household income and expenditure surveys and household budget surveys, are not normally designed to carry out a food security assessment of the population. However, if collected properly, information from the food consumption module of such surveys can be used to estimate the amount of dietary energy consumed/acquired. Living standards surveys, such as LSMS, collect more comprehensive information on individual characteristics for all household members, allowing for a more detailed analysis of food access by detailed types of female- and male-headed households. Recently, LSMS surveys have started including modules on food group consumption frequency (for food consumption score calculation). Many LSMS surveys also collect information on shocks (including crop/livestock losses), which can be used in the context of a food security analysis. Living standards surveys and other multipurpose surveys may also be used to collect data on reported insufficient food supply, intake, and quality, anxiety about food and coping strategies during food shortage.

237. *Panel surveys, surveys conducted regularly at relatively short intervals* (during the harvest and in the lean season) in order to capture seasonality in access to food and *surveys conducted before and after major shocks* in a country or over large areas may be used to collect data on food access over time. Such data can be used to construct measures of households' vulnerability and stability in access to food.

238. The World Food Programme (WFP) Comprehensive Food Security and Vulnerability Analysis (CFSVA) surveys are used to collect data on food consumption frequency, among other topics. However, CFSVA surveys tend to have smaller samples compared with LSMS surveys and do not collect data on food quantities. Some surveys also collect data on coping strategies, shocks and coping mechanisms, and monthly food deprivation.

239. Agricultural censuses and surveys may be used to collect information on household food security. The topic is not recommended for inclusion as a core module in such censuses; however, it may be considered for integration, as supplementary items, in thematic agricultural surveys. These supplementary items may refer to reported insufficient quantity and quality of food, food shortages in a 12-month reference period, reasons for food shortage, changes in the household's eating patterns, steps to alleviate food shortage and the extent of loss of agricultural output due to natural disasters (FAO, 2007).

### *Conceptual and measurement issues*

240. Despite a number of attempts to measure individual consumption and intrahousehold allocation of food, objective measures of access to food are essentially available only at the household level. Therefore, most gender analysis of food access is based on the sex of the household head. As such, it is crucial to establish proper criteria for identifying the household head and to ensure that these criteria are applied consistently for all the sampled households. Researchers should acknowledge that: (a) in some contexts it is useful to use the concept of joint headship; (b) it is essential to consider the marital status of the female head and to distinguish between de jure and de facto female-headed households; and (c) it is important to take into account the economic role of spouses not currently living in the household (i.e., does he or she send remittances?). All this information allows for a better identification of categories of female- and male-headed households that are vulnerable to food insecurity. The analyst can either use the household head as identified by the household during the data collection or use other socioeconomic variables to identify the household head during the analysis. Different identification rules may lead to different results.

241. Household-level data on food consumption and deprivation cannot be used to draw conclusions on household members. When food access indicators are collected at the household level, the analysis has to rely on the (strong) assumption that all household members

have equal access to food, without considering inequalities in food distribution within the household. Therefore, household-level data give only a superficial measure of gender-related differences in accessing food.

242. Attempts have been made to measure the individual consumption of women and children. Much of the effort has been placed on measuring women's diet diversity as a proxy of micronutrient deficiencies, rather than on capturing intrahousehold distribution (Arimond and others, 2010, 2011). Results suggest that food group indicators are meaningful proxies of individual diet variety and micronutrient deficiencies in rural, urban and peri-urban settings. Yet, high quality dietary data are difficult and require additional fieldwork and skilled enumerators. Alternatively, experience-based measures of food deprivation and coping strategies based on data collected at the individual level for both women and men may be considered.

243. No indicator can be used as a unique stand-alone measure of food access; instead, a set of indicators should be used to capture complementary aspects. While this is true in each food security analysis, it becomes particularly relevant in identifying disparities between groups (such as female- and male- headed households). For example, gender-based differences may be small in terms of dietary energy consumption/acquisition, but may become more visible when looking at the quality and cost of the diet or the sustainability of the sources. A comprehensive approach is therefore highly recommended in the context of a gender analysis.

## Food utilization

**Table II.17**

**From gender issues to gender statistics on food utilization: illustrative examples**

Policy-relevant questions	Data needed	Sources of data
Do mothers apply recommended feeding practices for their children? Does the socioeconomic background of mothers/caretakers have an impact of the type of feeding practices used? Are there differences in feeding practices based on the sex of the child/infant?	Distribution of feeding practices by sex and age of children and socioeconomic characteristics of mothers/caretakers (education, occupation, etc.).	Household surveys, such as DHS and MICS.
Are there gender-based differences in the nutritional status of children under 5 years of age? How do they vary by age?	Distribution of children under 5 years of age by sex, age, weight and height.	
How pervasive is female malnutrition? Is malnutrition higher among specific groups of women and, if so, which ones?	Distribution of non-pregnant adult/reproductive-aged women by weight and height further disaggregated by socioeconomic characteristics.	Household surveys, such as DHS and MICS. Health administrative records.
What type of malnutrition do women have? How many pregnant women are affected by micronutrient deficiencies (e.g., iron deficiency anaemia and vitamin A deficiency)?	Distribution of reproductive-aged women by haemoglobin concentration, retinol concentration and pregnancy status. Distribution of children by birthweight.	

### *Gender issues*

244. Malnutrition is a human rights issue and a problem that affects women and men throughout their lifecycle, with tremendous negative economic and intergenerational effects. Adequate nutrition and food security require more than access to food. Food utilization, incorporating a variety of contextual and behavioural issues, such as food storage, processing, and preparation, infant and young child feeding practices, access to safe water and sanitation, and hygiene practices, also have an impact on nutritional status (FAO, 2002). Most often, women are in charge of performing activities related to those issues; therefore, they have a key role in achieving nutrition security and food security for their family members. However, such a key role is often played by women in a context of limited and gender-discriminated access to productive resources or other opportunities. Women may also experience, throughout their lives, gender discrimination in access to food, overburden owing to gender roles in household work and additional challenges owing to their reproductive role.

245. As children, in some parts of the world, girls are subject to discrimination in access to health care and food (see also the subsection entitled “Health and nutrition of children” in the section entitled “Health” below). In some countries, mostly located in South and Central Asia, girls between 2 and 5 years of age are more likely to be underweight than boys of the same age. Most often, sex differences in the nutritional status of children under 5 years of age are very small and within the bounds of sampling fluctuation. In some countries, girls appear not to be disadvantaged, especially when mothers are more educated. However, age can play an important role. In general, boys are more likely than girls to be underweight below the age of 2. This may be linked to the fact that below the age of 2, the genetic vulnerability of boys to infections may reduce their nutritional status. However, above the age of 2, when the biological difference is no longer relevant, girls are more likely than boys to be underweight in a few countries, suggesting a gender-based disadvantage in nutrition (United Nations, 1998).

246. Females continue experiencing disadvantages during adolescence and maturity. Most women are exposed to the stress of having to combine multiple reproductive and productive roles. Beside the reproductive responsibility, the social and economic roles of women within and outside the household often result in a very heavy workload and time constraints (United Nations, 2010; United Nations, Administrative Committee on Coordination, Subcommittee on Nutrition, 1992). In poor contexts, this overburden may lead to irregular meals, exhaustion and sickness. In addition, in situations of food insecurity, mothers tend to reduce their own consumption in order to maintain their children’s intake at acceptable levels.

247. Women’s malnutrition contributes to and perpetuates growth and developmental failure in future generations. Intergenerational impacts of women’s malnutrition include increased risk of infant mortality, preterm delivery, low birthweight and reduced cognitive development in children. Empirical evidence has also demonstrated the vicious cycle of malnutrition between generations: small and malnourished mothers (i.e., low anthropometric measures and anaemia) are more likely to have low-birthweight children. Low weight at birth facilitates children’s growth failure and this leads back to small adults (UNICEF and WHO, 2004).

248. Micronutrient disorders, another manifestation of malnutrition, are a particular threat to the health of children under 5 years of age and pregnant women. For instance, iron deficiency anaemia, which is one of the most common nutritional disorders, contributes to over 100,000 maternal and almost 600,000 perinatal deaths each year; it also results in reduced energy levels, which affect productivity and earning power (Kothari and Abderrahim, 2010). Little progress has been made in reducing anaemia, especially in African countries. For example, among the 11 countries for which consecutive DHS surveys measured anaemia in pregnant women, eight showed no measurable change or an increase in anaemia prevalence (Kothari and Abderrahim, 2010). Besides iron deficiency, vitamin A and iodine deficiencies are among the most common micronutrient disorders. Pregnant women are particularly vulnerable to vitamin A deficiency, especially during the last trimester of pregnancy, when the demand of the foetus and mother is highest.

249. At the other end of the malnutrition spectrum is obesity, a well-known phenomenon in developed countries that is also increasing in the developing world, especially among the urban population. Overnutrition is a result of diets that are characterized by energy-dense, nutrient-poor foods that are high in fat, sugar and salt. It is a major contributor to heart disease, stroke, diabetes and cancer. While information on sex differences in balanced nutrition are rarely available, data on the prevalence of obesity show that sex differences vary across and within countries (WHO, 2009).

### *Data needed*

250. Food utilization is captured through:

- a) Data on context and behaviours, such as:

- i) Infant and young child feeding practices by sex and age of children and background information on mothers/caretakers. Data are combined to derive a series of indicators regarding breastfeeding, child dietary diversity and optimal diet (WHO, 2008, 2010a, 2010b);
  - ii) Source of main drinking water, distance from dwelling (space/time), sex and age of the water collector, treatment/preparation of unimproved drinking water and access to improved sanitation;
- b) Data on individual nutritional status (i.e., anthropometrics and main micronutrient deficiencies), such as:
- i) Age, sex, weight, height, oedema and mid-upper arm circumference of children from 0 to 59 months (or from 6 to 59 months). Age, weight and height are combined to compute weight-for-height, height-for-age and weight-for-age measures of malnutrition;
  - ii) Height and weight of non-pregnant adult / reproductive-aged women. While height alone can be used to report on the stature of women, height and weight can be combined in the body mass index (BMI).<sup>5</sup>
  - iii) Weight of children at birth. This is a summary measure of a range of problems including long-term maternal malnutrition, illness, fatigue and poor pregnancy health care.<sup>6</sup> It is a reasonable proxy indicator of the mother's nutritional status;
  - iv) Haemoglobin concentration in blood of pregnant women and non-pregnant adult/reproductive-aged women;
  - v) Retinol concentration in blood of pregnant women, non-pregnant adult/reproductive-aged women and children under 5 years of age. Alternatively, clinical signs of day/night blindness can be used as a proxy for vitamin A deficiency.

251. Additional breakdowns, such as area of residence, educational attainment of women and wealth status of the household, should be taken into account for all the data above.

#### List II.17

##### Examples of indicators derived from gender statistics on food utilization

- Prevalence of stunted/wasted/underweight children under 5 years of age by sex
- Prevalence of non-pregnant adult/reproductive-aged women who are mildly/moderately/severely undernourished or overweight
- Prevalence of low birthweight children
- Prevalence of iron deficiency anaemia in reproductive aged women and children under 5 years of age by sex

#### Sources of data

252. Household surveys, such as DHS and MICS, are used to collect data on feeding practices, hygiene behaviour and nutritional status of children and women. In particular:

- a) DHS surveys have included child anthropometry since Round I (1984-1989) and adult female anthropometry since Round II (1989-1993). More recently, they have included biomarkers, such as anaemia/iron deficiency, vitamin A deficiency and iodine deficiency. Data on infant and young child feeding practices, access to water and sanitation, and hygienic behaviours are also collected.

<sup>5</sup> BMI is equal to the weight in kilograms divided by the square of the height in metres. A woman with a BMI below 18.5 kg/m<sup>2</sup> is considered chronically energy deficient. Official BMI cut-offs for women and men, as well as other methodological information, can be found at <http://apps.who.int/bmi/>.

<sup>6</sup> Low birthweight is defined as less than 2,500 grams. However, it has become evident that the cut-off value of 2,500 grams may not be appropriate for all settings (UNICEF and WHO, 2004).



- b) MICS surveys have included child anthropometry since the first round (MICS 1). MICS surveys monitor iodine consumption at the household level, vitamin A supplementation for children under 5 years of age, infant and young child feeding practices, access to water and sanitation, and hygienic behaviours.

253. LSMS surveys are not usually used to collect weight and height data, although in a few countries an anthropometric module for children is included.

254. In recent years, WFP CFSVA surveys have more often included women's and children's anthropometry. Yet, only in a very few countries is the sample size large enough to achieve the necessary quality for national and subnational estimates. Data on infant and young child feeding practices have been collected in some recent CFSVA Surveys. Data on access to safe water and sanitation, and hygienic behaviours are frequently collected.

255. Health administrative *records* may also be considered as a source of data on the nutritional status of children at birth. However, in countries in the less developed regions, only a small fraction of newborns are delivered in health facilities and the characteristics of these newborns are not necessarily representative of all newborns. The estimates obtained can be severely affected by the undercoverage and quality of administrative records.

### *Conceptual and measurement issues*

256. Empirical findings on women's and children's nutrition should be evaluated using a holistic approach. Indeed, individual malnutrition can be the consequence of household food insecurity, sickness or poor sanitation/caring practices, or a combination of all three. In addition, analyses should take into account, as much as possible, intrahousehold dynamics: for instance, lack of food at the household level does not necessarily result in children's malnutrition, especially if children are protected against infections and mothers diminish their food intake to preserve their children's consumption.

257. Sex differentials in nutrition may be clearer when data on weight and height of girls and boys under 5 years of age are disaggregated by age. Under the age of 2, the biological vulnerability of boys to infections may reduce their nutritional status. Above the age of 2, biological factors are less relevant.

258. Women's BMI is generally measured on either non-pregnant adult women (women of age 18 years and above) or non-pregnant reproductive-aged women (women aged 15 to 49). Any comparison should carefully reflect on the reference population and compare the same age groups. Along the same lines, the nutritional status of young girls (i.e., below 18 years of age) should be measured using BMI-for-age.

259. Weight is not to be measured in the case of oedema and pregnancy, because this introduces a bias in the weight value. For this reason, and owing to high measurement costs, some surveys measure nutrition through mid-upper arm circumference.

260. Age patterns in the height of adult women over the age of 20 (the height of an adult women is considered stable after the age of 20) can be used to assess improvements or deteriorations in nutritional status among cohorts of women. Increases in height over generations are historically linked to health transitions, in particular the control of infectious diseases and improving nutrition. Normally, the average height of adult women increases from one generation to the next. However, in some countries, negative trends in the height of adult women over the age of 20 from older cohorts to younger cohorts have been observed (Garenne, 2011). Such negative trends among cohorts are indicative of a deterioration in the overall nutritional status of women. Similar analyses can be conducted for cohorts of men, although anthropometric data on men are less often available.

261. Data on food storage, preparation and processing are rarely available and international standards have not been established thus far.

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## Power and decision-making

262. This section covers four subtopics: politics and governance; the judiciary; the private sector; and the media.

### Politics and governance

**Table II.18**

**From gender issues to gender statistics on power and decision-making in politics and governance: illustrative examples**

Policy-relevant questions	Data needed	Sources of data
Are women underrepresented in parliament?	Members of national parliaments by chamber and sex.	Administrative records.
Do women have the same chances of being elected as men?	Candidates in elections by sex. Elected candidates by sex.	Administrative records.
Are women appointed ministers and subministers as often as men? Are some types of ministry more likely than others to have women as minister or subministers?	Ministerial and subministerial positions by portfolio and sex.	Administrative records.
Are women elected mayors as often as men?	Mayors by sex.	Administrative records.

### *Gender issues*

263. Women's participation in political decision-making as full and equal partners with men has not yet been achieved. Although women make up about half the electorate and have attained the right to vote and hold office in almost all countries of the world, they continue to be underrepresented as members of national parliaments (United Nations, 2010; Inter-Parliamentary Union, 2011). The representation of women has steadily improved worldwide, but progress has been slow (United Nations, 2010; Inter-Parliamentary Union, 2011).

264. Women's limited representation in parliaments is directly correlated with the low representation of women in political parties, especially in the higher echelons, and the low proportion of women among electoral candidates. Parties play an important role in preparing and selecting candidates for election and supporting them in positions of leadership and governance. However, even when women are included among the candidates for election, their likelihood of being elected tends to be lower than that of men (United Nations, 2010). The situation varies across countries. While in most countries the success rate of female candidates is much lower than that of male candidates or even zero (i.e., in extreme cases where no female candidates are successfully elected), in a small number of countries, mostly located in Africa, female candidates have similar election rates to male candidates or even higher rates (United Nations, 2010).

265. The use of gender quotas is one of the mechanisms that are used to offset the obstacles that women face in the electoral process and to increase women's access to political decision-making. The type of quota used will depend on the electoral system and may refer to (a) reserved seats for women in a legislative assembly; (b) legislated reserved places for female candidates on electoral lists; or (c) a voluntary political party quota. In many countries, electoral gender quotas proved to be an effective measure of improving gender balance in parliament (Ballington and Karam, 2005).

266. Women continue to be underrepresented in decision-making positions in Government cabinets in all regions of the world, although significant improvements have been recorded (United Nations, 2010). Progress, however, has bypassed some countries. There are countries with no female ministers. At the subminister level, although women are still underrepresented, they generally hold a greater proportion of posts than at the minister level. Women's representation in leadership positions, whether at the ministerial or subministerial level, is generally higher in social ministries (such as family, youth, gender equality and education) than in economic and political ministries (such as parliamentary affairs and defence) (Inter-Parliamentary Union and United Nations Entity for Gender Equality and the Empowerment of Women, 2012).

267. Similar to the situation in national parliaments, local governments in all regions of the world are far from achieving gender balance within decision-making positions. The share of women mayors is low and the share of women councillors even lower (United Nations, 2010). A number of countries have applied constitutional or legislative gender quotas to hasten progress towards more equitable representation at the local level of government. This has played a part in achieving a higher participation of women in those local councils.

268. Having women in elected and decision-making positions is not the only way to promote gender-sensitive policies and legislation. Indeed, political participation requires that women actually *participate* in the electoral process. Elected positions are dependent on votes, which can radically alter the make-up of elected chambers. Two issues are crucial to votes as indicators of women's involvement in the decision-making process. First, there is the question of voter registration. Women's suffrage has been a slow process, with some countries only very recently allowing women to vote. This historical injustice, combined with widespread unequal access to services and lack of information, means that female voter registration tends to be lower than that of men. Second, how many women actually exercise the right to vote is of central importance in understanding women's role in decision-making. Electoral results can vary greatly according to female voter turnout, given that women are more likely to support female candidates and those with political platforms that will benefit the lives of women.

### *Data needed*

269. Data needed to analyse gender differences in political participation and in positions of power and decision-making in politics and governance are:

- a) Registered voters by sex;
- b) Voter turnout by sex;
- c) Members in national parliaments by parliament chamber and sex;
- d) Candidates in elections by sex;
- e) Elected candidates by sex;
- f) Additional qualitative information on the representation of women in parliament may refer to (i) reserved seats for women in a legislative assembly; (ii) legislated reserved places for female candidates on electoral lists; or (iii) a voluntary political party quota;
- g) Members of governing bodies of political parties and senior posts by sex;

- h)* Ministerial positions by sex and type of ministry;
- i)* Subministerial positions by sex and type of ministry;
- j)* Mayors by sex and size of city/municipality;
- k)* Councillors in local government by sex;
- l)* Legislators by sex.

**List II.18****Examples of indicators derived from gender statistics on power and decision-making in politics and governance:**

- Share of women among parliamentarians in the lower or single chamber
- Ratio of female election rate to male election rate for candidates to the lower or single chamber.
- Share of women among ministers and subministers
- Share of women among mayors

*Sources of data*

270. Administrative records can be used as a source of data on women and men in positions of power and decision-making in politics and governance, at the national or local levels, covering members of parliament, candidates in elections, ministerial and subministerial positions, and mayors and councillors.

271. Electoral management bodies are useful in providing data on voter registration and turnout.

272. Population censuses can provide data on legislators when a detailed classification of occupations is used during data collection.

*Conceptual and measurement issues*

273. While data on the participation of women in decision-making at the national level are readily available from administrative records, knowledge about the situation of women at the local level is made more difficult by the lack of sex-disaggregated data.

274. Furthermore, national statistical offices in many countries do not routinely produce data on positions of power and decision-making in politics and governance based on administrative records. More often, they are able to collect data on legislators in population censuses when a detailed classification of occupations is used. Legislators can be distinguished from other occupations at the three-digit ISCO level. However, for the purpose of analysing the representation of women and men in positions of power and decision-making, the ISCO category of legislators is relatively heterogeneous, including as it does various occupations, such as minister, senator, government/legislative secretary and president of the government.

**The judiciary****Table II.19****From gender issues to gender statistics on power and decision-making in the judiciary: illustrative examples**

Policy-relevant questions	Data needed	Sources of data
Are women underrepresented among judges?	All judges by sex.	Administrative records.
Are women underrepresented among supreme court judges?	Supreme court judges by sex.	Administrative records.

*Gender issues*

275. In general, female judges are outnumbered by male judges and the further up the judicial hierarchy one goes, the smaller the representation of women (United Nations, 2010; UNIFEM, 2009). However, there are exceptions. In many countries in Eastern Europe, women represent more than half of all judges and, in some of those countries, more than half of supreme court judges. At the other end of the spectrum, in South Asia, female judges are a small minority, while some national supreme courts have no female judges at all.

276. Women's representation among all judges is correlated with the participation of women in tertiary education in the field of law. In some countries with a high level of participation in tertiary education, such as in Eastern Europe, women may be overrepresented among students in law schools, dramatically increasing women's chances of becoming judges (United Nations, 2010). However, in some of those countries, women have fewer chances of career advancement than men, owing to gender discrimination or negative stereotypes concerning women's roles. As a result, women are less likely than men to be appointed supreme court judges.

*Data needed*

277. Data commonly needed to analyse women and men's participation in the judiciary are:

- a) All judges by sex;
- b) Supreme court judges by sex.

**List II.19**

Examples of indicators derived from gender statistics on power and decision-making in the judiciary:

- Share of women among all judges
- Share of women among supreme court judge

*Sources of data*

278. Administrative records can be used as a source of data on women and men in the judiciary.

279. Population censuses can provide data on judges when a detailed classification of occupations is used during data collection.

*Conceptual and measurement issues*

280. National statistical offices in many countries do not routinely collect data on judges from administrative records. They may collect data on judges in population censuses when a detailed classification of occupations is used. Judges can be distinguished from other occupations at the four-digit ISCO level. However, data on occupations are not usually processed or disseminated at this level of detail.

## The private sector

Table II.20

From gender issues to gender statistics on power and decision-making in the private sector: illustrative examples

Policy-relevant questions	Data needed	Sources of data
Are women as likely as men to be directors or chief executives of enterprises and organizations?	Employment by sex and detailed occupational groups.	Population censuses. Labour force surveys.
Are women underrepresented on the boards of directors of large companies?	Members of corporate boards by sex.	Corporate reports and stock exchange information.

### *Gender issues*

281. Women continue to be underrepresented in the highest positions of decision-making in the private sector (United Nations, 2010). Women's opportunities to obtain managerial positions are increasing in many countries, following their higher participation in tertiary education and in the labour force. Still, household and family responsibilities combined with employment in atypical forms of work limit women's chances of promotion in positions with higher responsibility, status and pay. Gender stereotypes and discrimination may add to the obstructions faced by women in accessing more senior executive positions. As a result, women continue to be underrepresented as directors, chief executives and other similar positions at the top of an enterprise or organization. In large corporations, although women are now present on most boards of directors, the number of female directors remains low compared to that of male directors and female top executives and board directors are not common. Similarly, although women's presence in financial management positions has increased slightly, decision-making still appears to be male-dominated, especially in higher levels of management.

### *Data needed*

282. Data needed to analyse the participation of women and men in positions of power and decision-making in the private sector are:

- a) Directors and chief executives of enterprises or organizations by sex;
- b) Members of corporate boards by sex;
- c) Corporate chief executives by sex;
- d) Top managerial positions in banking by sex.

#### **List II.20**

**Examples of indicators derived from gender statistics on power and decision-making in the private sector:**

- Share of women among directors and chief executives of enterprises or organizations
- Share of women among members of corporate boards

### *Sources of data*

283. Corporate and bank reports (including information made available through companies' websites) and stock exchange information can be used as a source of data on women and men in top positions of decision-making in corporations and banking.

284. Population censuses or very large labour force surveys can provide data on directors and chief executives when a detailed classification of occupations is used during data collection.



### Conceptual and measurement issues

285. National statistical offices in many countries do not routinely collect data on positions of power and decision-making in private corporations or banking. More often, they are able to collect data on directors and chief executives in all sectors of the economy when a detailed classification of occupations is used. Directors and chief executives can be distinguished from other occupations at the three-digit ISCO level. This category would include such occupations as chief executive of enterprise, director-general of an enterprise, director-general of an organization, managing director of an organization and president of an organization.

## The media

**Table II.21**

**From gender issues to gender statistics on power and decision-making in the media: illustrative examples**

Policy-relevant questions	Data needed	Sources of data
Are women underrepresented among journalists?	Journalists by sex.	Surveys of companies in the media. Population censuses. Very large labour force surveys.
Are women underrepresented among news editors and heads of departments in the media?	News editors by sex. Heads of department in the media by sex.	Surveys of companies in the media.
Do female and male political candidates receive an equal share of presentation in the media?	Broadcasting time or space in the print media devoted to electoral candidates by sex of the candidate.	Media monitoring studies.

### Gender issues

286. Women remain poorly represented in decision-making positions in the media (Peters, 2001; International Federation of Journalists, 2010). The number of women journalists has increased dramatically and many countries are close to reaching or have already reached gender parity among journalists. Nevertheless, there are still many countries where women are underrepresented among journalists. Furthermore, in most countries, women and men do not play an equal role in the reporting of news. Women tend to be less involved than men in what is considered to be “hard” news, i.e., news in economic, political or war domains, and more involved in “soft” news, i.e., news focused on social issues. Women tend to be well represented among the news presenters, but very poorly represented among news editors, heads of departments and media owners.

287. The role of the media is crucial for power and decision-making. However, the media itself operates within social, economic and political contexts, meaning that it reflects commonly-held perceptions while simultaneously affecting how people perceive issues. The portrayal of electoral candidates is one example. For instance, according to the publication *Unseeing Eyes: Media Coverage and Gender in Latin American elections* (Llanos, 2011), in 2009, in Bolivia, female candidates represented 47 per cent of all candidates, but obtained only 27 per cent of print media coverage, 14 per cent of television coverage and 34 per cent of radio coverage. Unequal media coverage of women candidates results in them being perceived to be less legitimate, thereby diminishing their chances of being elected.

### Data needed

288. Data used to analyse the participation and coverage of women and men in the media may refer to:

- a) Journalists by sex;
- b) News editors by sex;
- c) Heads of department in the media by sex;

- d) Coverage (broadcasting time or space in the print media) of political candidates by sex of the candidate;
- e) Coverage (broadcasting time or space in the print media) of gender and equality issues in the media.

**List II.21****Examples of indicators derived from gender statistics on power and decision-making in the media:**

- Share of women among journalists
- Share of women among news editors and heads of departments in the media

*Sources of data*

289. Surveys of companies in the media can be used to collect data on the sex-distribution of journalists, editors and heads of departments in the media.

290. Population censuses can provide some data on journalists when a detailed classification of occupations is used during data collection.

291. Media monitoring studies are an important source of information on (a) coverage of gender and equality issues in the media; (b) stereotypical presentation of gender roles, including sexist and biased presentation of women; and (c) gender balanced coverage of persons in positions of power and decision-making or political candidates. These studies can also be used as a source of information on the representation of women among presenters and journalists.

*Conceptual and measurement issues*

292. At the national level, there are no standard sources of data for women and men in positions of power and decision-making in the media and such data are rarely produced. Some surveys of companies in the media and media monitoring studies have been conducted across several countries by some NGOs on an ad hoc basis. Population censuses, conducted by national statistical offices, are often able to collect data on journalists, among other occupations. However, these data are not routinely processed at such a level of disaggregation that would distinguish journalists from other occupations. Routinely, at the four-digit ISCO level, journalists are included in a heterogeneous category of “authors, journalists and other writers”.

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## Population, households and families

293. This section covers four subtopics: demographic composition of the population; formation and dissolution of unions; fertility and contraceptive use; and living arrangements. Other population-related topics are covered in the section on health and the section on migration, displaced persons and refugees.

### Demographic composition of the population

**Table II.22**

**From gender issues to gender statistics on demographic composition of the population: illustrative examples**

Policy-relevant questions	Data needed	Sources of data
Does the sex distribution of births suggest a prenatal sex selection?	Live births by sex.	Civil registration systems. Population registers. Household surveys. Population censuses.
Are women or men of working age overrepresented in certain geographical areas, in urban areas or in rural areas?	Population by sex, age, geographical areas and urban/rural areas.	Population censuses. Household surveys. Population registers.
Are women overrepresented among older persons?	Population by sex and age.	Population censuses. Household surveys. Population registers.

### Gender issues

294. Several countries in the world have a ratio of boys to girls at birth significantly higher than expected, suggesting the practice of prenatal sex selection. Sex ratio at birth is determined primarily by biological factors. More boys than girls are born in all populations. The ratio usually varies between 103 and 107 boys to 100 girls (United Nations, 1998). However, in recent decades, there has been a rise in the ratio of boys to girls at birth in several countries, mostly located in Asia, suggesting prenatal sex selection to the disadvantage of girls (United Nations, 2010a). In countries with a high ratio of boys to girls at birth, the population groups more likely to practice prenatal sex selection consider sons to be much more valuable than girls, have relatively low fertility and contain a significant proportion of women with a level

of access to technologies that allows them to know the sex of their foetus, making prenatal sex selection possible (UNFPA, Technical Division, 2010). Birth order, sex of previous children and total number of desired children are also important. For example, individuals who prefer to have sons are more likely to practice prenatal sex selection if they expect to have only one child or if only girls were born thus far in their family.

295. Gender differences in migration and mortality shape the sex and age composition of active-age populations. Overall, women outnumber men in the older age categories (United Nations, 2010a). However, because of specific migration and mortality patterns, the overrepresentation of women at the national or subnational levels may start at earlier ages (United Nations, 2010a). More working-age women than men may live in rural areas or in certain regions of a country. In some countries, men are more likely than women to migrate temporarily from rural to urban areas or from one region to another for work (United Nations, 2000, 2008). Men may also be more likely than women to migrate to other countries, although, lately, geographical patterns of female and male migration have become more similar (United Nations, 2010a).

296. Significant sex differences in adult mortality may also contribute to the overrepresentation of women below the age of 60. Overall, at the same age, men have a higher mortality rate than women, owing mainly to biological factors. In some countries, the gender gap to the disadvantage of men is larger because social factors such as occupational risks, heavy drinking and smoking, war and conflicts affect the survival of men more than that of women (United Nations, 2010a). In other countries, however, a number of factors that increase the vulnerability of women to infectious diseases or higher levels of maternal mortality may counterbalance the women's biological advantage and reduce the gender gap in mortality (WHO, 2009).

297. Since women live longer than men, they outnumber men at older ages. This imbalance increases rapidly with age. Older ages are associated with changes in marital status, living arrangements, wealth and health status that may affect women and men in different ways. Older women are more likely than older men to be widowed or divorced (United Nations, 2009). In developed countries, older women are more likely than older men to live by themselves in one-person households, to have lower pensions and to be at higher risk of poverty (United Nations, 2002, 2005, 2010a). In developing countries, older women with no pension benefits have to continue working for income while taking care of their husbands or grandchildren (United Nations, 2002). Many old women and men, especially those with mental and physical impairments, become victims of abuse and violence (United Nations, 2002). Gender issues related to older ages are becoming more and more important as the share of older-age population in total population is increasing as a result of declining fertility and increasing life expectancy, a phenomenon called population ageing. This phenomenon began in the more developed regions but is now taking place in the less developed regions as well.

### *Data needed*

298. Data needed to analyse demographic composition of the population are:

- a) Live births by sex;
- b) Population by sex and age.

299. *Additional breakdowns* commonly considered for the data above are urban/rural areas, geographical areas, migration status and ethnicity.

**List II.22****Examples of indicators derived from gender statistics on demographic composition of the population**

- Ratio of boys to girls at birth
- Ratio of women to men aged 25 to 59 by urban/rural areas
- Share of women among the population aged 60 and above

*Sources of data*

300. Population censuses are used to collect data on the sex and age characteristics of all individuals. These data can be used to estimate the demographic composition of various groups of population at the time of the census. For population estimates in between censuses, these data need to be combined with data on births, deaths and migration by sex and age collected either during the population census or from other sources. Data on the sex and age of young children (under the age of 1 or under the age of 5, for example) from population censuses may be used to estimate female and male births, provided sex-disaggregated data on infant and child mortality is available. In any case, the sex and age structure of the young population as provided by censuses can be used to assess the quality of data on female and male births as provided by censuses or other sources of data. In countries lacking a timely and reliable system of vital statistics, population censuses are often used to collect data on recent births (in the past 12 months) by sex.

301. Civil registration and vital statistics systems can provide data on live births by sex.

302. Population registers can provide data on the composition of the population by sex and age.

303. Household surveys can be used as a source of data on the sex distribution of the population in various age groups. Demographic and health surveys and fertility and family surveys may provide data on recent births (births in the past 12 months) or on retrospective birth histories over a longer time period.

*Conceptual and measurement issues*

304. Female births may be more severely underreported than male births in countries where women have a lower status. Registration of vital events may be incomplete and selective by sex. Some household surveys or censuses may also suffer from sex bias in the reporting of recent live births. It is important that the quality of data on female and male births is assessed on the basis of multiple sources providing data on births by sex, on number of young children (children under the age of 1, under the age of 5 or under the age of 6 in cases where age heaping is suspected) by sex and age and on number of children ever born by sex of the child and age of the mother. It is also important that data from multiple sources and the quality of such data are analysed over time. In general, it is expected that data quality improves over time with a concurrent reduction of sex-biased reporting. When this is the case, a substantial increase in the ratio of boys to girls at birth, compared to past levels and the normal range, is indicative of some prenatal sex selection.

305. Misinterpretation of sex ratio at birth may occur if sampling errors are not taken into account when analysing data based on surveys. A ratio of 112 boys to 100 girls, for example, may suggest prenatal sex-selection when the data are coming from a civil registration system that is considered complete; in the case of a survey based on a small sample, however, such a ratio may be well within the confidence interval for the standard number of 107 boys to 100 girls. Therefore, it is necessary for countries to calculate confidence intervals for survey data on sex ratio at birth.

306. In some population censuses or surveys, female members of the household may be more likely to be underreported than male members. The recording of household members in population censuses and household surveys may be sex-biased, such as when the practice is to record first all the male members and then all the female members. In addition, some sex-selective underenumeration may occur in countries or groups of population where women have a lower status. While a common problem in reporting the members of a household is the omission of infants, in some countries girls may be more likely to be underreported than boys.

### Formation and dissolution of unions

**Table II.23**

**From gender issues to gender statistics on formation and dissolution of unions: illustrative examples**

Policy-relevant questions	Data needed	Sources of data
Are girls entering marriage or informal unions before the age of 18 or the national minimum legal age at marriage?	Age at first marriage or union by sex.  Marital status by sex and age.	Household surveys. Population censuses. Civil registration systems.  Household surveys. Population censuses.
Do men remarry more often than women?	Marriages by sex and rank of marriage.  Marital status by sex and rank of marriage.	Civil registration systems. Household surveys.  Household surveys.
Are polygynous unions prevalent? What is the proportion of women and men involved in this type of union and what is the age gap between husbands and wives?	Detailed marital status by sex and age. Age of partners in polygynous unions by sex.	Household surveys.
Are women more likely than men to be divorced separated?	Marital status by sex and age.	Population censuses. Household surveys. Population registers.
Is widowhood more common for women than for men? Is early widowhood prevalent for women?	Marital status by sex and age.	Population censuses. Household surveys. Population registers.

### *Gender issues*

307. Early marriage has declined in all regions of the world, yet many brides are at the age of childhood or adolescence (United Nations, 2010a; United Nations, Economic and Social Council 2011; UNICEF, 2011). Particularly in the less developed regions, girls' marriage occurs at young ages, increasing their health risks and preventing them from remaining in school and acquiring the skills necessary for the labour market. Most countries have established minimum ages of marriage for both women and men. However, exceptions are generally granted with parental approval and laws are not necessarily enforced (United Nations, 2011d, 2011f). Marriage among very young men is rare in most societies (UNICEF, 2011; United Nations, 2011e).

308. Women tend to marry earlier than men, although the age gap between husbands and wives has narrowed (United Nations, 2010a). In countries with limited educational and formal employment opportunities and where women have a lower status, women continue to marry early and the gap between the mean age at marriage of women and that of men tends to be wider than in other countries (United Nations, 2011e). Many women who marry older men at a young age have little autonomy and may, as a result, be at a disadvantage in family decision-making, especially on issues concerning their reproductive behaviour (United Nations, 2000). Traditionally, a precondition of marriage for men was that they must be able to support their families economically. By comparison, women's status was primarily defined

in connection with their family and childbearing roles. More years of schooling and better career opportunities for women as well as changes in gender roles and expectations have contributed to a decline in the age gap at marriage between husbands and wives (United Nations, Economic and Social Council, 1999; United Nations, 2000). Age at marriage has been rising for both women and men, reflecting not only changes in education and career opportunities, but also an increase in the number of young couples cohabiting without marrying (United Nations, 2011f).

309. Women in informal unions may be at a disadvantage vis-à-vis women in legal marriages with respect to financial commitments and property division in cases of separation (United Nations, 2000). In both developed and developing countries, consensual and cohabiting unions are becoming more frequent, especially for younger generations (United Nations, 2011f). Polygyny, a type of informal union where a man takes more than one wife, is still common in some countries in Africa and South and West Asia (United Nations, 2011f). Because of a wider age gap between husbands and wives, women in polygynous unions have a higher risk of becoming widows and experiencing economic and social difficulties associated with widowhood status (United Nations, 2000).

310. Both the prevalence of informal unions and the disadvantage of women involved in them depend on the context. For example, in countries where women have a lower status in general, less-educated women from rural areas may be more likely to be in informal unions and more likely to be at risk of poverty when the unions dissolve (United Nations, 2000). In countries where women enjoy economic autonomy, however, women in premarital cohabitation unions may be from all social groups and may be less vulnerable when the unions dissolve.

311. Overall, divorces and separations are becoming more frequent and more women than men are separated or divorced. In countries where divorce laws were liberalized more recently or where social attitudes have become less restrictive, divorce tends to be on the rise. However, in countries where divorce has always been socially acceptable and where, traditionally, rates have been high, divorce rates are stable or even declining. The proportion of women who are divorced or separated has increased, raising the number of lone mothers with children. The proportion of men who are divorced or separated is smaller, as men are more likely to remarry than women (United Nations, 2009).

312. Widowhood is more common among women than among men (United Nations, 2009). Women tend to marry men who are older than themselves and are less likely than men to remarry after their spouse dies. In developed countries, widowhood is experienced primarily by older women, while in developing countries it also affects younger women, many of whom are still rearing children (United Nations, 2000, 2009). Adjusting to widowhood can be difficult in all societies but more so in developing countries with gender discrimination in inheritance rights (United Nations, 2001). In those countries, household property may be taken away from the widow and assigned to male relatives, while the widow may suffer abuse and exploitation at the hands of family members (United Nations, 2001).

### *Data needed*

313. Data on formation and dissolution of unions refer to:

- a) First marriages by age and sex;
- b) Marriages by age, sex and previous marital status of spouses;
- c) Divorces by age, sex and duration of marriage;
- d) Marital status by sex and age.

314. Additional breakdowns should be considered, such as urban/rural areas and geographical areas. When household surveys or population censuses are the source of data, more breakdown variables can be used, including ethnicity, migration status and wealth status of the

household. In addition, educational attainment is an important variable for explaining age at first marriage, while household type, wealth status of the household and number of dependent children are important variables for understanding the living arrangements and living conditions of women and men who are no longer living with their spouses (divorced, separated or widowed). In countries where widows are subjected to discrimination by customary laws with respect to their inheritance rights, property ownership and control over property should also be considered among the variables of interest.

#### List II.23

##### Examples of indicators derived from gender statistics on formation and dissolution of unions

- Mean age at first marriage by sex
- Proportion of the population aged 20 to 24 who are married or in a union before the age of 18 by sex
- Proportion of the population aged 45 and above who are widows/widowers by sex
- Proportion of the population aged 60 and above who are widows/widowers by sex
- Proportion of the population who are divorced or separated by age and sex

#### *Sources of data*

315. Civil registration systems can provide data on marriages by age, previous marital status of spouses, rank of marriage and other characteristics. They can also provide data on divorces by age of spouses, length of marriage, number of dependent children and other characteristics.

316. Population registers can provide data on composition of population by marital status, sex and age.

317. Population censuses are used to collect data on marital status by age and sex, usually defined in relation to the marriage laws or customs of the countries. Some censuses are also used to collect data on duration of current marriage.

318. Household surveys are routinely used to collect data on marital status. Some household surveys, especially family and fertility surveys and demographic and health surveys, may be used to collect data on marital status in more detail, capturing not only marital status as defined by the marriage laws or customs of a country, but also various forms of informal unions, such as consensual unions, cohabiting unions or polygynous unions.

319. Demographic and health surveys and family and fertility surveys are also used to collect data on age at first marriage/union and duration of first marriage/union. Sometimes, data with regard to partnership history of individuals, including all marriages and consensual unions, may also be collected, as was the case with the fertility and family surveys conducted in Europe.

#### *Conceptual and measurement issues*

320. Information on informal unions, in the form of either union status or age at entering the union, may not be adequately covered in statistics. The marital status of an individual is usually recorded in relation to the marriage laws or customs of the country. As a result, informal unions often do not appear as separate categories in the classification of marital status used in censuses or household surveys. Consequently, people in informal unions may be recorded either as single or as married. For example, in the case of polygynous unions, the man and the first wife may be legally married and are therefore recorded as married, while the second and subsequent wives may be in consensual or visiting unions and are therefore recorded as single. As a result, an account of women living in informal unions, with all their particular socioeconomic implications, may be missing from official statistics. It is im-



portant that, in countries where informal unions are common, the classification of marital status used in censuses and household surveys include distinct categories for informal unions. 321. Similarly, entry into informal unions, such as consensual unions, cohabiting unions or polygynous unions, is not usually recorded in the civil registration system. Therefore, it is important that household surveys collect information on age at entry into informal unions in addition to information on age at formal marriage.

## Fertility and contraceptive use

**Table II.24**

### From gender issues to gender statistics on fertility and contraceptive use: illustrative examples

Policy-relevant questions	Data needed	Sources of data
What are the trends in adolescent fertility?	Number of births among women aged 15 to 19 and number of women aged 15 to 19. Data for at least two points in time.	Civil registration systems. Household surveys. Population censuses.
What are the population groups with the lowest and highest fertility levels in the country?	Number of births by age of the mother and number of women of reproductive age by age. As far as possible, these data should be disaggregated by urban/rural areas, geographical areas, ethnicity, migration status, education and marital status of the mother, and wealth status of the household.	Civil registration systems. Population registers. Household surveys. Population censuses.
How prevalent is the unmet need for family planning among women who are married or in a union?	Number of reproductive-age women who are married or in a union, who are not using contraception and who want to delay having a child in the next two years or to stop childbearing altogether. Total number of reproductive-age women who are married or in a union.	Household surveys.

### *Gender issues*

322. Early childbearing continues to be widespread in certain parts of the world. Very early childbearing brings with it heightened risks of complications or even death. In developing countries, complications relating to pregnancy and childbirth are the leading causes of death among 15- to 19-year-old women (WHO, 2009). In addition, babies of very young mothers have a higher risk of perinatal death than babies born to older mothers (WHO, 2009). Furthermore, many adolescent mothers cannot continue school, diminishing their chances of having skilled jobs in the formal labour market.

323. Across the developing world, women are having fewer children. But even in some of the regions where overall fertility has declined, adolescent fertility remains relatively high (United Nations, 2011b). Adolescent fertility remains high in countries with high levels of early marriage, limited access to reproductive health services and few educational opportunities (United Nations, Economic and Social Council, 2011). Adolescents are more likely to become pregnant when they are less educated and live in poor households in rural areas (WHO, 2009).

324. Some countries in the less developed regions still have considerably high fertility levels (United Nations, 2010a, 2011e; United Nations, Economic and Social Council, 2011). In many developing countries, the rising age at marriage, increased education and improved access to contraceptives has contributed to a reduction in fertility (United Nations, Economic and Social Council 2011). Still, fertility levels cover a broad range and, in some of the countries with considerably high fertility rates, the decline in fertility levels has been slow or is even stagnating (United Nations, 2011e).

325. While the use of contraceptives has increased, many women who want to delay or even stop their childbearing still do not use them (United Nations, Economic and Social Council, 2011). The use of contraception, particularly modern methods, is the usual means by which couples and individuals exercise control over the number of children they have. Although the desired number of children remains high in several countries in the less developed

regions, it has declined significantly overall (United Nations, Economic and Social Council, 2011). However, access to family planning services is lagging behind the population's needs and significant proportions of women in developing countries have an unmet need for family planning (United Nations, 2011c). Women face several barriers in satisfying their unmet need for family planning, such as a lack of services or difficulties accessing services, a lack of awareness and information about family planning methods and the high cost of contraceptives (United Nations, Economic and Social Council, 2009). In some countries, men may control women's access to family planning services and/or decide on their own the number of children that they will have (United Nations, 2000). In general, younger, poorer, less educated and rural segments of the population tend to face greater barriers in accessing to family planning services (United Nations, Economic and Social Council, 2011).

326. Fertility rates are below replacement level in most developed countries, raising concerns about negative population growth, demographic ageing and the associated pressure on pension systems. Women tend to have fewer children in contexts of higher educational attainment and increased female labour force participation. Women's increased participation in paid employment before, during and after child-rearing has been accompanied by a significant increase in men's participation in domestic work in only a few countries (United Nations, 2010a). Consequently, women have continued to shoulder most of the burden of rearing children, making it difficult for them to balance work and family responsibilities and decreasing their chances of achieving their desired fertility. Where the employment of mothers of young children is common, the availability and quality of childcare is crucial (United Nations, 2010a). At the extreme, in some developed countries more couples are choosing not to have any children at all (United Nations, 2011e).

327. Childbearing outside of marriage varies widely across countries and is increasing overall (United Nations, 2011e). Many non-marital births occur in cohabiting unions, often by choice, and do not result in lone motherhood (United Nations, Economic and Social Council, 1999). However, many other non-marital births are the result of a failure to use contraceptives by young women without a current partner, resulting in lone motherhood and its often difficult consequences.

### *Data needed*

328. Data on fertility commonly used are:

- a) Number of births by age and marital status of the mother, and number of women of reproductive age by age and marital status. When fertility data are collected through population censuses and household surveys, both data on births and data on number of women by age are available from the same data collection instrument. However, when data on births are collected from civil registration systems, additional data on population by sex, age and such other characteristics as may be required need to be estimated on the basis of population censuses and household surveys;
- b) Number of children ever born by age of the mother.

329. Additional breakdowns commonly used for fertility statistics are educational attainment of the mother, urban/rural areas, geographical areas and ethnicity.

330. Data on contraceptive use are:

- a) Contraceptive use by sex, age and method of contraception;
- b) In order to estimate the unmet need for family planning, information on several other characteristics is needed, namely, marital status (as a proxy for being sexually active), pregnancy status, wantedness of current pregnancy, post-partum amenorrhoea status, infecundity and desire to delay or stop childbearing (Bradley and others, 2012).

331. Additional breakdowns commonly used for contraceptive use statistics are number of own children, educational attainment, urban/rural areas, geographical areas and ethnicity.

#### List II.24

##### Examples of indicators derived from gender statistics on fertility and contraceptive use

- Total fertility rate
- Adolescent birth rate
- Contraceptive use among women aged 15 to 49 who are married or in a union
- Unmet need for family planning

#### *Sources of data*

332. Civil registration systems can provide data on live births by age and other characteristics of the mother.

333. Population registers can provide data on live births by age and other characteristics of the mother and data on female population by age and other characteristics.

334. Population censuses are used to collect data on children ever born along with data on various characteristics of the mother. Some censuses are also used to collect data on recent births (births in the past 12 months) and age of the mother at birth of the first child. Data on various characteristics of the mother, as well as on characteristics of the household, are also collected.

335. Household surveys, such as demographic and health surveys and fertility and family surveys, are used to collect data on recent births (births in the past 12 or 24 months) or on retrospective birth histories over a longer time period. They are also used to collect data on contraceptive use and on desired number and spacing of children. Data on various characteristics of the mother, as well as on characteristics of the household, are also collected.

#### *Conceptual and measurement issues*

336. Number of births and number of children ever born may be underreported, owing to premature death or omissions, especially in countries with less developed statistical systems. Data on births obtained from civil registration systems should be checked and adjusted for sex bias in reporting on the basis of supplementary information on births from population censuses and household surveys. In population censuses and household surveys, underreporting of children ever born is often due to a proxy response from male members of the household. Recall errors may be associated more often with older women than younger women. In general, a more complete and accurate reporting of children ever born is obtained when the information is collected separately for girls and boys.

337. Data on non-marital fertility may not be available or detailed enough to provide an understanding of trends in non-marital fertility. Data on non-marital fertility are not available in countries that rely solely on household surveys that are used to collect fertility data only for married women. In countries where data on non-marital fertility are available, more detailed data on marital status of the mother are often needed in order to distinguish between mothers living in various types of informal union and mothers without a stable partner.

338. Use of contraceptives may be underreported, especially where traditional methods or contraceptive sterilization are common.

339. Often, unmet need for family planning has not been calculated using a comparable methodology over time (Bradley and others, 2012).

## Living arrangements

Table II.25

From gender issues to gender statistics on living arrangements: illustrative examples

Policy-relevant questions	Data needed	Sources of data
Are families of lone mothers with children more frequent than families of lone fathers with children? Do these types of families live by themselves or in a household with other persons?	Family nuclei by type of nuclei and type of household.	Population censuses. Household surveys.
Are older women more likely than older men to live alone in one-person households? Are older women more likely than older men to live with their children?	Population by sex, age and types of household.	Population censuses. Household surveys.
Are skipped-generation households (households with children and grandparents but no parents) more often formed with a grandmother only or with a grandfather only?	Detailed types of household.	Population censuses. Household surveys.
Are older women more likely than older men to live in institutions?	Older persons (persons aged 60+) living in institutions by sex.	Population censuses. Surveys on people living in institutions.

### *Gender issues*

340. Living arrangements for women and men are changing (United Nations, 2000, 2005). Young women and men attend more years of schooling, enter the job market later in life and delay marrying and having children. In some countries, these changes may extend the time that young people are living with their parents. Family models are also changing. Many young women and men choose to live in cohabiting unions. Women and men of reproductive age are more often than in the past among the never married, separated or divorced and tend to be more often lone parents with children. In particular, lone mothers with young children are more frequent and more likely to be poor than lone fathers with young children (United Nations, 2010a). Older persons are increasingly found in independent living arrangements, either as couples or as persons living alone, without the economic support or company of their children (United Nations, 2005). These tendencies have been observed mostly in the more developed regions, but lately in the less developed regions as well (United Nations, 2005).

341. Living arrangements of older persons are different for women than for men (United Nations, 2005). Women tend to live longer than men and are less likely to remarry after divorce or after their spouse dies. As a result, in countries in the more developed regions, where the proportion of older persons in independent living arrangements is large, older women tend to live alone more often than older men (United Nations, 2005). This situation places older women in greater need of outside assistance in the event of illness or disability, increasing their likelihood of institutionalization. Older women living alone are also at greater risk of poverty (United Nations, 2010a). By comparison, men's chances of being unmarried at older ages are smaller than women's and they therefore have a lower probability of living alone. However, when they are unmarried, older men are more likely than unmarried older women to live alone (United Nations, 2005).

342. In the less developed regions, a large majority of older persons live with their children (United Nations, 2005). Still, older women are predominant among older persons living alone (United Nations, 2005). Older women are also more likely to live in skipped-generation households (United Nations, 2005). These types of households comprise grandparents and grandchildren without the middle generation. They are becoming more common in countries that have been heavily impacted by AIDS and in communities with a high level of temporary migration for work. Both one-person households of older persons and skipped-generation households tend to be economically disadvantaged, unless the household economy benefits from remittances (United Nations, 2005, 2010a).

*Data needed*

343. Data needed to analyse living arrangements from a gender perspective are:

- a) Young persons (persons aged 15 to 29) by sex, age, detailed marital status and type of household. The types of household considered should be constructed on the basis of the size of the household and the family relationship between the young persons and other household members;
- b) Family nuclei of lone parents with young children (children under the age of 15) by sex of the parent and type of household. At least three types of household should be considered for disaggregation: nuclear households of a lone parent with young children; extended households of a lone parent with young children living with other relatives; and composite households of a lone parent with young children living with non-relatives and with or without relatives. These types of household can be identified on the basis of individual characteristics such as sex, age, marital status and family relationships for all household members;
- c) Older persons (persons aged 60+ and persons aged 80+) by sex, marital status and type of household. At least several types of households should be considered for disaggregation: one-person households; nuclear households where an older person lives with his or her spouse; nuclear households where an older person lives with his or her children and with or without his or her spouse; extended households where an older person lives with his or her children and other relatives and with or without his or her spouse; extended households where an older person lives without his or her children but with his or her grandchildren and with or without his or her spouse; and composite households where an older person lives with other relatives and non-relatives and with or without his or her spouse. These types of household can be identified on the basis of individual characteristics such as sex, age, marital status and family relationships for all household members;
- d) Older persons (persons aged 60+ and persons aged 80+) living in institutions by sex and marital status.

344. Additional breakdowns should be considered for statistics on living arrangements, such as urban/rural areas, geographical areas, ethnicity, migration status and wealth status of the household.

**List II.25****Examples of indicators derived from gender statistics on living arrangements**

- Proportion of households of lone parents with young children by sex of the parent
- Proportion of older persons (persons aged 60+) living in one-person households by sex

*Sources of data*

345. Population censuses are used to collect data on sex, age and marital status for all household members and on the family relationships among them. Population censuses may also provide sex- and age-disaggregated data on people living in institutions.

346. Household surveys can be used to collect data on sex, age and detailed marital status for all household members and on the family relationships among them. It is important that the household surveys used are large enough to allow for a disaggregation of data by various characteristics, including detailed types of household, as discussed in the part on data needed above.

347. Surveys on people living in institutions can be used to collect data on population living in institutions, such as nursing homes or residential facilities for people with disabilities.

### *Conceptual and measurement issues*

348. National statistical offices are usually able to produce data on types of household both from population censuses and from household surveys. However, the classifications that are routinely used will usually need to be adjusted for the purpose of identifying certain types of living arrangements that are most relevant from a gender perspective, as discussed in the part on data needed above.

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## Health

349. This section covers five subtopics: health and nutrition of children; maternal health; mortality and causes of death; HIV/ AIDS; and health risk factors related to lifestyle.

### Health and nutrition of children

**Table II.26**

**From gender issues to gender statistics on health and nutrition of children: illustrative examples**

Policy-relevant questions	Data needed	Sources of data
Does the gap between male and female child mortality suggest that non-biological factors may disadvantage girls?	Deaths among the children under the age of 1 by sex, deaths among children under the age of 5 by sex and live births by sex.  Children ever born and children surviving by sex of the child and age of the mother.	Civil registration systems. Population registers. Household surveys, such as DHS. Population censuses.  Household surveys, such as MICS. Population censuses.
Do girls receive the same health care as boys?	Children aged 12 to 23 months by sex and type of vaccines received. Children under the age of 5 with diarrhoea in the past two weeks by sex and type of treatment received.  Children under the age of 5 with a fever in the past two weeks by sex and type of treatment received.  Children under the age of 5 with a cough or breathing difficulties in the past two weeks by sex and type of treatment received.  Household expenditure on health for each child by sex and age of the child.	Household surveys, such as DHS and MICS.    Household income and expenditure surveys, budget surveys and living standards measurement surveys.
Are there sex differences in the nutritional status of children under the age of 5?  How do they vary by age?	Distribution of children under the age of 5 by sex, age, weight and height.	Household surveys, such as DHS and MICS.

### Gender issues

350. In most countries in the world, systematic neglect of girls in terms of nutrition, immunization and curative health care is uncommon (United Nations, 1998, 2010a; UNICEF, Division of Policy and Practice, 2011). Still, in a number of countries with a strong son preference, mostly located in South and Central Asia, girls appear to be disadvantaged in terms

of nutrition and provisions of health, as shown in the paragraphs below. Girls' disadvantage in terms of health and nutrition should be assessed by taking into account all the dimensions involved – infant mortality, child mortality, nutrition, immunization and access to curative health care – as well as the overall cultural context of the country or of the population groups being considered. It is also important to see how sex differences in all those dimensions, as related to health and nutrition vary over time.

351. Mortality is higher for boys than for girls during the first year of life. Boys have a greater biological vulnerability than girls to most causes of infant death. Based on biological factors alone, male mortality before the age of 1 is expected to exceed female mortality before the age of 1 by 10 to 30 per cent (United Nations, 1998). However, in countries with a strong preference for sons, the expected excess of male infant deaths may be lower, suggesting gender-based discrimination against girls.

352. Child mortality is usually higher among boys, except in a small number of countries, mostly located in Asia (United Nations, 1998; UNICEF, Division of Policy and Practice, 2011). In countries with excess female child mortality, sex differences may also be observed with regard to immunization against measles and curative health care, owing to a strong preference for sons (United Nations, 1998). In addition, in those countries, female disadvantage in survival may come from another factor. Parents of a son are more likely to discontinue childbearing or to postpone the next birth. By comparison, parents of a daughter are more likely to have the next birth after a small interval, thereby increasing the risk of death for the older sibling (United Nations, 1998).

353. Death rates between the ages of 1 and 5 are a more sensitive test of female disadvantage than infant mortality, because after the age of 1 exogenous causes of death rather than biological causes dominate. Still, this is complicated by the fact that boys have a greater susceptibility than girls to death from accidents (United Nations, 1998).

354. In a small number of countries in Asia, a considerably lower proportion of girls than boys have received measles immunization (United Nations, 1998; UNICEF, Division of Policy and Practice, 2011). Excess female mortality between the ages of 1 and 5 may also be observed for those countries (United Nations, 1998). However, in most countries in the world and across all regions, measles immunization coverage is similar among boys and girls. Also, sex differentials in overall vaccination are small in most parts of the world and do not clearly favour either sex (UNICEF, Division of Policy and Practice, 2011).

355. In a small number of countries in South and Central Asia, there are sex differences in curative health care to the disadvantage of girls. These are also countries with excess female child mortality. Curative health care involves expenses and, in the context of scarce family resources, investing in sons may be considered more important for the long-term economic well-being of the family. A male advantage in terms of curative health care may be more often found among children of poor and uneducated mothers than among children of wealthy and educated mothers (United Nations, 1998).

356. In a few countries, girls between the ages of 2 and 5 are more likely to be underweight than boys of the same age. Most often, sex differences in the nutritional status of children under the age of 5 are very small and within the bounds of sampling fluctuation. In some countries, girls appear to be advantaged, especially when mothers are more educated. However, age can play an important role. In general, boys are more likely than girls to be underweight under the age of 2. This may be linked to the fact that under the age of 2, the genetic vulnerability of boys to infections may reduce their nutritional status. However, above the age of 2, when the biological difference is no longer relevant, girls are more likely than boys to be underweight in a few countries, suggesting a gender-based disadvantage in nutrition (United Nations, 1998).



*Data needed*

357. Data on health and nutrition of children refer to:
- a) Infant deaths by sex and age (in months); deaths among children between the ages of 1 and 5 by sex and age, and live births by sex;
  - b) Children ever born and children surviving by sex of the child and age of the mother;
  - c) Distribution of children under the age of 5 by sex, age, weight and height;
  - d) Children aged 12 to 23 months by sex and type of vaccines received;
  - e) Children under the age of 5 with diarrhoea in the past two weeks by sex and type of treatment received;
  - f) Children under the age of 5 with a fever in the past two weeks by sex and type of treatment received;
  - g) Children under the age of 5 with a cough or breathing difficulties in the past two weeks by sex and type of treatment received;
  - h) Household expenditure on health for each child by sex and age of the child.
358. As far as possible, additional breakdowns, such as urban/rural areas, educational attainment of the mother and wealth status of the household, should be considered for all the data above.

**List II.26****Examples of indicators derived from gender statistics on health and nutrition of children**

- Child mortality rate (deaths among children between the ages of 1 and 5) by sex
- Under-five mortality rate by sex
- Proportion of children aged 12 to 23 months receiving measles vaccine by sex
- Proportion of underweight children among children aged 24 to 59 months by sex

*Sources of data*

359. Civil registration systems with complete coverage are the preferred source of data on deaths among children under the age of 5 and live births.
360. Household surveys, such as DHS and MICS are used to collect data on births and deaths of children, weight and height of children, immunization and curative health care for children with diarrhoea, fever, cough or breathing difficulty. Some living standards surveys are used to collect data on health expenditure for each child in the household.
361. Population censuses may be used to collect data on births and deaths in the past 12 or 24 months and data on children ever born and children surviving.
362. Health administrative records and immunization coverage surveys can provide data on vaccinations performed by service providers. When this source is used, additional information on the population aged 12 to 23 months (the target population for vaccination) is needed. The target population can be estimated on the basis of data from population censuses, sometimes combined with data from household surveys or civil registration systems.

*Conceptual and measurement issues*

363. Ascertaining sex differentials in infant and child mortality is difficult in countries with less developed statistical systems. Many countries still lack a complete and accurate civil registration system. These also tend to be countries with high child mortality rates. Some

sex bias in reporting child deaths and live births may take place. In general, data obtained from censuses and household surveys are subject to recall errors, such as omission of events, misreporting of the timing of events and age heaping, whereas data obtained from household surveys are affected by sampling errors.

364. Estimates of sex-specific mortality based on household surveys may have large standard errors and wide confidence intervals. Therefore, some of the differences observed may not be statistically significant. For analysis at the country level, it is important that the observed disadvantage of girls or boys in mortality is assessed at the same time as evidence concerning other health aspects, such as immunization, health-care practices and nutrition. It is also important to see whether the gap between male and female infant mortality and the gap between male and female child mortality are widening or narrowing.

365. Sex differentials in nutrition may be clearer when data on weight and height of girls and boys under the age of 5 are disaggregated by age. Under the age of 2, the biological vulnerability of boys to infections may reduce their nutritional status. Above the age of 2, biological factors are less relevant.

## Maternal health

**Table II.27**

**From gender issues to gender statistics on maternal health: illustrative examples**

Policy-relevant questions	Data needed	Sources of data
Has maternal mortality declined?	Maternal deaths and live births for at least two periods of time.	Civil registration systems. Population censuses. Household surveys based on large samples.
Has women's access to prenatal care increased?	Pregnant women by number of visits to a health facility or health-care provider. Data needed for at least two points in time.	Household surveys.
Are deliveries increasingly attended by skilled personnel? What groups of women are most disadvantaged?	Births by type of personnel attending the delivery for at least two points in time.  Data should be disaggregated by age, marital status and educational attainment of the mother, urban/rural areas, geographical areas and wealth status of the household.	Household surveys.

### *Gender issues*

366. Women in developing countries face a high risk of dying while pregnant, during delivery, in the period immediately following delivery or from an unsafe termination of pregnancy. Maternal mortality remains very high in developing countries, although it has declined overall (WHO, 2010). In a small number of countries, maternal mortality, already at high levels, has increased even further (WHO, 2010). In general, the risk of dying is increased by several factors that more often affect women in developing countries, such as anaemia, HIV or other infections, complications from unsafe abortions and sepsis (WHO, 2009). Female genital mutilation or cutting, prevalent in many African countries, also increases the risk of complications at delivery. The decline in maternal mortality is often associated with an increase in the proportion of deliveries being attended by skilled health personnel, improved access to emergency obstetric care, an increase in the proportion of pregnant women receiving antenatal care and an increase in the proportion of women using contraceptives (WHO, 2009).

367. Many pregnant women in developing countries do not receive adequate prenatal care. Prenatal care provides opportunities for regular check-ups to assess risks as well as to screen for and treat conditions that could affect both the pregnant woman and her baby (WHO, 2009). For example, many women have nutritional deficiencies when they start their pregnancy. Iron deficiency anaemia and deficiencies of vitamin A and iodine, which have negative

effects on the health of the mother and her baby, are common but, at the same time, not difficult to counteract. By way of another example, in countries where malaria is endemic, pregnant women may be provided with intermittent preventive treatment. Also, women who are HIV-positive may receive help in preventing the transmission of the virus to their babies. While access to prenatal care has increased in all regions, the proportion of pregnant women who have had at least four prenatal visits to maternal care facilities, as recommended by WHO, remains low in the less developed regions, particularly in sub-Saharan Africa and Southern Asia (United Nations, 2011c).

368. Many women in developing countries lack adequate care during delivery and are at risk of a number of disabling sequelae, including infertility, severe anaemia, uterine prolapse and vaginal fistula. A lack of skilled personnel or health facilities combined with inadequate transportation infrastructure often prevents pregnant women from receiving the emergency care that they need. Although the proportion of deliveries attended by skilled personnel has increased, in many developing countries with high fertility rates and high maternal mortality rates, women's access to adequate care during delivery remains limited. In particular, poor women and women from rural areas in developing countries are more likely to lack access to appropriate obstetric services at delivery (United Nations, Economic and Social Council, 2011; UN, 2011c; UNICEF, 2008; WHO, 2009).

369. Lack of access to contraceptives reduces women's ability to plan the number and timing of their births and increases the health risks associated with pregnancy. Use of contraceptives has increased in all regions, but remains relatively low in countries with high maternal mortality (United Nations, Economic and Social Council, 2011). Women face several barriers in satisfying their unmet need for family planning, such as a lack of services or difficulties accessing services, a lack of awareness and information about family planning methods, and the high cost of contraceptives (United Nations, Economic and Social Council, 2009). Younger, poorer, less educated and rural segments of the population tend to face greater barriers in accessing family planning services (United Nations, Economic and Social Council, 2011).

370. Unintended pregnancies followed by unsafe abortions cause a significant proportion of maternal deaths. In developing countries, many of the women at risk of maternal death are adolescents lacking access to contraceptives. Abortions performed in an illegal context are likely to be provided by unskilled persons in unhygienic conditions, thereby increasing the risk of death and illness. When abortion procedures are performed by qualified health professionals using appropriate techniques and sanitary protocols, the risk of death or injury from elective abortion is low. However, in many countries induced abortions are allowed only on restricted grounds and, when complications arise, access to appropriate post-abortion care is not easily accessible (United Nations, Economic and Social Council, 2011; WHO, 2009)

### *Data needed*

371. Data needed to analyse maternal health are:

- a) Maternal deaths by age;
- b) Live births by age of the mother;
- c) Women of reproductive age by age;
- d) Deaths of women of reproductive age;
- e) Abortions;
- f) Contraceptive use by contraceptive method, age and marital status;
- g) Pregnant women receiving prenatal care by number of visits to a health facility;
- h) Live births by type of attendance (skilled or not) at delivery;
- i) Deliveries in health facilities.

372. Additional breakdowns should be considered. Data on maternal mortality collected through population censuses and from civil registration systems with complete coverage should be further disaggregated by other characteristics, such as urban/rural areas and geographical areas. Data on prenatal care, deliveries in health facilities and type of attendance should also be disaggregated by urban/rural areas and geographical areas, as well as by other characteristics related to the pregnant women and her household, such as the woman's educational attainment and the wealth of the household.

#### List II.27

##### Examples of indicators derived from gender statistics on maternal health

- Maternal mortality ratio
- Proportion of maternal deaths among all deaths of women of reproductive age
- Proportion of deliveries attended by skilled health personnel
- Proportion of pregnant women receiving prenatal care (at least four visits)

#### *Sources of data*

373. Civil registration systems with complete coverage can provide data on total deaths, maternal deaths and live births. These data can be used to calculate some maternal mortality indicators, such as maternal mortality ratio and proportion of maternal deaths among all deaths of women of reproductive age.

374. Population censuses that are used to collect data on deaths in the household in the past 12 or 24 months may have additional questions on the pregnancy status of women of reproductive age who have died. Therefore, population censuses may be used to capture pregnancy-related deaths. Other data needed to calculate indicators on maternal mortality may also be collected, such as number of live births (during the same interval of 12 or 24 months) and number of women of reproductive age by age. Population censuses have the advantage of eliminating sampling errors and allowing for a breakdown of maternal mortality data by individual, household or geographical characteristics.

375. Household surveys can provide data on pregnancy-related deaths using the direct or indirect sisterhood method, whereby respondents are asked about the survival of their adult sisters. The information needed for indirect estimates of maternal mortality includes the number of ever-married sisters, the number who are still alive, the number who are dead and, for those who are dead, the number who died during pregnancy, at delivery or within six weeks of termination of pregnancy. The indirect sisterhood method should be used only in contexts of high fertility with limited migration. Direct estimates of maternal mortality based on sisterhood method require, for each sibling, information related to age, age at death and year of death and information on whether the death was pregnancy-related. The direct method is used in DHS surveys.

376. Household surveys of very large samples may also provide direct estimates of maternal mortality based on deaths reported for the past 12 or 24 months and live births during the same period. However, such surveys have limited value in providing the data necessary to assess trends in maternal mortality or the status of specific groups of population.

377. Household surveys, such as DHS and MICS, also provide data on important factors in reducing maternal mortality, such as prenatal care visits, deliveries attended by skilled health personnel, deliveries in health facilities and use of contraceptives.

378. Demographic surveillance systems usually maintained by research institutions in developing countries may provide information on births and deaths by cause of death in small populations of selected areas, such as a community, or a district. Where death certificates are

not available, a cause of death is assigned on the basis of interviews with family members (a method known as “verbal autopsy”). Although such studies are very useful, they are expensive and time-consuming to conduct.

379. Reproductive-age mortality studies involve the identification of the causes of all deaths of women of reproductive age in a selected population by using multiple sources of data for a defined area or population. Civil records, health facility records, burial records and interviews with traditional birth attendants and family members are used to identify deaths of women of reproductive age and to classify those deaths as maternal or otherwise.

### *Conceptual and measurement issues*

380. Reliable data on maternal mortality are lacking in many countries owing to underreporting and misclassification of deaths. Maternal death is defined as the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes. Even where data on deaths are derived from a civil registration system with complete coverage, maternal deaths may be missed or may not be correctly identified, thereby compromising the reliability of such statistics. In this context, underreporting or misclassification may be due to such reasons as an inadequate understanding of International Classification of Diseases rules, the completion of death certificates without a mention of pregnancy status, a desire to avoid litigation and a desire to suppress information (especially as related to abortion deaths). Underidentification of maternal deaths is more common among early pregnancy deaths because they are not linked to reportable birth outcome. Moreover, deaths in the later post-partum period are less likely to be reported than early post-partum deaths. Maternal deaths at the youngest and oldest ages are also more likely to remain unidentified.

381. When data on maternal deaths are derived from censuses, surveys or demographic surveillance systems and when the causes of such deaths are identified on the basis of interviews with family or community members, misclassification is common. For example, some deaths may be identified as maternal deaths even when they were due to accidents or injuries.

382. Results based on censuses or surveys may need to be adjusted for underreporting of births and deaths declared in the census and for distortions in the age structure. However, the proportion of maternal deaths among all deaths of women of reproductive age is not considered to be significantly underreported and may therefore be used to estimate maternal mortality.

383. Estimates of maternal mortality obtained from household surveys have wide confidence intervals, making it difficult to monitor changes over time and to assess differences between population groups.

384. In countries where data on maternal mortality are suspected of being inadequate, it is important to interpret indicators of maternal mortality the context of other maternal health indicators, such as presence of skilled health personnel at delivery and antenatal care.

385. Use of contraceptives may be underreported, especially where use of traditional methods or use of contraceptive sterilization are common. In order to reduce underreporting, respondents should be reminded of various types of contraceptives.

386. Reliable statistics on abortions are not easily available. Abortions that are spontaneous and do not result in further complications are rarely reported. Induced abortions are also underreported, especially in countries with laws that restrict access to abortion.

## Mortality and causes of death

Table II.28

From gender issues to gender statistics on mortality and causes of death: illustrative examples

Policy-relevant questions	Data needed	Sources of data
Do women or men have a longer life expectancy? Do adult women have the same mortality risk as adult men?	Deaths by sex and age.  Population by sex and age.	Civil registration systems. Population censuses or demographic and health surveys.  Population censuses combined with civil registration systems and/or household surveys. Population registers.
Are adult women more likely or less likely than adult men to die of communicable diseases or as a result of any other cause of death?	Deaths by sex, age and cause of death.  Population by sex and age.	Civil registration systems. Health administrative records.  Population censuses combined with civil registration systems and/or household surveys. Population registers.
Do main causes of death rank the same for women and for men?	Deaths by sex and cause of death.	Civil registration systems. Health administrative records.
What types of cancer cause the highest number of deaths among women? Among men?	Deaths by sex and cause of death.	Civil registration systems. Health administrative records.

### *Gender issues*

387. Women tend to live longer than men. Sex differences in life expectancy, although always in favour of women, vary in magnitude across countries and reflect a combination of biological factors, on the one hand, and social and economic factors, on the other. The female advantage is lower in countries with high mortality overall (United Nations, 2000, 2010). In particular, countries with a high level of maternal mortality and a high prevalence of HIV/AIDS see a smaller difference between female and male life expectancy. A smaller difference in life expectancy may also be observed in countries where girls and women have a lower status and suffer from discrimination and abuse. By comparison, in countries with low levels of mortality, women have a considerable biological advantage, with women's life expectancy exceeding that of men by many years (United Nations, 2000, 2010). In many countries, the advantage of women is not only biological. For example, large gender differences in life expectancy are observed in countries such as the Russian Federation and the former Soviet republics, where lifestyle factors such as harmful use of alcohol, smoking and injuries considerably reduce the lifespan of men (United Nations, 2010).

388. Although life expectancy at birth tends to be higher for women than for men, in some life stages and in certain contexts, women may have a higher probability of dying than men. For example, as shown in the subsection on health and nutrition of children above, in some countries in Asia, girls may be more at risk of dying than boys. As another example, in adult ages, in several African countries facing HIV epidemics and high maternal mortality, women have a higher probability of dying between the ages of 15 and 50 than men (United Nations, 2011).

389. The top causes of death in a country may be different for women than for men. At the global level, for women and men of all ages, cardiovascular diseases are the leading cause of death, followed by infectious and parasitic diseases (including diarrhoea and HIV/AIDS) and cancers (WHO, 2011). The overall mortality rates due to cardiovascular diseases are the same for women and men. For the second and third leading causes, men have higher mortality rates than women. However, the ranking of causes of death for women and men varies by region and country (WHO, 2011). For example, in sub-Saharan Africa, HIV/AIDS alone has a similar death toll as cardiovascular diseases, ranking number one for women of all ages and

number three for men of all ages. The contribution of respiratory infections to total deaths is also high, ranking number one for men and number three for women.

390. For adults (persons aged 15 to 59) and at the global level, the top causes of death are different for women than for men (WHO, 2011). The three top causes of death for adult women are infectious and parasitic diseases, cancers and cardiovascular diseases. The three top causes of death for adult men are injuries, cardiovascular diseases and infectious and parasitic diseases. Adult men have higher mortality rates than adult women for all these causes of death with the exception of cancers, where male and female rates are similar. Across regions and countries, there are variations in the ranking of causes of death and the gender gap in adult mortality due to specific causes of death (WHO, 2011). For example, in Africa, the number one cause of death for both women and men is HIV/AIDS and women have a higher adult mortality rate from this cause than men. The second most prevalent cause of death is other infectious and parasitic diseases, where adult men have a higher mortality rate than adult women. The third cause of death is injuries for men and maternal and nutritional conditions for women. As another example, in low- and middle-income countries in the Americas, the leading cause of death for adult women is cancers, from which they have a higher mortality rate than men. For adult men, the number one cause of death is injuries, from which their rate of mortality is several times higher than women's.

391. Breast cancers are the leading cause of cancer deaths among women, followed by lung cancers, colon and rectum cancers and stomach cancers (United Nations, 2010; WHO, 2011). In addition, cancers of other reproductive organs, including cervical cancer, ovarian cancer and uterine cancer, cause hundreds of thousands of deaths in women worldwide each year. Among men, lung cancers are the leading cause of cancer deaths. In 2008, for example, at the global level, more than twice as many men as women died of lung cancer. Gender gap in lung cancer mortality has narrowed in many developed countries, reflecting women's later uptake of smoking in post-war birth cohorts. In addition, both stomach and liver cancers caused significantly more deaths to men than to women. Compared to the other types of cancer, deaths due to reproductive cancers were relatively rare in men. For both women and men, the distribution of cancer deaths by site compared to the distribution of new cancers by site suggests that some cancers of the reproductive systems, such as breast and prostate cancer, have a relatively better prognosis than other cancers, particularly in the more developed regions, owing to early detection and treatment options (United Nations, 2010).

### *Data needed*

392. Data needed to analyse mortality and causes of death are:

- a) Deaths by sex and age;
- b) Deaths by sex, age and cause of death;
- c) Distribution of population by sex and age (for the calculation of rates and other indicators).

#### **List II.28**

##### **Examples of indicators derived from gender statistics on mortality and causes of death**

- Life expectancy at birth by sex
- Life expectancy at the age of 60 by sex
- Probability of dying between the ages of 15 and 60 by sex
- Adult mortality rate due to cardiovascular diseases by sex
- Adult female mortality rate due to breast cancer
- Adult mortality rate due to lung cancer by sex

*Sources of data*

393. Civil registration systems with complete coverage are the preferred source of data on deaths and causes of death.

394. Population censuses are used to collect data on sex and age for all individuals. They may also be used to collect data on recent deaths (deaths in the past 12 or 24 months) by sex and age. These data, combined with data on population by sex and age, can be used to obtain direct estimates of death rates. Data on survival of parents or survival of siblings may be used in combination with data by age and sex, data on live births by age of the mother and data on age gap between husbands and wives in order to obtain indirect estimates of death rates.

395. Household surveys can provide data on the sex- and age-distribution of the population. Demographic and health surveys can also provide data on survival of siblings and parents that can be used to estimate mortality. Selected health-related surveys with large samples may also be used to collect data on recent deaths, while causes of death data may be obtained by using additional questions on causes of death, following the verbal autopsy approach.

396. Health administrative records may provide some data on cause of death.

397. Population registers can provide data on population distribution by sex and age.

*Conceptual and measurement issues*

398. Some sex-selective underreporting of deaths may occur in countries with less developed statistical systems. At younger ages, deaths of girls may be more likely to be underreported. At adult ages, deaths of temporary migrants, among whom men are overrepresented, may be more likely to be underreported when collecting data on survival of siblings. In general, male respondents in population censuses and household surveys are more likely than female respondents to underreport the number of deaths, the number of children ever born and the number of children surviving, with possible sex-selective omissions.

399. Causes of death are often not reported or misreported, for both women and men. Some causes of death, such as AIDS and suicide, may be intentionally misreported when there is social stigma attached to them. Homicide, which tends to affect men disproportionately, may be underreported as a result of delays in forensic investigations, which may not be complete at the time that the death certificate is filed.

**HIV/AIDS****Table II.29****From gender issues to gender statistics on HIV/AIDS: illustrative examples**

Policy-relevant questions	Data needed	Sources of data
Are there more women or men among people living with HIV? Among young people living with HIV? Among older people living with HIV?	People living with HIV by sex and age.	Population-based surveys with HIV testing, such as DHS. Health facility reports.
Do main causes of death rank the same for women and for men?	People aged 15 to 24 with comprehensive correct knowledge of HIV prevention by sex.	Household surveys, such as DHS, MICS or reproductive health surveys.
Are young women or young men more likely to use a condom during sex with non-regular partners?	Use of a condom among people aged 15 to 24 during sex with a non-marital, noncohabiting sexual partner in the past year by sex.	Household surveys, such as DHS, MICS or reproductive health surveys.

*Gender issues*

400. In sub-Saharan Africa, women are more likely than men to be infected with HIV, while in other regions of the world, men are more likely than women to be infected. At the global level, half of adults living with HIV are women. However, in sub-Saharan African



countries with the highest HIV prevalence, women represent the majority of people living with HIV/AIDS (UNAIDS, 2010, 2011b). Levels of new infections in sub-Saharan Africa continue to remain higher among women than among men, especially in the younger groups (UNAIDS, 2010). In this region, the adult mortality rate due to AIDS is also higher for women than for men. In other regions, men are more likely than women to be infected with HIV, often in concentrated epidemics involving men who have sex with men or people who inject drugs, and adult men have a higher risk of mortality due to AIDS than adult women (UNAIDS, 2010).

401. Women face a higher risk of becoming infected with HIV during unprotected sexual intercourse than men. In addition to being more biologically vulnerable than men to infection, women and girls may have difficulties in negotiating condom use with their partners. In particular, sexual violence and abuse hampers women's ability to protect themselves from HIV infection and/or to assert healthy sexual decision-making. Furthermore, sex outside a marital union and multiple sexual partnerships are often tolerated for men (although not for women) and, hence, a woman can be vulnerable to HIV infection because of her husband's concurrent sexual relations. These risks are higher in contexts where women have partners much older than themselves, have a lower status than men and are economically dependent on men owing to social or legal discrimination (United Nations, 2000; UN, Economic and Social Council, 2011; WHO, 2009; UNAIDS, 2010).

402. Young women and young men may have different HIV-related knowledge and behaviour. In many countries, HIV-related knowledge is still lower among young women than among young men (UNICEF, Division of Policy and Practice, 2011; United Nations, 2011c). In general, knowledge of HIV prevention among young people has increased; however, it remains low in many developing countries (United Nations, 2011c).

403. More girls than boys start their sexual life early, although the prevalence of early sex is declining for girls as well as boys (United Nations, Economic and Social Council, 2011; UNICEF, Division of Policy and Practice, 2011). In countries with a high HIV prevalence, young women are at particularly high risk of HIV infection when they have older male sexual partners who are more likely than younger men to be infected with HIV (WHO, 2009).

404. Young men are more likely than young women to report having multiple sexual partners, but also more likely to report using a condom during sex with a non-marital, non-cohabiting partner (defined as higher-risk sex) (UNICEF, Division of Policy and Practice, 2011). In some countries, the proportion of women who report having multiple sexual partners and not using a condom has increased (UNAIDS, 2010).

405. HIV/AIDS has placed significant burdens on family members, especially women (United Nations, 2008). The primary caregivers for sick patients are usually the women and girls within a family. HIV/AIDS has also led to a large number of orphans, who are cared for by other family members or institutions. In Africa, for example, it is often grandmothers who take responsibility for this care, in skipped-generation households.

### *Data needed*

406. Data needed to analyse HIV/AIDS from a gender perspective are:

- a) People living with HIV by sex and age;
- b) HIV/AIDS deaths by sex and age;
- c) HIV testing in the past 12 months by sex and age;
- d) Access to antiretroviral drugs by sex and age;
- e) Multiple sexual partnerships and condom use during last high-risk sexual encounter (i.e., sex with a non-marital, non-cohabiting partner) by sex and age;
- f) Comprehensive correct knowledge of HIV/AIDS by sex and age;

- g) Other data can contribute to an understanding of the causes and consequences of HIV/AIDS. Such data may refer to violence against women, early sex or time spent caring for household members who are living with HIV;
- h) Additional data on sexual behaviour and HIV prevention, prevalence and treatment related to special risk groups, such as sex workers, men who have sex with men and people who inject drugs, should also be considered.

#### List II.29

##### Examples of indicators derived from gender statistics on HIV/AIDS

- Adult HIV prevalence (proportion of people aged 15 to 49 living with HIV/AIDS) by sex
- Youth HIV prevalence (proportion of people aged 15 to 24 living with HIV/AIDS) by sex (this indicator should also be calculated for ages 15 to 19 and 20 to 24).
- Proportion of eligible adults and children currently receiving antiretroviral therapy by sex
- Proportion of young people (people aged 15 to 24) with comprehensive correct knowledge of HIV/AIDS by sex
- Proportion of young people (people aged 15 to 24) who have had more than one sexual partner in the past 12 months and who report using a condom during their last sexual encounter by sex

**Note:** See UNAIDS (2011a) for a complete list of indicators related to HIV prevention, prevalence and treatment.

#### *Sources of data*

407. Sentinel surveillance may be used to collect data on HIV status and sexual behaviour for populations with high-risk behaviours, such as sex workers, injecting drug users and men who have sex with men.

408. Population-based surveys with HIV testing, such as DHS and the AIDS Indicator Survey, provide data on HIV prevalence. These surveys, as well as MICS and reproductive health surveys, also provide other HIV-related data, such as on knowledge of HIV transmission and prevention, multiple sexual partnerships, use of a condom during sexual intercourse with a non-marital, non-cohabiting sexual partner in the past 12 months and access to antiretroviral therapy.

409. Integrated Biological and Behavioural Surveillance surveys can provide data on key populations at higher risk of HIV infection, such as men who have sex with men, sex workers and people who inject drugs.

410. Reports from health facilities, including antenatal clinics attended by pregnant women, may provide information on results from HIV-tested blood from a sample of patients and on access to antiretroviral therapy.

411. Time-use surveys can provide data on time spent caring for household members who are sick or disabled, including household members who are infected with HIV. However, data specific to care given to HIV-infected persons are difficult to obtain.

#### *Conceptual and measurement issues*

412. Non-participation in HIV-testing in population-based surveys is often higher for men than for women (Mishra and others, 2008). This may induce a sex bias in estimates of HIV prevalence.

413. Normative reporting (interviewed persons giving answers perceived to be socially desirable) may artificially increase or decrease the estimated gender gap in sex-related behaviour, such as condom use during last high-risk sexual encounter and multiple sexual partnerships.

## Health risk factors related to lifestyle

**Table II.30**

From gender issues to gender statistics on health risk factors related to lifestyle: illustrative examples

Policy-relevant questions	Data needed	Sources of data
Are young women or young men more likely to be current drinkers?	Current drinkers by sex and age.	Household surveys, such as world health surveys.
Is tobacco use more common among young women or young men?	Tobacco users by sex and age.	Household surveys, such as world health surveys.
Are women or men more likely to be obese?	Obese people by sex.	Household surveys, such as world health surveys.

### *Gender issues*

414. Social and cultural factors have traditionally led men to take up health-damaging habits, such as drinking and smoking. Men tend to consume more alcohol than women in all regions of the world and at all ages (United Nations, 2010). However, the proportion of current drinkers among women and men tends to be more similar in the more developed regions than in the less developed ones and at younger ages (United Nations, 2010). Similar to alcohol consumption, tobacco use is more common among men than among women. Traditionally, in many countries, women have not smoked or used tobacco as frequently as men. However, tobacco use has increased among younger women and teenage girls (WHO, 2009; United Nations, 2010). The gender gap in tobacco use is smaller in the more developed regions and in certain less developed regions, such as South America (United Nations, 2010). In some countries in the more developed regions, women are more often reported as smoking than men.

415. Sex differentials in the prevalence of obesity vary across and within countries. Once considered a problem of the developed countries, obesity can be seen today in many parts of the world. Obesity, often the result of sedentary lifestyles and unbalanced diets, puts an individual at increased risk for many diseases and health problems, including hypertension and diabetes (WHO, 2009). While information on sex differences in balanced nutrition are rarely available, limited information on physical activity suggests that, in some countries in Asia, girls and women tend to be engaged less often in physical exercise, often owing to cultural norms (WHO, 2009).

416. Unsafe sex, which can lead to sexually transmitted infections, including HIV, may be a more important health risk factor for women than for men. Women may be more vulnerable to sexually transmitted infections owing to a combination of biological and social factors. Because of biological differences, infections are more easily transmitted from men to women than from women to men; for specific types of infections, the symptoms may be less evident in women than in men, leading to a postponement of diagnosis and treatment; and women have greater vulnerability to complications from untreated infections (WHO, 2009; United Nations, Economic and Social Council, 2011). As for social factors, women may have difficulties negotiating condom use with their partners; may more often be victims of sexual violence; and may have more limited access to diagnostic and treatment services (WHO, 2009; United Nations, Economic and Social Council, 2011). As a result, women may have a greater morbidity from sexually transmitted infections than men do. The longer-term consequences of sexually transmitted infections for women are severe and include infertility, ectopic pregnancy and cancers, as well as increased vulnerability to HIV infection (WHO, 2009).

417. In many countries, women are more exposed than men to indoor air pollution. In households where the cooking is done with solid fuels and the ventilation is poor, women are more likely than men to develop acute lower respiratory infections, chronic obstructive

pulmonary disease and lung cancer (Desai, Mehta and Smith, 2004). The increased health risk for women is mainly due to the fact that women spend more time indoors and more time near the fire while cooking and are therefore more exposed to high-intensity pollution episodes (WHO, 2006).

418. Unintentional injuries, including occupational injuries, are associated more often with men than with women (WHO, 2008). Unintentional injuries represent a large share of male deaths but a relatively small share of female deaths. Similarly, adult mortality rates due to unintentional injuries, including road traffic accidents, are much higher for men than for women.

### *Data needed*

419. Data on health risk factors related to lifestyle may refer to:

- a) People currently drinking by sex and age;
- b) People currently using tobacco by sex and age;
- c) People who are obese by sex and age;
- d) People engaging regularly in physical activity by sex and age;
- e) Condom use at last high-risk sexual encounter (i.e., sex with a non-marital, non-cohabiting partner) by sex and age;
- f) Proportion of population using solid fuels for cooking on an open fire or stove with no chimney or hood;
- g) Unintentional injuries by sex, age and type of injury;
- h) Occupational injuries by sex, age and type of injury.

### **List II.30**

#### **Examples of indicators derived from gender statistics on health risk factors related to lifestyle**

- Proportion of adults who are obese by sex
- Proportion of young population (persons aged 15 to 24) currently drinking by sex
- Smoking prevalence among persons aged 15 and above by sex
- Proportion of young population (persons aged 15 to 24) currently using tobacco by sex
- Proportion of young population (persons aged 15 to 24) engaging regularly in physical activity by sex

### *Sources of data*

420. Household surveys focused on health issues may be used to collect data on drinking, tobacco use, anthropometric measures, engagement in physical activity and daily consumption of fruits or vegetables. Household surveys, such as DHS and MICS, are usually used to collect data on condom use during last high-risk sexual encounter. They can also be used to collect data on types of fuels used for cooking along with information on ventilation factors, such as type of stove and place of cooking.

421. School-based surveys, such as the Global School-based Student Health Survey, are used to collect data on health-related issues among students aged 13 to 15. Among the issues covered are alcohol use, dietary behaviour, drug use, hygiene, physical activity, sexual behaviour, tobacco use, violence and unintentional injuries.

422. Population and housing censuses are often used to collect data on fuels used for cooking.

423. Administrative records may provide data on unintentional injuries, including occupational injuries and road traffic accidents. Civil registration systems with complete coverage may provide data on causes of death, including deaths due to unintentional injuries.

*Conceptual and measurement issues*

424. The type or frequency of alcohol consumption (e.g., binge drinking, hard liquor) may vary by sex and surveys may not adequately distinguish the relevant risk behaviours.

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## Migration, displaced persons and refugees

425. This section covers three subtopics: internal migration; international migration; and refugees and internally displaced persons.

### Internal migration

**Table II.31**

**From gender issues to gender statistics on internal migration: illustrative examples**

Policy-relevant questions	Data needed	Sources of data
Are migration geographic patterns the same for women and men?	Internal migrants by sex, place of destination and place of origin.  Population by sex, place of residence, place of previous residence and duration of current residence (or, alternatively, place of residence at a specified date in the past).	Population registers or other administrative records.  Population censuses. Household surveys, such as labour force surveys or living standards surveys.
Do women migrate within a country for the same reasons as men?	Internal migrants by sex and reason for moving. Data for at least two time intervals.  Population by sex, age, place of residence, place of previous residence, duration of current residence and reason for moving. Data for at least two points in time.	Population registers or other administrative records.  Household surveys, such as labour force surveys or living standards surveys.
Do women migrants have demographic and economic behaviour similar to women in communities of origin or to women in communities of destination?	Children ever born by woman's age, educational attainment, migration status (non-migrant, migrant from rural areas, migrant from urban areas) and current residence (rural/urban areas).  Women by age, educational attainment, employment status, migration status (nonmigrant, migrant from rural areas, migrant from urban areas), type of income (cash or in kind) and current residence (rural/urban areas).  Participation of married women in intrahousehold decision-making by age, migration status (nonmigrant, migrant from rural areas, migrant from urban areas) and current residence (rural/urban areas).	Population censuses. Household surveys, such as DHS.  Household surveys, such as labour force surveys or living standards surveys.  Household surveys, such as DHS.

### *Gender issues*

426. *Women tend to have different reasons to migrate than men do*, as shaped by gender-specific constraints in the communities of origin and differences in opportunities in the communities of destination. These gender differences are reflected in the patterns of internal migration for women and men and in the types of jobs obtained by migrant women and migrant men at the destination. Traditionally, women have migrated shorter distances than men within a country, so that they have been more often found in rural-to-rural migration and migration within the same province or state (United Nations, Economic and Social Council, 2008). In some countries in South Asia, for example, the tradition of women marrying men from a different village contributed to the overrepresentation of women among rural-to-rural migrants. By comparison, men have been more attracted to employment opportunities in cities; however, this may no longer be the case. In many countries, women outnumber men not only in rural-to-rural migration but also in rural-to-urban and urban-to-urban migration (United Nations, 2000). As traditional attitudes change and educational and economic opportunities increase, young women are increasingly migrating to seek higher education or employment (United Nations, 2000). At the same time, less educated, unmarried women are encouraged to seek work and contribute to their families' economic survival. Young women often seek work, and are preferred instead of men, as domestic workers in cities, in manufacturing enterprises or on plantations, as they are thought to be more suited for repetitive tasks, more obedient and more willing to accept lower wages (United Nations, 2000). In some cases, daughters who migrate can be better relied on than sons to send part of their earnings back to their families (United Nations, 2000).

427. Migration tends to have an effect on the status of women. Women who migrate from rural to urban areas generally have more children and are less likely to use modern contraceptives than long-term urban residents (United Nations, 2000). However, the longer women migrants remain in the city the more their reproductive behaviours come to resemble the behaviours of long-term city dwellers. Women who migrate from rural areas to urban areas may also have higher economic autonomy and power of decision-making in the household than women who remain in rural areas. Similarly, young migrant men may also be empowered to challenge patriarchal structures within the family (UNDP, 2009).

428. In the communities of origin, when their husbands migrate, the women who remain behind may change their status. For example, as they become heads of their households, women may gain more decision-making power over the allocation of household resources for the education and health of children. At the same time, women may become more vulnerable to poverty when their husbands do not send home part of their earnings. Similarly, older persons, most of whom are women, may become more vulnerable to poverty when their children move out of their communities of origin and do not provide economic support.

### *Data needed*

429. Several types of data are needed to analyse internal migration from a gender perspective. They are:

- a) Statistics on flows of internal migrants, reasons for migrating and migration patterns, such as:
  - i) Internal migrants during a calendar year by sex, age and reasons for moving.
  - ii) Internal migrants during a calendar year by sex, age, place of destination (urban/rural residence and region or other major civil division) and place of origin (urban/rural residence and region or other major civil division); when possible, this information should be further disaggregated by reasons for moving;

- iii) As much as possible the statistics above should be further disaggregated by marital status, educational attainment, employment status, status in employment and occupation;
  - iv) Additional data on total population by sex, age, marital status, educational attainment, employment status, status in employment and occupation at places of destination or at places of origin are needed in order to calculate in- or out- migration rates for various groups of populations.
- b) Statistics on stocks of internal migrants and migration patterns, such as:
- i) Lifetime migration, including population by sex, age, place of residence (urban/rural residence and region or other major civil division) and place of birth (urban/rural residence and region or other major civil division);
  - ii) Recent migration, including population by sex, age, place of residence (urban/rural residence and region or other major civil division), duration of current residence and place of previous residence (urban/rural residence and region or other major civil division). Alternatively, data on population by sex, age, place of residence (urban/rural residence and region or other major civil division) and place of previous residence (urban/rural residence and region or other major civil division) at a specified date in the past (5 years ago, for example);
  - iii) As much as possible the statistics above should be further disaggregated by educational attainment, employment status, status in employment and occupation.
- c) Statistics on consequences of migration on families in countries of origin and women's empowerment, such as:
- i) Internal migrants sending remittances to their families (partner and children) or parents, by sex of migrant. Additional data on the amount of remittances sent and frequency of sending are also useful;
  - ii) Households with incomplete families as a result of temporary internal migration (at least one adult out-migrant), by sex of the out-migrant;
  - iii) In order to show the effect of migration on women's empowerment, migration status can be used as a breakdown variable for statistics reflecting the empowerment of women, such as fertility, the use of modern contraception and participation in intrahousehold decision-making. Migration status should distinguish between non-migrants, rural-to-urban migrants, urban-to-urban migrants, rural-to-rural migrants and urban-to-rural migrants. In addition, control variables such as age and educational attainment should be used.

### List II.31

#### Examples of indicators derived from gender statistics on internal migration

- Out-migration rate from rural areas to urban areas by sex
- Proportion of internal out-migrants among the working-age population with at least secondary education by sex
- Proportion of internal migrants sending remittances to their families (partner and children) or parents, by sex of the migrant
- Proportion of households with incomplete families due to temporary internal migration (at least one adult out-migrant), by sex of the out-migrant



### *Sources of data*

430. Population censuses are often the primary source of data on stocks of internal migrants and the distribution of internal migrants by various characteristics. The information on lifetime migration is based on questions about place of usual residence and place of birth. The information on more recent migration is based on place of usual residence, place of previous residence and duration of residence; or, alternatively, on place of usual residence and place of residence at a specified date in the past (such as 1 year ago, or 5 years ago). Population censuses are also a source of information on patterns of migration sorted by urban/rural areas, regions or other civil divisions, as well as by characteristics such as educational attainment, employment status, status in employment and occupation.

431. Household surveys are also a source of data on stocks of internal migrants and the distribution of internal migrants by various characteristics. Surveys collecting data on internal migration may be dedicated surveys or other surveys in the regular programme of a national statistical office that include a module or some questions on internal migration. Such surveys may be labour force surveys or living standards measurement surveys. Compared to censuses, household surveys can collect more information related to internal migrants, including (a) partial or complete migration history (places of previous residences and dates of changing residence); (b) reasons for migration; (c) individual and household characteristics with potential impact on the decision to migrate, such as marital status, education, employment, individual earnings, prior movement of family members, sources of income for the household of origin or some measures of access to social networks; and (d) information on some consequences of migration, such as remittances, women's empowerment or living arrangements for family members left in the community of origin. Most of this information is usually collected from the internal migrants or their household members in the communities of destination. However, some data, such as data on living arrangements and sources of income for family members left behind, may be collected from household members in communities of origin.

432. Population registers that are well maintained and have good coverage are valuable sources of statistics on current in- and out-migration flows, reasons for migration, and on the number and characteristics of the internal migrant stock of an area. Other administrative records regarding changes in residence, such as income tax returns and driver's licence addresses, may also be used to estimate internal migration flows and collect information on reasons for migration.

### *Conceptual and measurement issues*

433. In countries where women tend to migrate shorter distances than men do, measurements limited to migration between states or provinces are likely to underreport women's level of mobility.

434. Data on lifetime migration tend to overestimate the share of women among migrants, simply because women tend to live longer than men. Therefore, data on lifetime migration should be disaggregated by age or, alternatively, data on recent migration should be used. Focusing on lifetime migration may also provide an incomplete picture of gender differences in migration, in situations in which short-term migration tends to be associated with one of the two sexes.

## International migration

Table II.32

### From gender issues to gender statistics on international migration: illustrative examples

Policy-relevant questions	Data needed	Sources of data
Do women migrate to the same destinations and for the same reasons as men?	International emigrants by sex, age, purpose of leaving the country of origin and country of destination.  International immigrants by sex, age, purpose of entering the destination country and country of origin.	<i>In countries of origin:</i> Population registers. Administrative records, including border or passenger records.  <i>In countries of destination:</i> Population registers. Administrative records, including border, admission or passenger records, and surveys at the border or port of entry.
Are tertiary-educated women as likely to emigrate as tertiary-educated men?	Total population in the country of origin and international emigrants by sex, age and educational attainment.  Migrant stock by sex, age, educational attainment and country of origin.	<i>In countries of origin:</i> Population censuses, population registers and other administrative records, including border or passenger records.  <i>In countries of destination:</i> Population censuses. Household surveys.
Do women or men tend to send a larger proportion of their income to their countries of origin?	Share of remittances in total income of migrant by sex of the immigrant and country of origin.	<i>In countries of destination:</i> Household surveys.

### Gender issues

435. Gender roles and expectations in countries of origin and countries of destination have an effect on the decision to migrate and on the sex composition of various types of migration flows. In many cases, men make autonomous decisions to migrate, while women migrate as part of family strategies (United Nations, 2006). However, women are migrating on their own in increasing numbers, and not only to accompany or join family members. In Organization for Economic Cooperation and Development (OECD) countries, for example, the share of women has increased in recent migration flows in countries where labour migration plays an important role in addressing needs in the domestic service and long-term care sectors (OECD, 2008). In some of the countries with opportunities for jobs traditionally considered “female” types, many women are able to secure jobs more rapidly than their partners, who later follow with the children (UNDP, 2009). However, in countries that permit only temporary migration and when admission is limited to occupations dominated by men (for example, construction workers or miners), the share of men among immigrants may be higher (United Nations, 2006).

436. At the global level, about half of international migrants are women, a share slightly higher than in the past (United Nations, 2010a, 2010b). However, there are great variations by region. For example, countries in Africa, West Asia and South Asia have a lower share of women among migrants (United Nations, 2010a, 2010b). The share of women among migrants in OECD countries is higher among migrants from Asia and lower among migrants from Africa and some countries in Latin America (OECD, 2008). The relative propensity of women in Latin American countries to migrate across international borders is higher in matriarchal societies (such as the Dominican Republic and Nicaragua) and lower in those that are patriarchal (such as Costa Rica Mexico) (Massey, Fischer and Capoferro, 2006; OECD, 2008). Furthermore, being married or in a union greatly reduces the probability of migration for women living in patriarchal societies, while there is no such effect in a matriarchal context.

437. The share of women in migrant population varies by age (United Nations, 2010a). The share of women is lowest among international migrants aged 30 to 39 and highest among international migrants aged 60 and above. The higher share of women among older international migrants is a result of the fact that women tend to have lower mortality rates than men. Among international immigrants of working age (20 to 64), women slightly outnumber men

only in developed countries, while men outnumber women in developing countries. Among older migrants, aged 65 and above, women outnumber men in both developed and developing countries. The excess of older migrant women is more marked in developed countries compared to developing countries.

438. Highly-skilled emigration rates to developed countries are higher for women than for men for almost all countries of origin, raising concerns about the gender dimension of the brain drain in the less developed regions (OECD, 2008). In particular, average emigration rates of tertiary-educated people are much higher for women than for men from Africa and Latin America. For the most part, however, labour market opportunities for migrant women from developing countries tend to be highly concentrated in services and care activities, paid domestic work and the informal sector. These jobs provide low wages, few benefits and limited career opportunities to women, reinforcing their social disadvantages (UNDP, 2009).

439. Compared to men, women tend to send a larger proportion of their income home, and on a more regular basis, perhaps because of gender expectations regarding the support of parents (UNDP, 2009). However, because women often have lower wages than men, the absolute amounts of money are smaller.

440. Migration can be an empowering experience for women when they move from situations where they are under traditional, patriarchal authority to situations in which they can exercise more control over their own lives (United Nations, 2006). Migrants may adopt new norms related to marriage at an older age, lower fertility or greater expectations for their girls' education and labour force participation. Women may enjoy a more equal distribution of household tasks and greater empowerment in general. These changes are more likely to take place where women are integrated into the host societies and their roles are not limited to housekeeping and child-rearing. Some of the changes may affect not only the immigrants in the host countries but also the communities in their home countries, through a process of cultural diffusion of gender roles and expectations within and outside the family (United Nations, 2006).

441. In countries of origin, women who remain behind when their husbands or children migrate often have to take on new roles and increase their participation in decision-making in their households and their communities (United Nations, 2006; UNDP, 2009). Some of these gains, however, may be reversed when the male migrants resume their position as head of the household upon their return (UNDP, 2009).

### *Data needed*

442. International migration statistics produced by a country usually refer to inflows and outflows of international migrants and stocks of international migrants. The definition of an international migrant in the official statistics varies across countries: the criteria usually taken into account includes the duration of the stay abroad and either the country of birth or the country of citizenship. Several types of statistics can be used. They are:

- a) Statistics on flows of international migrants (over the course of a specified period, usually a calendar year), such as:
  - i) Incoming international migrants by sex, age, country of citizenship and previous country of usual residence. These data can be disaggregated by reason for admission for foreigners or non-citizens, and by purpose of staying abroad for returning migrants;
  - ii) Departing international migrants by sex, age, country of citizenship, future country of usual residence and purpose of migration;
- b) Statistics on stocks of international migrants, derived by countries based on country of birth or citizenship. Some examples of statistics related to lifetime migrant stocks and recent migrant stocks include:

- i) Statistics on lifetime migrant stocks:
  - a. Population by sex, age, and country of birth;
  - b. Population by sex, age and country of citizenship;
  - c. Population by sex, age, citizenship status (citizen, foreigner/non- citizen, unknown citizenship) and country of birth;
  - d. Citizens currently living abroad by sex, age, country of destination and year or period of departure.
- ii) Statistics on recent migrant stocks:
  - a. Foreign-born population in the country for less than five years by sex, age and country of birth;
  - b. Foreign-born population in the country for less than five years by sex, age, and previous country of usual residence.
- iii) When possible, the statistics on international migration stocks should be further disaggregated by marital status, educational attainment, employment status, status in employment and occupation. This will allow for the assessment of gender differences in migration propensity for various population groups, and differences in gender gaps in education and work between the migrant population on one side and, on the other side, the overall population in the country of origin or in the country of destination.
- c) Additional statistics and information necessary to understand the consequences of international migration on families of origin and women's empowerment, such as:
  - i) International migrants sending remittances to their countries of origin by sex of migrant. Additional breakdowns that should be considered are age, duration of the stay abroad, marital status of the migrant and the family relationship of the recipient with the migrant, such as family member (spouse or children), parent, siblings or others.
  - d) Although important, statistics showing the effect of international migration on the empowerment of women are more difficult to produce as part of a regular programme of official statistics. When the subject is the empowerment of women migrants, the statistics needed may have to be based on data that are produced in both countries of origin and countries of destinations. Such studies would compare, for example, the demographic behaviour (fertility or use of modern contraception, for instance) of migrant women with the demographic behaviour of women of the same age and educational attainment in the countries of origin. The empowerment of women in the community of origin may also be difficult to capture through official national statistics. In this case, more in-depth studies of small areas that have a high prevalence of international emigration may be a more efficient tool for understanding some of the gender-specific consequences of migration in communities of origin.

**List II.32****Examples of indicators derived from gender statistics on international migration**

- Share of women among international migrants of working age
- Emigration rates for tertiary-educated persons by sex
- Gender gap in employment-to-population ratio for immigrants and non-immigrants
- Proportion of employed migrants in professional occupations by sex
- Proportion of income sent by migrants to their countries of origin by sex of the migrant

*Sources of data*

443. Population censuses are used to collect data on international migrant stock residing in the country at the time of census. The characteristics used to identify international migrants in the population censuses include place of usual residence, place and country of birth, place of previous residence and citizenship. Duration of residence, place of residence at a specified date in the past (such as five years prior to census) or year or period of arrival can be used to identify recent migrants. Some population censuses are also used to collect data related to emigrant stocks by inquiring about household members living abroad or about country of residence of children or of siblings.

444. Household surveys specific to international migration, carried out in the country of origin or country of destination, can provide in-depth information necessary to understand causes and consequences of international migration. Household surveys on international migration in the country of origin are focused on collecting (a) socioeconomic characteristics for the comparison of emigrants and their households with non-emigrants and their households; (b) basic characteristics of emigrants' departure; and (c) basic information about remittances sent by the emigrant. In countries with high emigration rates and high return migration rates, more specialized surveys may be conducted to assess the impact of return migration on migrants, their families and their communities.

445. In the country of destination, household surveys are focused on immigrant population. These surveys can be used to collect data on the international migration history of individuals, their integration in the host country and more detailed information on remittances sent in the country of origin. It should be noted that household surveys are the only source of sex-disaggregated data on remittances. Specialized surveys on remittances may be conducted in some countries of destination.

446. Some studies may use a two-country approach in collecting or analysing data on migration, which requires one survey in the country of destination and one survey in the country of origin.

447. Questions on migration may be included in regular household surveys with large samples, such as labour force surveys, although the number of migration-specific questions that can be added are limited, restricting what can be learned about causes and consequences of migration. The most basic questions on international immigration refer to country of birth, country of residence at a specified time in the past and date of arrival in the host country. Other household surveys such as living standards surveys, may also be used to collect data on international immigration or emigration.

448. Population registers and other administrative registers, such as registers of foreigners and registers of asylum seekers, if continuous and complete, are a valuable source of data on international migrant stock and inflows and outflows of international migrants. However, some immigrants may not be recorded in the population registers because they do not have legal permits (illegal immigrants, for example).

449. Administrative records related to visas granted, work permits, residence permits and records from regularization programmes provide data that can be used to estimate the flow of certain types of migrants in and out of a country.

450. Border, admission or passenger records of the entry into or departure from a country are another source of data on international migration flows for all persons formally entering or leaving a country. Surveys at the border or ports of entry, including passenger surveys, are also used by some countries to collect more in-depth information about persons entering or leaving the country.

*Conceptual and measurement issues*

451. In general, data on international migration are lacking in terms of availability and quality. In addition, although data are increasingly made available disaggregated by sex and age, other information necessary to understand gender-specific causes and consequences of international migration are not easily available. For example, data are often not collected, disaggregated and disseminated according to reason for international migration, such as labour, asylum, family reunion or education, which may be different for women than for men. Additional characteristics of the migrants that may also be different for women than for men, such as education, status in employment or occupation, are not readily available either. Lastly, information on how women and men migrants are contributing to changes in the families and communities of origin and how women migrants themselves are affected in terms of empowerment and family life are the result of a few case studies rather than of regularly produced official statistics.

452. Data on lifetime migration and migrant stock as opposed to recent migration tend to overestimate the share of women among migrants because of the ageing effect. The share of women in a given age-cohort of migrants will increase over time simply because women tend to have lower mortality rates than men. Data on lifetime migration, therefore, should be disaggregated by age or, alternatively, data on recent migration should be used. Focusing on lifetime migration may also provide an incomplete picture of gender differences in migration when short-term migration, temporary migration or circular migration tends to be associated with one of the two sexes.

**Refugees and internally displaced persons****Table II.33**

**From gender issues to gender statistics on refugees and internally displaced persons: illustrative examples**

Policy-relevant questions	Data needed	Sources of data
Do women and men refugees have the same types of living arrangements?	Refugees by sex, type of accommodation and type of household.	Population censuses. Refugee registers or other administrative records.
Do women and men participate equally in the administration of refugee camps?	Refugees participating in camp-level decision-making by sex.	Administrative records related to refugee camps.
Do women and men asylum seekers / refugees have equal access to individual identity documentation?	Asylum seekers / refugees and individually registered asylum seekers / refugees by sex.	Combination of refugee registers, administrative records and population censuses.
Do all women of reproductive age in refugee camps have access to sanitary supplies?	Women of reproductive age living in refugee camps and women provided with sanitary supplies.	Administrative records related to refugee camps.
Do refugee girls and boys have equal access to schooling?	Enrolled refugee pupils / students and refugee population by sex, age, grade and level of education. School attendance for refugee children by sex, age and level of education.	School administrative records combined with information on population from censuses and surveys Population censuses. Surveys focused on refugee camps, or Internally Displaced Persons profiling surveys.

*Gender issues*

453. Refugee and internally displaced women and girls are less likely than men and boys to have access to some of the most fundamental human rights. These include their right to food, health care, shelter, nationality and documentation. Some of the challenges faced by women and girls in these situations are similar in nature to those faced by women and girls in all societies, albeit influenced by displacement. Other challenges are specific and unique to their displaced status.

454. Women and girls represent slightly less than half of the refugees worldwide United Nations High Commissioner for Refugees (UNHCR), 2011. Women are underrepresented among asylum seekers, have the same share as men among internally displaced persons, and

are slightly overrepresented among the stateless persons. In some countries, such as those in Asia, men represent the majority of the refugee population, either because women remain behind in the country of origin or because women may be more likely to find work as domestic servants and not register as refugees (UNHCR, 2011). In other countries, such as those in Central Africa, however, women represent more than half of refugees (UNHCR, 2011). In such cases, men more often tend to find jobs out of the camps, while women remain living in the camps, taking care of the children and preparing food for their families.

455. Refugee and internally displaced women and girls are particularly vulnerable to sexual violence and exploitation (United Nations, 2006). No one is spared the violence, but women and girls are particularly affected because of their status in society and their sex. Gender-based violence – including rape, forced impregnation, forced abortion, trafficking, sexual slavery and the intentional spread of sexually transmitted infections, including HIV/AIDS – is one of the defining characteristics of contemporary armed conflict. Women's vulnerability to rape and sexual assaults continues during flight from their homes and at border crossings. Women and girls are increasingly seeking protection in other countries; however, compared to men, they more often lack documentation, the means to travel and/or knowledge about their rights (UNFPA, 2006). Forced to resort to smugglers and to use perilous routes to reach safety, women and adolescent girls may also be forced to offer sex to border guards and others in return for permission to pass, and are at greater risk of being trafficked into prostitution and other forced labour.

456. Vulnerability to sexual violence and abuse remains high in many refugee camps, particularly in camps that are overcrowded and have inadequate security and a lack of separate and distinctly placed sanitation and bathing facilities for women and for men (United Nations, 2006). Lack of, or biases in, judicial systems and/or in traditional justice mechanisms often leave women with no redress or result in further stigmatization and discrimination. Walking long distances out of the camps to collect water and firewood for cooking and heating may also expose women to the threat of rape. Single women or unaccompanied girls in collective centres may be at higher risk of abuse or violence if they are not housed separately from men or if there is not sufficient privacy. Too often, unaccompanied or separated girls fall victim to traffickers and disappear in the course of the asylum-seeking process.

457. Refugee women without individual documentation of their status in the host countries are more vulnerable to general abuse. Women who are not registered and/or have no individual identity documents are either dependent upon male family members for access to food, assistance or essential services or have no such access. Girls who are not registered are at greater risk of sexual exploitation, early and forced marriage, slavery, trafficking, permanent separation from their families, unauthorized and illicit adoption and other human rights abuses. Some displaced women and girls are virtually imprisoned indoors, fearing arrest and deportation or the wrath of their husband, father, male siblings or other relations if they leave their homes.

458. Status inequality and gender-differentiated roles increase the vulnerability of refugee and internally displaced women to abuse and hardship (United Nations, 2006). For example, women may not participate equally with men in the administration of camps and in the formulation and implementation of assistance programmes, leading to negative effects on equal access to food or other essential items, as well as on the health and education of children. When access to food is limited, some refugee women are forced to provide sexual favours to obtain food rations for themselves and their families. Refugee and displaced women may also have more difficulties in finding adequate jobs and be at risk of exploitation.

459. Staying in school and completing their education tend to be more difficult for refugee girls than boys, especially in secondary schools (UNHCR, 2011). The reasons for low educational participation for girls are often related to limited or difficult school access, the presence or fear of an unsafe learning environment, financial constraints that require girls to contribute to family economies, lack of documentation or cultural assumptions about the value of edu-

cating girls (UNHCR, 2011). In particular, adolescent girls may drop out of school owing to reasons such as early marriage, lack of parental guidance, poverty and insecurity, as reported for Dadaab refugee camp in Kenya (UNHCR, 2011). Female refugee teachers are recognized as crucial in increasing safety in school, especially for girls, and in preventing sexual exploitation and abuse, including trading sex for grade promotion. However, female refugee teachers represent only a small minority among all refugee teachers (UNHCR, 2011).

460. Returning in communities of origin often entails new hardship for women and girls. Owing to gender discriminating laws and customs in the country of origin, returning refugees and internally displaced women, particularly widows, may face specific difficulties in reclaiming property in post-conflict situations. Women may be excluded from peace processes and continue to suffer violence and discrimination in reconstruction and rehabilitation activities. In the absence of male relatives, especially following conflict, women and girls may assume non-traditional roles and face discrimination and prejudice as a result. Women may also find themselves face-to-face with their rapists and attackers and be forced to live in fear and silence, as cultural taboos and the absence of support have kept the crimes hidden and protected the perpetrators.

#### *Data needed*

461. Data on refugees and internally displaced persons may refer to:

- a) Refugees / asylum seekers / stateless persons by sex, age, type of living quarters / accommodation, urban/rural areas and country of origin;
- b) Internally displaced persons by sex, age, type of living quarters / accommodation, urban/rural areas and place of displacement;
- c) Individually registered asylum seekers / refugees by sex and age;
- d) Refugees living in camps involved in camp-level decision-making by sex.

462. The statistics above, although often unavailable or with incomplete coverage, can provide basic demographic information on refugees, asylum seekers and internally displaced persons. When available, information on marital status, type of household and labour force status should be obtained and used as breakdown variables.

463. In addition, sex-disaggregated data on access to education, health and nutrition is particularly important to monitor the situation of refugee children. For adults, sex-disaggregated data on sexual behaviour related to HIV prevention and access to health services, including reproductive and maternal health care and support for victims of violence, should be obtained.

#### **List II.33**

##### **Examples of indicators derived from gender statistics on refugees and internally displaced persons**

- Share of women among refugees
- Proportion of refugees and asylum seekers registered individually by sex
- Proportion of refugee children aged 12 to 23 months receiving measles vaccines by sex
- Proportion of underweight children among refugee children aged 24 to 59 months by sex
- Proportion of needs met for sanitary materials
- Share of girls among out-of-school refugee children of primary school age
- Share of women among members of camp management committees

**Note:** See UNHCR (2010a) (2010b) and (2010c) for a complete list of indicators related to the well-being of refugees and internally displaced persons.



464. Furthermore, qualitative and quantitative information based on case studies and reports is necessary to understand gender-specific problems and difficulties faced by refugees and internally displaced persons, including violence, sexual abuse, economic dependency and lack of economic opportunities.

### *Sources of data*

465. Refugee and asylum seeker registers are the most frequently used sources of data on refugees and can provide information on individual characteristics such as sex, date of birth, marital status, country of origin and place of displacement. They may also provide information on specific needs of individuals or family or household characteristics. Registers that are continuous are particularly valuable because they allow for regular follow-up of individuals. Nevertheless, this source of data overlooks refugees that are not able or willing to be registered.

466. Population censuses may be used to collect data on refugees living in camps. Compared to registers, censuses can provide more comprehensive data on individual and household characteristics, including on migration, education, work and living arrangements. However, because censuses are usually conducted only every 10 years and because they do not allow for regular follow-up on individuals, the information obtained quickly becomes outdated.

467. Internally Displaced Persons profiling surveys can provide information on individuals and households in certain displaced or affected populations.

468. Surveillance systems targeted to refugee camps can be used to provide information on health and mortality (UNHCR, 2010a). HIV Behavioural Surveillance Surveys were conducted, for example, in 2010 in Kenya, Uganda and the United Republic of Tanzania (UNHCR, 2011).

469. Administrative records are an important source of information on access of refugees to education and health services. Additional administrative records focused on the population in camps can be used as a source of information on nutrition and supplementary feeding or management of camps.

### *Conceptual and measurement issues*

470. Gender statistics on refugees and internally displaced persons are generally lacking and, most often, the data available refer only to the total number of refugees and internally displaced persons by sex and age. Still, even sex- and age-disaggregated data are available for less than two thirds of refugees counted by the Office of the United Nations High Commissioner for Refugees (UNHCR, 2011). In some cases more detailed data are collected but not disseminated. For example, population censuses are often used to collect data on demographic, social and economic characteristics for refugees living in camps, including data on migration, living arrangements, education and work. However, little of what is published goes beyond sex and age of those women and men refugees. With regard to some issues, data may not be collected at all, either because of field difficulties or because there are no guidelines and standards of data collection. Sexual violence and abuse, access to food and other basic necessities, for instance, are among the most difficult topics on which to collect data in such situations.

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## Violence against women

471. This section covers three subtopics: physical and sexual violence against women, female genital mutilation and human trafficking.

### Physical and sexual violence against women

**Table II.34**

From gender issues to gender statistics on physical and sexual violence against women: illustrative examples

Policy-relevant questions	Data needed	Sources of data
How widespread is physical or sexual violence against women? What groups of women have a higher prevalence of this type of violence?	Women who have experienced physical and/or sexual violence in the past 12 months and during their lifetime. As much as possible, data should be disaggregated by age, relationship to perpetrator, educational attainment, ethnicity, migration status, wealth status of the household, urban/rural areas and geographical areas.	Violence against women surveys. Module on violence against women attached to household surveys, such as DHS or other health or social-related survey.
How often do victims of violence against women report the violence incident or access other services of support?	Women who have experienced violence in the past 12 months by type of violence, severity of violence and type of services accessed.	Violence against women surveys.
What are women's and men's attitudes toward wife-beating? In their view, is wife-beating in certain circumstances justified?	Persons agreeing with a statement that wife-beating is justified in certain circumstances by sex.	Household surveys, such as DHS. Violence against women surveys.

### *Gender issues*

472. Physical and sexual violence against women is widespread, with prevalence levels varying considerably across countries (Garcia-Moreno and others, 2005; United Nations, 2010). The majority of women physically or sexually abused are abused by their own intimate partners. Many women who are victims of physical or sexual violence by their own intimate partners experience acts of violence more than once. Lifetime experience of sexual violence is reported as lower than physical violence in some countries, while higher in others.

473. Non-partner physical or sexual violence against women also varies widely among countries; however, it is less frequent than partner violence. For physical violence, commonly mentioned perpetrators include fathers and other male or female family members; in some countries, teachers are also frequently mentioned (Garcia-Moreno and others, 2005). For sexual violence, the perpetrators usually include strangers, male family members other than fathers, or male friends of the family. Early sexual abuse (before the age of 15) is often linked to a male family member other than the father or the stepfather (Garcia-Moreno and others, 2005).

474. Sexual harassment, taking place in the workplace or in other public spaces, tends to be less often reported and less often captured in statistics. Similarly, psychological and economic violence are also not reported as often as physical and sexual violence, but affect the well-being of many women. Women with physically and sexually abusive partners, for instance, may experience controlling behaviour such as the restriction of contact with her family and friends, insistence on knowing where she is at all times and the control of her access to health care.

475. Some groups of women may be particularly vulnerable to violence. The type of groups of women most at risk may vary from one country to another. For example, in some countries, a woman's younger age at marriage is associated with higher prevalence of violence. Forced first sex is often associated with early age at first sex and, in some countries, is linked to sexual initiation in the context of early marriage (Garcia-Moreno and others, 2005). Lower educational attainment, in some countries, is also associated with higher prevalence of violence. Other groups of women are also considered to be vulnerable to violence, although the

available data is limited. Indigenous women, women from ethnic minorities, poor women, migrant women, older women and women with disabilities, for example, may, in some countries, be subjected to violence more often

476. Violence against women that occurs within the family or within the home is tolerated in many contexts. Attitudes towards wife-beating vary across countries (Hindin, Kishor and Ansara, 2008; United Nations, 2010). In some countries, women who justify wife-beating are a small minority, while in other countries they are the majority. Acceptance of wife-beating tends to be higher among women who have experienced abuse than among those who have not (Hindin, Kishor and Ansara, 2008). Also, in some countries, less educated women are more likely to embrace such attitudes than women with a higher level of education (Uthman, Lawoko and Moradi, 2009).

477. Nevertheless, men are also vulnerable to violence, although they are less likely than women to be victims of violence, especially victims of domestic violence. Over the life course, men's vulnerability to domestic violence may be more pronounced in childhood, adolescence and at older ages; vulnerability to violence by non-family members may be more pronounced for young men.

### *Data needed*

478. Several types of data can be used to analyse physical and sexual violence against women. They are:

- a) Statistics on prevalence of violence against women, such as:
  - i) Victims of physical violence in the past 12 months and victims of physical violence during lifetime;
  - ii) Victims of sexual violence in the past 12 months and victims of sexual violence during lifetime;
  - iii) Victims of physical or sexual violence in the past 12 months and victims of physical or sexual violence during lifetime; The data above should be further disaggregated by sex, age, sex of the perpetrator, relationship with the perpetrator, frequency and/or severity of violence and types of injuries. Violence during lifetime may be collected separately for two age groups: 15 and above, and 15 and under.
  - iv) Victims of psychological violence in the past 12 months by sex, age, sex of the perpetrator and relationship with the perpetrator;
  - v) Victims of economic violence in the past 12 months by sex, age, sex of the perpetrator and relationship with the perpetrator;
  - vi) Victims of sexual harassment in the past 12 months by sex, age, sex of the perpetrator, relationship with the perpetrator and place of harassment.

Additional breakdowns should be considered for statistics on prevalence of violence against women, such as urban/rural areas, geographical areas, ethnicity and migration status. Indicators of women's empowerment, such as educational attainment, property ownership and paid employment, should also be used.

- b) Statistics on use of services by victims of violence, such as:
  - i) Victims of violence by sex and age, type of violence, severity of violence, and type of services accessed (health, police, women's NGOs, social services). Data on satisfaction with the services accessed should be included, if possible. Additional breakdowns should be considered, such as urban/rural areas, geographical areas, ethnicity and migration status. Indicators of women's empowerment, such as educational attainment, property ownership and paid employment, should also be used;

- c) Statistics on reported incidents of violence, such as:
- i) Physical or sexual violence reported to the police by sex and age of the victim, type of violence, sex of the perpetrator and relationship with the perpetrator;
  - ii) Victims reporting violence and accessing medical treatment in health facilities by sex and age of the victim and type of violence;
- d) Statistic on attitudes towards violence against women, such as:
- i) Persons considering that wife-beating for specific reasons is justified by sex and age. Specific reasons that have been used in surveys such as DHS include burning the food, arguing with the husband, refusing to have sex, going out without telling the husband and neglecting the children. Additional breakdowns should be considered, such as urban/rural areas, geographical areas, ethnicity and migration status. Indicators of women's empowerment, such as educational attainment, property ownership and paid employment, should also be used.

**List II.34****Examples of indicators derived from gender statistics on physical and sexual violence against women**

- Proportion of women aged 15 to 49 subjected to physical or sexual violence in the past 12 months by an intimate partner
- Proportion of women aged 15 to 49 subjected to physical or sexual violence in the past 12 months by persons other than an intimate partner
- Proportion of women who consider that wife-beating is justified for reasons such as going out without telling the husband

**Note:** See United Nations, Economic and Social Council (2009) and United Nations (2013) for a complete list of indicators related to violence against women.

*Sources of data*

479. Dedicated surveys on violence against women are the preferred method of collection of data on violence against women. Although these specialized surveys can be relatively expensive, they provide an opportunity to collect more detailed data by exploring the topics in depth. They also suffer less from underreporting, owing to the careful selection and focused training of the interviewers. These surveys can provide information on the prevalence of various forms of violence against women and girls, including those occurring in the family or within the general community, characteristics of the victims and their households and characteristics of the perpetrators and their relationship to the victim. Information on violence against women related to intimate partner is the most widely collected. In some countries, surveys may collect data not only on violence against women, but also on violence against men (see also the section entitled “Surveys on violence against women” in chapter 3).

480. Modules on violence against women in health-related surveys, such as DHS or selected multipurpose surveys focused on social issues, can also be used to collect data on violence against women. Health surveys are a good vehicle for violence against women modules because they usually cover other similarly sensitive topics. In any surveys, however, attention should be paid to ethical issues and confidentiality, as well as to the safety of the respondents and interviewers, ensuring that the special features of the violence against women surveys are considered (such as the special training of interviewers and support to victims).

481. Administrative police and court records can provide information on reported incidents of violence. Although these sources have a limited value in estimating the prevalence of violence against women (a large proportion of incidents usually remain underreported), they

are a valuable source of data on the use of services and the capacity of the system to respond to the problem.

482. Health administrative records may provide information on some forms of violence that required victims to seek treatment in hospital emergency rooms, family clinics or other health-care providers. They are an important source of information on the use of health services by victims of violence.

483. Administrative records from public, private or non-governmental agencies that provide support services to women victims of violence may provide data on the use of their services by victims of violence. The agencies usually included are emergency shelters, crisis centers, sexual assault /domestic violence phone lines, women's NGOs and legal counsel and legal aid services.

### *Conceptual and measurement issues*

484. Surveys on violence against women may not adequately cover women who are particularly vulnerable to violence. Women belonging to minority groups, indigenous women, refugees, women migrants and older women are a relatively small proportion of the population and tend to be harder to reach. As a result, those groups of women are often not present in the sample in big enough numbers to allow for calculations and analysis of their specific levels of prevalence of violence.

485. Use of specific and detailed questions on various forms of physical, sexual, economic or psychological violence and focused training of interviewers increase the accuracy of statistics on violence against women. The use of a set of questions in the surveys instead of one general question reduces the chances of underreporting of violence and increases the comparability of statistics over time and by various groups of population. One of the concerns related to the use of modules on violence against women in existing household surveys is the increased likelihood of underreporting of violence. It is important that the modules used have an adequate number of well-tested questions rather than just a few added questions. In addition, it is important that interviewers are provided with additional training focused on violence against women. For more details on improving data collection in violence against women surveys, see the section entitled "Violence against women surveys" in chapter 3 of this manual, as well as United Nations (2014).

486. Police and court statistics usually tend to underestimate the prevalence of violence against women. Police and court records are necessarily based on the law, such as the penal or criminal code and family violence law or domestic violence law. If there is no law that qualifies or specifies acts against women as a crime, then there is no legal basis for filing a complaint. Even where a law exists, it is widely recognized that only a small proportion of crimes of violence against women makes their way into the administrative records of criminal justice systems. Violence against women occurring within the family may not be reported either because it is considered normal and is therefore tolerated or for such reasons as fear of reprisal, stigma, distrust of the police or legal system or lack of knowledge of legal rights. Violence against women in the general community is also likely to be underreported. Many women victims of rape, physical or sexual assault or sexual harassment do not report those crimes to the criminal justice system because of fear of reprisal, stigma or fear of not being believed or even of being blamed.

487. Some police and court statistics may not be disaggregated by basic characteristics such as sex, age and relationship between the victim and the perpetrator.

488. Statistics based on health records may underestimate violence against women because the victims may not identify the violence as the underlying cause of their injury or because not all health-care providers may record this type of information.

489. Surveying populations under the age of 15 on violence poses safety and ethical issues, including challenges of laws requiring mandatory reporting if minors report abuse. Consent forms and ethical guidelines may need to be developed (see Reza and others (2007) for examples).

## Female genital mutilation

**Table II.35**

**From gender issues to statistics on female genital mutilation: illustrative examples**

Policy-relevant questions	Data needed	Sources of data
Is female genital mutilation (FGM) practiced in the country? Is there evidence for the decline of FGM prevalence?	Women who have undergone FGM by age or within two cohorts (mothers and daughters). Alternatively, statistics for two points in time can be used.	Household surveys, such as DHS and MICS.
What groups of women are more likely to have undergone FGM?	Women who have undergone FGM by age, ethnicity, religion, educational attainment of the mother, urban/rural areas and geographical areas.	

### *Gender issues*

490. Girls and women face particular health risks as a result of harmful practices such as female genital mutilation (FGM). FGM involves the partial or total removal of the female external genitalia or other injury to the female genital organs for non-medical reasons. The procedure is generally carried out on girls between the ages of 4 and 14; it is also done to infants, women who are about to be married, and, sometimes, to women who are pregnant with their first child or have just given birth. FGM is mostly practiced in African countries and some countries in the Middle East. The proportion of women who have undergone FGM varies greatly across countries where female genital mutilation is practiced, from levels less than one per cent to almost universal coverage of women of reproductive age. Although available data are incomplete, it appears that there have been small decreases in the extent of FGM in recent years. Data also indicate a decline in the average age at which FGM is carried out and a growing tendency for FGM to be carried out by health professionals (UNICEF, 2005).

491. The practice of female genital mutilation is rooted in cultural factors, therefore its extent may vary according to various characteristics, such as rural/urban areas, geographical areas, ethnic or religious groups, and education. Within a country, ethnicity appears to have the strongest influence over the incidence of FGM. Other factors are also important. The incidence of FGM is lower in the younger groups of women, although not in the countries with the highest prevalence of FGM. Women with higher education are generally less likely to have their daughters circumcised, though not in all countries (UNICEF, 2005). Women living in urban areas tend to have lower prevalence of FGM compared to their rural counterparts.

### *Data needed*

492. Data used to analyse female genital mutilation are:

- a) Women who have undergone FGM by current age, age at FGM, type of FGM and type of practitioner who did the cutting;
- b) Women with at least one daughter who has undergone FGM by current age of the daughter most recently circumcised, age of daughter at FGM, type of FGM and type of practitioner who did the cutting;

- c) Other statistics on perceptions, reasons and attitudes towards FGM (such as support, benefits, drawbacks, health consequences and rationale for doing female genital mutilation) may be collected.

493. Additional breakdowns commonly used for statistics on female genital mutilation are urban/rural areas, geographical areas, ethnicity, religion, educational attainment of the mother and wealth.

#### List II.35

##### Examples of indicators derived from gender statistics on female genital mutilation

- Proportion of women aged 15 to 49 years who have undergone FGM
- Proportion of women aged 15 to 24 years who have undergone FGM

#### Sources of data

494. Household surveys, such as DHS and MICS, are usually used to collect data on female genital mutilation for women of reproductive age and their daughters.

#### Conceptual and measurement issues

495. Female genital mutilation may be underreported in countries with legislation against FGM. In such cases it is important that questions referring directly to female genital mutilation are avoided, if possible. Alternative questions may be used, specific to each country. For example, in the MICS surveys carried out in Sierra Leone and Liberia, the questions designed to measure FGM referred to “initiation in women-only societies”.

496. Age and other information related to FGM may be misreported. For example, recall errors are more frequent in cases where FGM occurred during early childhood. Other errors may be frequent in contexts where FGM involves multiple procedures taking place in different stages of life.

## Human trafficking

Table II.36

### From gender issues to statistics on human trafficking: illustrative examples

Policy-relevant questions	Data needed	Sources of data
Are women and girls overrepresented among victims of trafficking in persons? Are they more likely to be sexually exploited or subjected to forced labour?	Identified victims of human trafficking by sex, age and type of exploitation.	Administrative records, such as criminal justice records and service providers' records.
Are women or men more likely to be convicted for trafficking in persons?	Offenders convicted for trafficking in persons by sex.	Criminal justice records.

#### Gender issues

497. Women and girls represent the majority of people trafficked for sexual exploitation or subjected to forced labour (UNODC, 2009). Human trafficking is defined as the recruitment, transportation, transfer, harbouring or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation. The types of exploitation include forced prostitution and other forms of sexual



exploitation, forced labour and services, slavery and similar practices, involuntary servitude and the removal of organs. Trafficking for sexual exploitation is the most common form of human trafficking and it primarily affects women and children. However, women are disproportionately demanded and trafficked not only for commercial sex but also for domestic service.

498. Women play an important role as perpetrators of human trafficking. Women tend to make up a larger share of persons convicted for human trafficking offences than for other forms of crime. In some countries, women represent more than half of persons convicted for trafficking persons.

### *Data needed*

499. Data used to analyse human trafficking from a gender perspective may refer to:
- a) Identified victims of human trafficking by sex, age and type of exploitation;
  - b) Offenders convicted for trafficking in persons by sex.

#### **List II.36**

##### **Examples of indicators derived from gender statistics on human trafficking**

- Share of women among identified victims of human trafficking for sexual exploitation
- Share of women among identified victims of human trafficking for forced labour

### *Sources of data*

500. Data on human trafficking are usually provided by three types of administrative records:

- a) Criminal justice records are a source of data on victims and offenders of human trafficking that were part of investigations, arrests, prosecutions and convictions;
- b) Service providers' records are a source of data on victims identified by public authorities and sheltered by service providers;
- c) Other administrative records may provide data on foreign victims returned to their countries.

### *Conceptual and measurement issues*

501. Several factors affect the adequacy of gender statistics on human trafficking. They are:

- a) Data available on human trafficking are usually incomplete and based on methodology that varies from one country to another;
- b) Some of the countries that have been able to provide some information on the number of victims or offenders are not yet able to provide basic information about victims and offenders, such as sex, age or citizenship;
- c) Data on human trafficking may be mingled with data referring to smuggling or irregular migrations, which may have a different gender pattern;
- d) Cases of men victims of human trafficking may be more likely to be underdetected, because they are more often trafficked for forced labour.

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## Chapter III.

# Integrating a gender perspective into data collection

## Introduction

502. Integrating a gender perspective into data collection goes beyond recording the sex of the respondent (or household member, reference person or head of the household, for that matter). It entails a review of the data collection process in all its stages – the selection of topics to be covered by the survey or census, questionnaire or form design, sample design, selection and training of interviewers and supervisors, data collection in the field, data coding and data editing – and paying attention to all factors that could potentially lead to a gender bias in the data.

## General model for integrating a gender perspective into censuses and surveys

### *Setting out the objectives of surveys or censuses*

503. The integration of a gender perspective into data collection should be taken into account from the stage of planning the data collection and setting out the objectives of the survey or census. Usually, the objectives of a survey or census are based on several factors: topics and policy issues that need to be addressed, review of previous data collections within the same programme, information available from other data sources, international statistical standards; a country's institutional capacity for collecting data and financial and other resources available. It is important that a gender perspective be incorporated into the review of previous data collections, in terms of both topics covered and the specific implementation, as reflected in data collection instruments and materials. National statistical offices can use their plan for the production of gender statistics to decide what gender statistics are to be collected by the particular survey or census developed at the time and what is to be covered by other sources of data. It is also important for gender specialists to be involved in the process of developing data collection objectives. This process is typically based on extensive consultations between data producers and data users such as technical experts, data analysts, researchers, policy analysts and policymakers. Both gender statisticians and gender specialists representing the point of view of data users and policymakers should be part of the team.

### *Questionnaire design and testing*

504. Within the topics agreed to be covered by the survey or census, relevant gender issues should be identified and gender-specific conceptual and measurement issues should be taken into account (as discussed in chapter II). These elements should be reflected in the questionnaire design, the interviewer's manual and the training of the interviewers and supervisors.

505. The questionnaire design should ensure that gender-specific conceptual and measurement issues are adequately reflected in the questions. The design should benefit from consultations with a wide range of specialists, such as subject matter specialists, classification and coding experts, field supervisors, data processing staff and data analysts. It is important that members of the team designing the questionnaire are knowledgeable of gender issues.

506. The language, terms or phrasing of the questions should not induce gender biases. In particular, the following guidelines are recommended:

- a) The questionnaire should contain very short explanatory notes for the interviewer when needed, with more elaborate instructions, explanations of terms or, in some cases, definitions and key concepts provided in the interviewer's manual;
- b) Probing questions should be used in order to reduce underreporting related to women, both to help respondents remember something that they may have forgotten and to help interviewers properly code the answers to some questions;
- c) Questions should be written out in detail, with the reference period clearly specified. In some cases it may also be helpful to give examples of responses or the complete list of categories of answers;
- d) Potential answers to questions should be categorized and pre-coded in such a way that answers related mainly to women are given the same importance as those mainly related to men;
- e) Questions should be kept as short and simple as possible, free from ambiguity, and use common everyday terms, so that all respondents, regardless of their educational level, have no difficulty understanding them;
- f) Questions should not influence answers or be leading. Keywords in the questions should not apply exclusively to only one of the two sexes (for example, "housewife" or "fisherman") and they should maintain their meaning when translated into major languages of a country.

507. The questionnaire should be field-tested to ensure that both women and men understand the questions in the same way and to detect potential underreporting or other bias related to either women or men.

### *Manuals*

508. Gender-related measurement issues and gender stereotypes should be addressed in the manuals for interviewers and supervisors. Manuals should have detailed explanations on questions that may lead to underreporting or sex-selective underreporting (for example, domestic violence or economic activity); instructions and examples on how to use probing questions or lists (for example, in measuring economic activity); and, where applicable, instructions on how to code the answers (for example, in measuring self-employment or detailed marital status). The general language should be free of gender-based biases or other stereotypes related to the characteristics measured, and the examples given should not reinforce gender stereotypes.

### *Sampling*

509. Samples used should cover all groups of population, households, agricultural holdings or economic units known to have distinct gender patterns. The sample design should also ensure that reliable statistics are produced for both women and men in sufficient detail and allow disaggregation by other characteristics as required for meaningful gender analysis. For example, the sample of a survey measuring status in employment should be large enough to allow for the data to be analysed according to female and male groups of employers or any other categories of self-employed, as well as further disaggregated by age group, rural/urban areas and educational attainment.

### *Selection and training of interviewers and supervisors*

510. The selection and training of interviewers and supervisors are important elements in obtaining reliable gender statistics. Gender-related measurement issues and gender stereo-

types should be addressed in the training for interviewers and supervisors. For example, the training should cover situations in which multiple respondents within the household need to be interviewed to avoid indirect reporting (for instance, in recording literacy) or when information needs to be collected from household members that are most knowledgeable of the issue (for instance, household food consumption or number of children ever born). The training should also include how to handle the interview environment when sensitive questions need to be asked, such as in the case of violence against women, or even in the case of women's earnings. In addition, training should emphasize understanding of general gender issues related to the topics covered by the survey or census and how the data collected will address those issues, so that interviewers and supervisors can cope with issues and problems not specifically addressed in the manuals or training.

511. It is important that the field staff be selected on the basis of competence, and that both women and men be recruited as interviewers or supervisors. Certain types of surveys – such as violence against women surveys – need more careful selection and more extensive training of interviewers. The sex of the interviewer often plays an important part in obtaining certain types of information from the respondents. Women, for example, are more likely to disclose information on sensitive topics such as violence against women or reproductive health to women interviewers than to men interviewers.

### *Data coding and data editing*

512. It is important that gender bias not be introduced into the data at the stage of data coding and data editing. Data coding and data editing are data transformations that improve internal consistency and the conceptual soundness of data. Whenever possible, pre-coded responses are used in the questionnaires, and some of the data coding can be done by the interviewers directly in the field by coding the respondent's answer into the questionnaire. Other coding needs to be done by specialized coders using code books or computer programs, and some of the data errors may need to be fixed through data imputation. It is important that classification and subject matter specialists with training in gender issues be involved in formulating rules for data coding, data editing and data imputation, so that assumptions based on gender stereotypes are avoided.

## **Organization and use of the chapter**

513. The issues described above are general issues that need to be taken into account when mainstreaming gender into data collection; however, depending on the type of data collection, more specific issues will need to be considered. The sections that follow provide guidance on bringing a gender perspective into three major data collection vehicles that yield gender statistics: population and housing censuses, agricultural censuses and surveys and labour force surveys. Time-use surveys and violence against women surveys are also presented but are covered here in less detail, as complete and recent manuals have been dedicated to the topic of these gender-focused data collections.<sup>7</sup> For each of the three sources of data, the chapter addresses the types of topics usually covered in data collection, their relevance for gender statistics and the practices used to improve, from a gender perspective, the data collection.

514. The information in this chapter can be used to take into account gender issues and gender biases in measurement when designing or redesigning surveys or censuses. Therefore, this chapter complements information already existing on data collection through censuses or surveys, and does not serve as a substitute for it.

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<sup>7</sup> For example, the 2014 United Nations publication *Guidelines for Producing Statistics on Violence against Women: Statistical Surveys* and the 2005 United Nations publication *Guide to Producing Statistics on Time Use: Measuring Paid and Unpaid Work*.

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## Population and housing census

### Introduction

#### *Uses of census data for gender statistics*

515. For many countries, the population and housing census is an important source of data for gender statistics. There are several uses of census data for gender statistics. First, the population census is a primary source of benchmark gender statistics, covering not only the settled population but also the homeless population, nomadic groups and the population living in institutions. For example, population censuses provide benchmark information on living arrangements for older women and older men, the composition of immigrant stock by sex and other characteristics, lifetime fertility for older cohorts of women, educational attainment for women and men and gender segregation in occupations.

516. Second, a unique feature of the census is its ability to generate statistics on small areas and small population groups with no or minimum sampling errors. This feature is important for gender statistics because a meaningful gender analysis often requires the disaggregation of statistics by various characteristics. For example, a gender gap in educational or economic characteristics may appear to be modest at the national level, but significant at the level of some population groups or some geographic areas. Large confidence intervals associated with sample surveys often make the comparison across groups difficult. Census data, in contrast, can easily be disaggregated by various background variables: age, religion, language, ethnicity, indigenous people, place of usual residence, marital status or wealth status of the household. For certain population groups or geographical areas, a population census may be the only source of information. For example, women and men belonging to minority groups, such as indigenous groups, migrants or older populations in remote areas, tend to represent a relatively small proportion of the population and tend to be harder to reach in household surveys. As a result, those groups of women and men are often not present in large enough numbers in survey samples to allow for calculations and analysis.

517. Third, population censuses provide population counts for denominators needed to calculate various gender indicators based on data provided by administrative records, such as civil registration systems, school records or unemployment or employment registers. These population counts are usually disaggregated by sex, age and other characteristics collected in both the population censuses and administrative registers. For example, data on the popu-

lation of school-age children by sex and single age group derived from population censuses, combined with information on school enrolment by sex, age, level and grade of education provided by school administrative records, are the basis for calculating gross or net enrolment rates for primary education or secondary education. Data on the female population aged 15 to 49 by age derived from population censuses, combined with data on number of births by age of mother provided by civil registration systems are the basis for calculating total and age-specific fertility rates.

518. Lastly, in countries where civil registration systems have incomplete coverage, population censuses, along with household surveys, have a crucial role in providing gender statistics on fertility, mortality, marriages and migration. Compared to household surveys, population censuses have the advantage of eliminating sampling errors. This is an important feature, especially when measuring rare events such as maternal mortality, because it allows for the analysis of trends over time and in between various groups of population by eliminating the issue of large confidence intervals.

### *Avoiding gender bias in data collection*

519. Gender-based stereotypes can introduce serious biases in census data and the conclusions drawn from those data. There is much that can be done in the preparatory stages of the census to minimize gender-based biases, and this effort should be seen as part of the overall process of quality improvement of statistics. There are two broad types of preparatory activities: those related to census content and those related to census operations.

520. Issues of census content, including what information is sought and how, the definitions and classifications used and the manner in which databases and tabulations are specified, are important to generate data needed to examine questions of gender equity. Producer-user consultations are a key element in defining the objectives and the scope of a census. Such users should be from governmental departments, ministries, universities and other research institutions, the private sector and other organizations (or individuals) representing the economic, social, educational and cultural life of a country. It is important that stakeholders concerned with gender equity be considered among the main groups of users and that they be included among advisory committees and subject-matter groups so that the gender concerns are taken into account from the planning stage of the census.

521. With regard to census operations, particular attention will need to be given to census advertising; the selection, training and supervision of the field staff; and the evaluation of the results through re-interview surveys.

522. Census advertising is an important tool for increasing the completeness of census coverage. The media campaign may be general, directed to all sections of the country and all segments of the population, or it may be aimed at specific segments of the population. Women may be considered a primary target of the advertising, especially in countries where a lot of underreporting is related to women. The choice of the type of media should take into account the fact that women may have easier access to some types of media than others. For example, in certain groups of population women are more likely than men to be illiterate.

523. Women, girls and their contribution to the economy may become one of the subjects of the media campaign. For example, in India, a country which experienced in past censuses the massive underreporting of female members of the household and massive underreporting of women's employment, a gender-specific strategy was designed: "The 2001 census logo, conceived as the flag-bearer for the Census of India, had a woman in front, leading the march into twenty-first century India; a woman enumerator enumerated the President of India, symbolically the first person to be counted in the census. This photograph, which made headlines in both electronic and print media, had the very positive effect of making women visible to the nation in the conduct of the census" (UNFPA, Country Technical Services Team for South and West Asia, 2004).

524. Selection, training and supervision of the field staff involves ensuring that both men and women are recruited to the field staff (as both interviewers and supervisors) and that manuals and training materials cover gender bias issues just as they do other important sources of error (see boxes III.1 and III.2).

### Box III. 1

#### Designing the census questionnaire for better gender statistics: a checklist

- Members of the team designing the questionnaire have been trained in gender-specific measurement issues related to each of the topics covered by the census
- There is a short note on the questionnaire on how to identify the head of household
- Categories of answers for marital status are detailed enough to capture various types of informal unions
- Questions on children ever born and children surviving allow separate answers for each sex
- Questions on fertility and child survival have a short note reminding the interviewer that he or she needs to seek information from the mother or, when the mother is missing, from another female member of the household
- Questions on pregnancy-related deaths have a short note reminding the interviewer that he or she needs to read them for all deaths of women aged 15 to 44
- The reference period for questions on economic activity, recent births, household deaths is clearly shown in the question
- Probing questions are included after the question on economic activity
- There is a short note on the use of activity lists for answering the questions on economic activity
- Questionnaire tests should cover both female and male respondents with different social backgrounds.

### Box III. 2

#### Checklist for preparation of census manuals and training of interviewers

- Both women and men are selected as training instructors and appear as trainers presented in the audio-visual materials
- Gender-related measurement issues are reflected in the manual through descriptive examples and illustrated sketches
- The language and all the examples given in the manual or during training exercises are free of gender-based biases or other stereotypes related to the characteristics measured
- Training examples need to be reviewed so as not to foster gender-based or other stereotypes related to the characteristics measured
- Training provides guidelines regarding sex-selective underreporting or misreporting. Special attention should be dedicated to issues such as:
  - the criteria to identify the household head
  - the recording of the members of the household
  - selecting women as respondents when information on children ever born and children surviving is needed
  - the use of economic activity lists, including lists of own-account productive activities
  - the use of probing questions



525. Post-enumeration and re-interview surveys are important tools for evaluating coverage and content errors in census data collection. These errors refer to the underreporting or incorrect reporting or recording of the characteristics of persons, households and housing units enumerated in the census. From a gender perspective, it is important to make sure that there is no sex-selective underreporting or misreporting in the census. Characteristics referring to household memberships, births, deaths, or economic activity should be as fully reported for females as for males. In that regard, it is important to know whether the sex-selective underreporting or misreporting is the result of poorly phrased questions or instructions, proxy response, the sex of the interviewer or shortcomings related to the training and qualifications of interviewers, or to the result of coding or data entry mistakes. Post-enumeration and re-interview surveys should be used not only to calculate errors and/or correct census counts, but also to improve future data collections. The analysis of results from post-enumeration and re-interview surveys from previous censuses, from a gender perspective, should be used as input in redesigning census questionnaires and manuals and revising training exercises and materials.

## Topics covered

526. The paragraphs that follow show the topics recommended for collection in population and housing censuses (according to United Nations, 2008), their relevance for gender statistics and ways to improve data collection by integrating a gender perspective into data collection. It must be noted that most population censuses will cover only some of those topics. The selection of topics will depend on the needs of national users, alternative sources of data, the level of conceptual precision required to measure some of the topics and the demonstrated experience in collecting accurate data on such topics within the population census.

### *Topics covered by population censuses*

#### **Geographical and internal migration characteristics**

##### **Relevance for gender statistics**

527. For some countries, population censuses may be the only source of gender statistics on internal migration. Information on the place of usual residence combined with information on place of birth, duration of residence, place of previous residence or, alternatively, place of residence at a specified date in the past, disaggregated by sex, can show the different patterns of internal migration for women and men. Among the patterns usually described are migration between rural and urban areas and migration between various regions of a country. Gender statistics in internal migration can be further disaggregated by other characteristics such as educational attainment or occupation. For example, data further disaggregated by educational attainment can show whether gender differences in migration patterns vary according to a person's level of education. Data further disaggregated by occupation can show gender-differentiated patterns in labour migration.

528. Information on the place of usual residence is used to define urban and rural areas and geographical and administrative areas, which are some of the most important breakdown variables for statistics in general and for gender statistics in particular. Urban and rural areas usually provide different ways of life, standards of living, education and employment opportunities and access to information, communication and technology. Women's and men's roles and expectations also vary between urban and rural areas. As a result, gender gaps in education or employment, for example, are different in the two types of residential areas. Similarly, different regions of a country may have different levels of development or different cultures, affecting the lives of women and men in different ways. Information on the place of usual residence can be used as an additional breakdown variable for sex and age disaggregated statistics on education, economic characteristics, household types or fertility, for example.

529. Information on the place of usual residence disaggregated by sex, age and other variables can be used to identify groups of population in need of specific services that need to be provided locally. Examples of such groups are older women and men with disabilities who live in rural areas, or older women and men living alone in areas that are difficult to access.

530. Certain population groups that may be covered only in a population census (although they may be excluded from counting in some cases) are of particular concern from a gender point of view, such as the homeless, nomads, persons living in areas that are difficult to access and refugees in camps. In such population groups, gender differences related to various characteristics may be different from the main population. It is therefore important that population data disaggregated by sex, age and other characteristics are provided for each of these groups.

531. Population counts disaggregated by sex, age and place of usual residence can be used for the computation of vital statistics rates, such as age-specific fertility rates and age- and sex-specific mortality rates at the level of urban areas, rural areas or by region.

### **International migration characteristics**

#### **Relevance for gender statistics**

532. Population censuses are the best source for collecting data on immigrant stock. Questions regarding country of birth and country of citizenship provide information on the foreign-born population and the group of foreigners living in the country, respectively. Data on immigrant stock disaggregated by sex, age and other characteristics can reveal important gender differences. Migration patterns for women are often different than for men. Living arrangements and living conditions may also be different, for example, for young female migrants and young male migrants. Information on employment and occupation of foreign-born female and male populations can show whether female or male immigrant workers are more likely to be skilled and highly qualified. In addition, the gender gap in educational attainment or in employment and occupation in the migrant population may be different than that of the average population of the countries.

### **Household and family characteristics**

#### **Relevance for gender statistics**

533. Identification of household members, their relationship to the head or other reference member of the household and their grouping in family nuclei are the basis for deriving household and family composition and for distinguishing among different types of households. The information on living arrangements is an important input for understanding different situations of women and men with respect to the type of household or family they are part of and their position in it (for example, head or co-head). When sex, age and marital status of the household members are also taken into account, it is possible to identify certain types of households that tend to occur more frequently among women than men, such as one-person households of older persons or nuclear households of a parent with young children. Collecting information on household and family status further increases the possibility of identifying more types of living arrangements that tend to be different for women than for men. For example, lone mothers and lone fathers can be identified even when they are part of extended or composite households. Detailed living arrangements for female and male young adults or older persons can also be identified.

#### **Improving data collection from a gender perspective**

534. Countries should specify in their census design whether a household reference person or a household head is used to list all the household members. They should also clearly specify the criteria to be used to identify the reference person or the household head as a strategy for avoiding sex-based biases. Training materials and instructions should prevent the use of the assumption that women can be head of the household only when there are no adult males in

the household. In countries where spouses are considered equal in household authority and responsibility and may share economic support of the household, (a) a reference member with no implication of headship may be chosen or (b) provision may be made for designation of joint headship.

535. Sex-selective underreporting of household members to the disadvantage of women may occur in countries or groups of population where women have a lower status. The order of recording the members of the household has an impact on undercounting of women. In India, for example, the traditional approach in recording household members was to start with the head of the household, then to enumerate male members and afterwards the female members of the household (UNFPA, Country Technical Services Team for South and West Asia, 2004). As a result, the female members of the household and consequently the female population of the country were massively underreported. The new method involved in the census conducted in 2001 was to start with the head of the household and continue with others according to their age. Still, in many countries the omission of infants remains a common problem and sometimes girls may be more likely to be underreported than boys. *The Principles and Recommendations for Population and Housing Censuses, Revision 2* (United Nations, 2008) recommends that members of the household be listed according to their family nucleus, if family nuclei are a topic of interest.

### Demographic and social characteristics

#### Relevance for gender statistics

536. Sex, together with age, represents the most basic type of demographic information collected for each individual in the population census. Of all the topics investigated in population censuses, sex and age are more frequently cross-classified with other characteristics of the population than any other topics. Sex disaggregation of data is a fundamental requirement for gender statistics. There are variations by sex for many socioeconomic and demographic characteristics collected through a census, such as education, economic activity, migration, disability or living arrangements. In addition, population counts by sex, age and other characteristics, combined with information from civil registration systems and other administrative records, are the basis for calculating age-specific fertility rates, sex- and age-specific mortality rates, enrolment rates for boys and girls and, sometimes, sex-disaggregated rates for employment or unemployment.

537. Marital status, usually defined in relation to the marriage laws or customs of the countries, is basic demographic information necessary to identify particular forms of unions (such as consensual unions or polygamy), and certain marriage practices (such as child marriage) that are often to the disadvantage of women. Information on marital status can also show whether women tend to be found more often than men among the widowed, separated or divorced, which for women are statuses often associated with economic insecurity and lack of support in rearing children.

538. Information on religion, ethnicity and indigenous peoples should be used as breakdown variables for gender statistics, especially when cultural factors are suspected to be one of the determinants of gender differences. For example, age at marriage for women, age gap between husband and wives, number of children born and educational attainment for women compared to men are often influenced by traditional practices, women's status in society or preferences for sons. These factors tend to be more often observed among certain religious or ethnic groups. Nevertheless, questions regarding religion, ethnicity and indigenous peoples are sensitive questions and their inclusion in the census should be carefully considered.

#### Improving data collection from a gender perspective

539. Use of detailed categories of marital status that would capture various forms of informal unions improves the adequacy gender statistics. *The Principles and Recommendations for Population and Housing Censuses, Revision 2* recommends that at least five categories of

marital status be identified for each individual in relation to the marriage laws or customs of the country: (a) single or never married; (b) married; (c) widowed and not remarried; (d) divorced and not remarried; (e) married but separated – legally or de facto separated. From a gender perspective, however, it is important to have more detailed categories, reflecting various types of unions. In some countries, additional categories are included in the marital status classification, including customary unions, such as registered partnerships and consensual unions, which are legal and binding under law, or persons who are contractually married but not yet living together as husband and wife. Some countries may distinguish between formal marriages and de facto unions, and between persons legally separated and those legally divorced. Although not common, the collection of additional information related to polygamous or polyandrous marital status is needed in some countries.

### **Fertility and mortality**

#### **Relevance for gender statistics**

540. Population censuses are an important source of data on fertility in countries that lack a timely and reliable system of vital statistics. In this context, information on recent fertility of women can be derived from the information on the date of birth of last child born. Information on the number of children ever born by women should be collected in the census even in countries with reliable vital registration of births. This topic can be useful not only for estimating levels of lifetime fertility for older cohorts of women, but also for assessing the completeness of the registration system.

541. In countries with civil registration systems with incomplete coverage, information on children ever born and children surviving, disaggregated by sex of the children and age of mothers, can be used to calculate child mortality rates for girls and boys. Usually there is a gender gap in child mortality to the disadvantage of boys, mainly due to biological factors.

542. For adults as well as children, information on household deaths in the past 12 months by sex of deceased and age at death may be used to estimate the level and pattern of female and male mortality. In addition, by asking follow-up questions concerning cause of death, some countries are able to collect data on pregnancy-related deaths that can be used to estimate maternal mortality. Data on adult female and male deaths may also be obtained by using indirect approaches such as the maternal or paternal orphanhood method, however, the adequacy of adult mortality data obtained through this indirect method from the population censuses is still uncertain.

543. When age at first marriage and age of mother at the time of first birth are included in the census questionnaire, additional information on child marriage and adolescent births can be obtained. This information is important because women are more likely than men to have an early marriage and to become parents while still adolescent, with consequences in terms of health, schooling and lifetime prospects for employment and career.

#### **Improving data collection from a gender perspective**

544. A more complete and accurate reporting of children ever born and children surviving is obtained when the information is collected separately for each sex.

545. As far as possible, efforts should be made to obtain information on fertility, child mortality (or survival) and marriage directly from the woman or mother involved, because she is more likely to recall correctly the details of her fertility, the mortality of her offspring and her marital experiences than any other member of the household.

546. Some of the misclassification of adult female deaths as non-maternal may be prevented by proper training of the interviewers. When collecting data on maternal mortality, the questions used to identify pregnancy-related deaths – such as “Was the woman pregnant, giving birth or within six weeks after the end of pregnancy or childbirth at the time of her

death?” – should be asked even in cases in which respondents voluntarily offer information on cause of death.

### **Educational characteristics**

#### *Relevance for gender statistics*

547. Population censuses provide benchmark gender statistics on education, covering population groups often not included in the sample of household surveys, such as the homeless population, the nomad population, or persons living in institutions. Data on literacy, school attendance and educational attainment disaggregated by sex, age and place of usual residence are crucial for understanding gender disparities in access to education across a country and changes in education gender gaps by cohort.

548. Population counts by sex, age and literacy or by sex, age and educational attainment can be used as denominators for calculating important gender indicators such as birth rates by mother’s education, child mortality rates by mother’s education, female and male age-specific death rates by educational attainment and employment or unemployment rates for women and men by educational attainment.

#### *Improving data collection from a gender perspective*

549. Data on school attendance, educational attainment and literacy status should be collected and tabulated separately and independently of each other, without any assumption of linkages between them. In operational terms, this means inquiring systematically about the literacy status of each household member irrespective of school attendance or highest grade or level completed.

550. The United Nations Educational, Scientific and Cultural Organization (UNESCO) recommends that literacy tests should be administered in order to verify, as well as improve, the quality of literacy data. Nevertheless, administering a literacy test to all household members may prove impractical in the census and affect the overall participation, therefore limiting the utility of the results. Countries have regularly used simple self-reporting to provide an indication of literacy rates at the small area level (United Nations, 2008). When the reporting is done by a third person (the reference person or the head of household, for example) the literacy level for women and children may be overestimated (UNESCO Institute for Statistics, 2008).

### **Economic characteristics**

#### *Relevance for gender statistics*

551. Statistics on economic characteristics disaggregated by sex and age can show the contribution of women and men to the economy, gender differences in employment conditions and gender segregation in the labour market. For a meaningful gender analysis, these data should be further disaggregated by other characteristics. For example, gender segregation in the labour market is partially determined by the gender gap in education, therefore data on occupations should be further disaggregated by level of educational attainment. Gender differences in employment conditions depend on the structure of local job markets, therefore data on activity status and status in employment should be further disaggregated by place of residence (urban/rural areas or by region).

552. Several types of economic characteristics that are important from a gender perspective may be difficult to collect in the population censuses, particularly in countries with less developed statistical systems (United Nations, ILO, 2010). For example, although income is an important topic for understanding economic gender gaps, it is difficult to collect reliable information on the value of home production and the value of income paid in kind. These are extremely important components of the total income for individuals and households in most developing countries, but measurement is extremely difficult and complex even in household surveys. Even when confined to cash income, the collection of income data in a population

census may present special problems in terms of the respondent's burden and response errors. Nevertheless, some developed countries have a long history of collecting detailed cash income information at the individual level.

553. There is limited experience in collecting in the census data on time-related underemployment, informal sector and informal employment (United Nations, ILO, 2010). These topics are usually relevant from a gender point of view, but more testing is needed before deciding whether it is possible and worthwhile to include them in the census. Similarly, although the "usual activity" approach in measuring economically active population may better reflect the seasonal fluctuations of activities often associated with women's work, it may be more difficult to implement in a population census. The "usual activity" approach implies a bigger burden and is subject to more recall errors, compared to the "current activity" approach.

#### Improving data collection from a gender perspective

554. The risk of misclassifying women as homemakers is reduced when basic questions on economic activity and status in employment are supplemented by further probing questions, or when more detailed questions are included in a self-administered questionnaire.

555. The proper identification of activities that are economic is also helped by the use of activity lists. It is advisable for countries to develop an extensive list of own-account production activities considered to be within the System of National Accounts production boundary, so as to ensure that those involved in such activities are correctly classified as economically active. In principle, the production of all goods falls within the System of National Accounts production boundary, irrespective of whether the goods are intended for supply to other units or for the producers' own final use. In practice, however, the production of a good for own final use within households is recorded only if the amount of the good produced by households for their own final use is believed to be quantitatively important in relation to the total supply of that good in a country. According to the Thirteenth International Conference of Labour Statisticians, persons engaged in the production of goods for own final use within the same household should be considered economically active only if such production comprises an important contribution to the total consumption of the household.

556. Lists of own-account production activities could include, for example, the production of agricultural products and their subsequent storage; the production of other primary products such as the mining of salt, the cutting of peat, the supply of water; the processing of agricultural products (the preparation of meals for own consumption is excluded); and other kinds of processing, such as weaving cloth, dressmaking and tailoring; the production of footwear, pottery, utensils or durables; the making of furniture or furnishings; and major renovations, extensions to dwellings, the replastering of walls or the re-roofing by owners of owner-occupied dwellings. For example, in the preparation for the 2001 census in India, 32 sketches showing different types of women's work that is not usually reported were included in the interviewer manual (UNFPA, Country Technical Services Team for South and West Asia, 2004).

557. The questions on *occupation* should seek full details in order to capture relevant differences between women and men. The questions should be phrased to capture (a) the title of the job and (b) a statement about the main tasks and duties performed. The word "occupation" can be misleading, in some circumstances, and may best be either left out of actual questions on the topic or supplemented with a more easily understood word. The concern is that some of the economic activities of women may be left out and the occupations of women may be underreported because they are not qualified in the view of respondent or the interviewer as occupations. For developing countries where translation in the field is very common, the terminology being used by interviewers in the local language should be carefully checked during testing and training periods.

### *Topics covered by housing censuses*

558. The topics covered by the housing censuses are important for understanding living conditions as they affect women and men's lives. Among all topics covered by the housing censuses, several in particular are important for gender statistics.

#### **Relevance for gender statistics**

559. Types of living quarters. In many countries, population and housing census are the only source of gender statistics for populations living in certain types of living quarters, such as retirement homes and homes for elderly, orphanages, refugee camps and camps for internally displaced people. It is important that population data disaggregated by sex, age and other characteristics be provided for each of these types of living quarters. The data can show, for example, whether more women than men are in retirement homes and homes for elderly, and their marital status. Data on population in orphanages disaggregated by sex, age and school attendance can show whether girls or boys are more likely to be found in this type of institution and whether there is a gender gap in educational participation.

560. Ownership of housing property. Population and housing censuses can be used to improve the knowledge of women's and men's ownership of housing property. In some countries with available data, it has been shown that women are less likely than men to be owners of property. Most of the time, however, data are collected at household level, without taking into account a joint ownership. Still, some countries have inquired in their censuses about property ownership by sex. For example, in the 2001 census in Nepal, for the self-owned housing properties, a question was added regarding whether they were owned by female or male members of the household (UNFPA, Country Technical Services Team for South and West Asia, 2004).

561. Main source of drinking water. Some of the questions covered in the housing census provide important background information for understanding some of the work burden of women and men. Census data on the water supply system and main source of drinking water will provide information on the number of households with lack of access to water within the building or within 200 metres. In many countries, these are households where mainly women have an additional burden of work, as women are in charge of water collection more often than men (United Nations, 2010).

562. Fuels used for cooking. Housing census questions on fuels used for cooking provide important background information on issues of gender and environmental health. Members of households using solid fuels are exposed to indoor smoke, and women are more likely to develop acute respiratory infections, obstructive pulmonary disease and lung cancer, because they spend more time cooking and near fire (United Nations, 2010).

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## Agricultural censuses and surveys

### Introduction

#### *Uses of agricultural censuses and surveys for gender statistics*

563. Agricultural censuses and surveys can serve as a vehicle for collecting data on the type and amount of work contributed by women and men to agricultural production. These censuses and surveys cover four main areas of gender statistics. First, information on the composition of farm labour can be provided by recording sex and other characteristics of the household members and hired labourers working on the agricultural holding. Second, information on gender differences in the management of agricultural holdings, and on decision-making within the holding, can be provided by collecting data on the characteristics of the agricultural holders and subholders and combining those data with other data at the level of holding or subholding on, for example, the size and types of crops, the size and types of livestock or agricultural services used. Third, information on gender differences in ownership of agricultural assets can be provided by collecting data on land tenure, livestock and agricultural machinery. These data may be collected at the holding level, the level of parcels/plots or herds or the level of household members. Fourth, information on gender differences in access to agricultural services and agricultural practices can be provided by collecting data on the use of formal credit, extension services, veterinary services, irrigation or agricultural machinery. These data may be collected at the level of holding or subholding.

564. The role of agricultural censuses and surveys in obtaining statistics on gender and agriculture must be considered within an integrated system of producing gender statistics. Some topics related to agriculture, such as agricultural production and farm income, employment in agricultural sector or food security, may be covered in other data collection programmes, such as living standard surveys, population censuses, labour force surveys or demographic and health surveys. For example, detailed data on occupations and status in employment by industry (including the agricultural sector) are often covered in population censuses and labour force surveys. In addition, LSMS surveys in the less developed regions often include modules on agricultural production, agricultural labour and food security. In particular, the LSMS-ISA surveys are designed to have a strong focus on agriculture. Still, the coverage in agricultural censuses and surveys of topics similar to those collected in other censuses or surveys can have value in gender statistics. For example, although labour force and population censuses may collect data on economic activity for all population using a "current activity" approach, agricultural censuses and surveys may collect data on economic activity for persons living in agricultural households using a "usual activity" approach, which is expected to better capture the subtleties of seasonal and intermittent economic activity in agriculture. Agricultural censuses and surveys may also collect more information about work in agriculture as a secondary or tertiary activity.

565. A balanced coverage of gender issues between the agricultural censuses and the agricultural surveys should be considered. Agricultural surveys are usually conducted more often than censuses and cover only a sample of agricultural holdings. Thus, more detailed questions



related to gender and agriculture may be accommodated in agricultural surveys. Some countries may choose to carry out thematic agricultural surveys that are focused on gender. Such surveys would include, for example, comprehensive questions on participation by women and men in farm labour and management of agricultural holdings and subholdings, their status as owners of agricultural resources and agricultural practices and agricultural services they use.

### *Avoiding gender bias in data collection*

#### **Integration of gender concerns into the planning and design of agricultural censuses and surveys**

566. The adoption of a gender perspective in agricultural censuses or surveys has to be decided in the first stages of planning because it has significant implications in terms of topics covered, operations such as data collection design and the training of field staff and, at a later stage, data analysis and dissemination. An analysis of agricultural censuses undertaken in Africa in the census round of 2000 showed, for example, that the production of statistics on gender and agriculture is improved when the need for gender statistics is incorporated into the objectives and scope of the censuses (FAO, Regional Office for Africa, 2005). The analysis also showed that the process of obtaining gender statistics improves when potential users of gender statistics, with clear demands of specific data, are involved in the preparation of the censuses.

#### **Coverage of all relevant units of enumeration**

567. Gender bias in data collection can be introduced by improper coverage of all relevant units of enumeration. The unit of enumeration in agricultural censuses and surveys is the agricultural holding. An agricultural holding is an economic unit of agricultural production under single management, comprising all livestock kept and all land used wholly or partly for agricultural production purposes, without regard to title, legal form or size (FAO, 2007). There are two types of agricultural holdings: (a) holdings in the household sector – that is, those operated by household members; and (b) holdings in the non-household sector, such as corporations and government institutions.

568. Proper coverage of the household sector is the most important from the perspective of generating gender statistics. The exclusion of small holdings, a subsector where women and family members play a particularly important role, can be a drawback of agricultural censuses or surveys. When holdings below a certain size and/or holdings located in urban or peri-urban areas are excluded from censuses and surveys, women's contribution to agricultural production may be underestimated. In addition, these excluded holdings could be playing an important role in food production and food security.

569. The inclusion of all units relevant to agricultural production needs to be considered when preparing the frame of agricultural holdings in the household sector and when designing the sampling frame for agricultural surveys. In particular, frames based on administrative records in areas where women are less likely than men to have their holdings registered can introduce significant gender bias in data obtained. Gender differentials also need to be considered when deciding the stratification variables in the sampling design of agricultural surveys. When necessary, oversampling in one or more strata should be considered to allow for an adequate number of both women- and men-operated holdings in each stratum.

#### **Adequate units of data collection and analysis**

570. Comprehensive coverage of gender issues in agricultural censuses and surveys requires the use of multiple units in both the data collection stage and in the data analysis stage. As noted above, the unit of enumeration in agricultural censuses and surveys is the agricultural holding. Many censuses and surveys collect most of the data at the level of agricultural holding. For example, inputs for agricultural production, such as seeds or pesticides, are usually purchased for the whole holding and therefore the data on those inputs are collected at the

level of the holding. Other examples of data usually collected at the holding level are the use of irrigation or use of agricultural machinery.

571. It may be necessary, however, to collect and analyse data at the intra-holding level in order to get a true picture of gender issues. Data on farm labour, especially data on the participation of household members in activities of agricultural production, can be better captured at the individual level, along with data on sex, age, marital status, educational attainment or other characteristics related to the type and amount of work performed on the farm or for other business.

572. Depending on the country, data on land use and livestock are sometimes more suited for collection at the level of smaller units within the holding. For example, data on land use are often collected at the level of parcels or plots that compose a holding. More generally, data can be collected at the subholding level. A subholding is defined as a single agricultural activity or group of activities managed by a particular person or group of persons (subholders) in the holder's household on behalf of the agricultural holder. There may be one or more subholdings in a holding. A subholding could comprise a single plot, a whole field, a whole parcel or even the whole holding. A subholding could also be a livestock operation associated with a plot, field or parcel, or a livestock operation without any land.

573. The collection of data on crops and livestock at the more finely disaggregated level may be preferred for several reasons. First, collecting data at the level of parcels or plots reduces errors in reporting. This is especially the case when agricultural households work on several different plots of land and different individuals are in charge of each plot or crop, or when some household members are responsible for herds that are separate from those of the main holder. Gathering the data at the plot level and the herd level may appear more time consuming; however, when data are collected at the whole farm level, the respondents may have to add up the information on different plots to come up with the required answer, increasing the chances of non-sampling errors, such as reporting errors. The quality of data improves when women and men in charge of each plot or crop respond separately to questions about the plots or crops for which they are responsible. The operator of each plot is more likely to know specific details about the size and quality of the plot and how much time each household member has spent working on various tasks on that particular plot. Second, plots from the same holding may differ in terms of land quality, the degree of land degradation and erosion, and the data collected at that level may explain differences in agricultural production. Lastly, disaggregated data at the level of subholdings are crucial for understanding gender roles and decision-making within the agricultural holding.

574. It is to be noted, however, that in most cases the application of the subholding concept on the ground poses many practical challenges and increases the cost of data collection. Before deciding to apply this concept for large-scale surveys, such as an agricultural census, a careful evaluation of social customs and a cost-benefit analysis for using this concept is recommended.

### **Questionnaire design**

575. Gender-specific conceptual and measurement issues related to the topics covered in agricultural censuses and surveys must be adequately reflected in the design of questionnaires used (see box III.3 for a checklist of the main points that should be taken into account in designing questionnaires). It is important, from a gender perspective, for the questionnaire corresponding to the household sector to be structured by the needed level of data collection. In that respect, different modules may be designed for different levels of data collection and/or different topics. For example, data collected at the individual level may be covered by a module on demographic, social and economic characteristics of household members, including involvement in agricultural and non-agricultural economic activities on and off the holding, and a module on characteristics of non-family agricultural labour. Identification of the owners of agricultural resources and the subholders may also be based upon data collected at the level of individual household members.

**Box III. 3****Incorporating a gender perspective into the design of questionnaires for agricultural censuses and surveys: a checklist**

- Members of the team designing the questionnaires have been trained in gender issues and gender-specific measurement issues related to family and non-family farm labour and the role of women as managers of holdings and subholdings
- For the household sector, there is a clear indication of the items to be collected at the holding level, at the subholding level or at the individual level of household members and hired labourers; if possible, identification of holders, subholders and owners allow a link with the individual characteristics of the household members
- When identifying the subholders, use a series of questions about each household member to find out about the types of work each one carried out on the holding, and their role in managing agricultural production activities
- Use a series of questions instead of one question to identify the household members who own, by themselves or jointly with another person, parcels/plots of land, livestock by type and agricultural machinery
- Avoid language suggesting that holders or subholders are male
- When measuring economic activity, the question has a note for the interviewers indicating the use of activity lists (provided in the manual) and probing questions to follow up
- Language in the questionnaire is used carefully to avoid the agricultural work of women being perceived and reported as housework rather than as economic activity
- If a household head needs to be identified, a short note on the questionnaire indicates the criteria for identification

576. Some other modules of the questionnaire, such as those on livestock or land use, may be designed to collect data at the subholding level, with the possibility of identification of the subholder. The implementation of the subholding/subholder concepts, important from a gender perspective, may be complex. The approach used by a country will depend on national agricultural practices and social and cultural conditions, taking into consideration the data collection methodology already existing or suitable. For example, when countries have the practice of collecting data on crops at the plot level and data on livestock at the herd level, it is relatively straightforward to identify the women and men who are in charge of those parcels and herds (subholders). Alternatively, a smaller set of items can be collected at the level of subholdings, separately from the main crop and livestock data, by asking specific questions about the type of crop and livestock activities carried out under the control of the subholder.

**Selection and training of the field staff**

577. The quality of data collected in agricultural censuses and surveys (similar to other data collection programmes) depends on the quality of staff selected and the training provided. Box III.4 presents a list of factors that should be taken into account when incorporating a gender perspective in the preparation of manuals and the training of interviewers for agricultural censuses and surveys.

578. It should be noted that men are greatly overrepresented among field staff in agricultural censuses and surveys, often as a result of using workers in agricultural extension services, who are predominantly men, as interviewers. In general, it is important for both women and men to be selected as interviewers and supervisors, and for both women and men to be trained to obtain quality data from both women and men respondents. In particular, the recruitment of women operators should be seriously considered in countries where women farmers do not feel free to talk directly to enumerators who are men, owing to cultural factors.

**Box III. 4****Incorporating a gender perspective into the preparation of manuals and training of interviewers for agricultural censuses and surveys: a checklist**

- The key gender issues prevailing in the agricultural sector in the country of interest are identified
- Gender training emphasizes the gender-related objectives and goals of the census
- Gender training increases awareness regarding the role of women in managing holdings and subholdings
- Both women and men are selected as training instructors and as trainers presented in audiovisual materials
- Women and men are trained to interview persons of the same sex and of the opposite sex
- The language and examples given in the manuals or training materials with regard to identification of agricultural holders and subholders and the household head are free of gender-based biases
- Manuals and training materials provide examples on identifying joint agricultural holders
- Manuals and training materials show examples for identifying the real decision-maker in the farm; in particular, persons who are usually absent from the household are not be declared as household head or agricultural holder
- Training provides guidelines in obtaining information from women and men in charge of each plot or crop
- When collecting data on economic activity, the manuals provide lists of economic activities, including lists of own-account productive activities and probing lists, to avoid under-reporting of women's economic activity; training emphasizes problems and stereotypes associated with women's work

**Census advertising**

579. Census advertising is an important tool for improving the census coverage, in particular, of smallholdings managed by women, and the reporting of women's agricultural activity. The presentations prepared for advertising should illustrate both women's and men's contributions to agricultural production. The choice of type of media should take into account the fact that women may have easier access to some types of media than others. For example, in certain groups of population, women are more likely than men to be illiterate. Women may be easier to reach through radio programmes targeted at women or by use of graphics in places where women tend to gather.

**Selected topics**

580. Traditionally, agricultural censuses and surveys have been concerned primarily with agricultural production and the productive resources used, and have dedicated no or only minimal attention to the human resources involved. This subsection presents four topics essential for understanding the contribution of women and men to agricultural production. The addition of these topics to the more traditional topics focused on agricultural production and agricultural resources improves the role of agricultural censuses and surveys in the production of gender statistics. For each of the four topics presented, there are shown the relevance of data collected for gender statistics and how to improve data collection from a gender perspective.

*Family and non-family agricultural labour***Relevance for gender statistics**

581. Data on demographic and social characteristics of family members and non-family labourers working in agricultural production of the household are the basic information

needed to understand the composition and the organization of the farm labour force in the household sector. Women and men involved in farm labour often have different characteristics in terms of age, marital status and educational attainment.

582. Data on the economic activity of each household member and the time they worked on and off the farm provide the basis for understanding the gender division of labour and gender-specific responsibilities within households. Women and men tend to spend an unequal number of hours a day on and invest an unequal number of weeks or months during a year into agricultural work. They also tend to differ in terms of the importance attached to the agricultural work on the household holding – whether it is a sole occupation, major occupation or subsidiary occupation – and its combination with other economic activities on and off the holding.

583. Data on the duration of work in a year, the number of hours a day and the type of payment received (in cash, in kind or exchange) can show gender differences in non-family farm labour. For example, women labourers may be hired to do agricultural activities for shorter periods of time than men and they may be more likely than men to be paid in kind.

### **Improving data collection from a gender perspective**

584. Data collection instruments should be designed to allow the recording of multiple agricultural and non-agricultural economic activities on and off the holding. Specific questions on primary and secondary activities should be included and the reference period should be long enough to capture seasonal and occasional work. It is useful to identify agricultural labour separately from non-agricultural labour and/or to ask specific questions about any job during the agricultural season that is related to agriculture (including jobs that are not the main job).

585. Collecting data at the subholding level can highlight gender differences in the involvement of family and non-family labourers in particular agricultural activities or on particular parcels or plots. Women, more often than men, tend to be involved in multiple activities, such as working on their own plot, on their husband's holding, seasonally as a paid labourer in other holdings and even in other non-agricultural jobs. Even within the same agricultural activity, women and men concentrate in one or another of the various stages of production.

586. Collection of information on economic activity should cover all forms of unpaid work, including subsistence activities such as fetching water and wood for fuel, gathering wild fruits and berries and processing primary products for self-consumption. Women's activities are often perceived as domestic and reproductive rather than economic and productive; however, these activities are an important input to agricultural production. The definition adopted in data collection should adhere to international standards and include all forms of work falling within the production boundary of the System of National Accounts. The data collection should use lists of agricultural activities or probing questions related to the economic and productive activities that are usually perceived as domestic work. It is also important for the questions to be carefully formulated to avoid the introduction of gender-based biases.

### *Management of agricultural holdings and subholdings*

#### **Relevance for gender statistics**

587. The identification of the agricultural holder provides the basis for comparing the characteristics of holdings operated by women and those operated by men. Analysing aspects such as the area of holding, cropping patterns or the use of different agricultural practices can show the specific problems faced by women and men in operating agricultural holdings. For example, data on the main purpose of production – whether the holding is producing mainly for home consumption or for sale – are a broad indicator of the extent to which women holders and men holders are participating in the market economy. Men tend to be more involved in large-scale cash cropping, especially when highly mechanized, while women are more often responsible for food production and the small-scale cultivation of cash

crops. Women farmers may have more limited access to technology that would enhance their productivity and contribute to household food security, such as labour-saving technologies in food processing and storage. Additional data on characteristics of the agricultural holder other than sex (for example, age, marital status, educational attainment and employment in other activities in non- agricultural sectors; data on household size and composition; data on ownership of land, livestock and agricultural machinery; access to credit and improved seeds; and participation in farmers' organizations and extension services) can also contribute to the understanding of some of the differences between the holdings operated by women and those operated by men.

588. Within individual agricultural holdings, women and men may undertake specific crops and livestock activities. For example, within the same household, women may be in charge of a small kitchen garden and small livestock for food consumption, while men may be in charge of large-area crops and large livestock intended for sale and obtaining cash income. Data collection on the characteristics of subholders and subholdings are the basis for understanding the gender division of managerial responsibilities within agricultural holdings. Data collected for subholders may refer to sex, age, marital status or educational attainment. Data collected for subholdings may refer to, for example, the area managed, the type of crops, the purpose of crops or the number of animals by type of livestock.

#### **Improving data collection from a gender perspective**

589. The role of women needs to be adequately acknowledged in identifying the agricultural holder and properly reflected in the concepts used, questionnaire design, manuals and training materials. At the conceptual level, the agricultural holder is defined as the person who makes major decisions regarding resource use and exercises management control over the agricultural holding operation (FAO, 2007). A gender bias in reporting the agricultural holder occurs when the role of women in decision-making is not taken into account. Often, the decision-making process on the holding is complex and involves more than one person, including women as well as men; however, because of inadequate conceptions regarding holders, gender-biased attitudes of respondents and enumerators or insufficient training, it is more likely that only a male senior holder is identified. For the round of agricultural censuses conducted in 2010, FAO modified the concept of agricultural holder to include more than one person, such as a husband and wife. If more than one person is involved in major decision-making, each of those persons should be considered a joint holder. In addition, a joint holder can come from the same household or from a different household.

590. Manuals and training materials should prevent other sources of gender bias in the identification of the main agricultural holder. The agricultural holder is often incorrectly considered to be the same person as the household head. For example, a person in the household may be identified as a head because of his or her overall authority and responsibility in the household; however, that person may not be actively involved in the household's agricultural operations or may not be responsible for the holding. The use of the concept of a household head in itself may trigger gender bias, in the sense that women may be considered heads of their households only when no adult males are present. Furthermore, persons who are usually absent from the household may be declared the main agricultural holder or the main household head, either because of their role in providing input for the agricultural production (income or land, for example) or simply because of cultural representations of men as having potentially more decision-making power than women.

591. In the questionnaire design, a single question on the identity of the main decision-maker for the holding is often insufficient to identify the main holder. Instead, a series of questions about each household member, their work on the holding and their role in managing the holding may be needed. A similar approach is based on the use of the subholding/subholder concept. Rather than identifying the holder directly, the information obtained for each subholder can afterwards be used to determine the primary decision-maker for the holding.

592. Data should be collected at the subholding/subholder level as much as possible. The concept of an agricultural holder as the major decision-maker for the holding may not provide a realistic picture of the often complex decision-making processes of the holding. Often different members of the household take responsibility for managing particular aspects of the operations of the holding. Sometimes women carry out specific activities, such as cultivating particular land plots or managing particular livestock activities. There may also be different levels of management; for example, one person may make the strategic decisions (“this year we plant potatoes”), while other people are responsible for operational decisions, such as when to plant, whom to employ and how to market.

593. In summary, the concept of agricultural holder alone may not adequately reflect the management of the holding, and, in particular, it may fail to recognize the role of women in managing agricultural activities. To overcome this problem, the concepts of “subholding” and the associated “subholder” were introduced by FAO for the census round of 2010. A subholder is defined as the person responsible for managing a subholding (a parcel, a plot, a livestock operation, an agricultural activity or group of activities) on the holder's behalf. The subholder concept is broadly similar to the concepts of “plot manager” and “farm operator” used in some countries. If subholdings are identified, each subholder should provide the information for the subholding he or she is responsible for. If the household head is the sole respondent of the question, this may have an impact on the accuracy of the responses concerning assets and work undertaken by the other subholders of the holding.

### *Ownership of agricultural assets*

#### **Relevance for gender statistics**

594. Data on ownership of agricultural assets for holdings and subholdings is crucial in understanding agricultural productivity, crop patterns, the use of inputs or the investment of time and resources in long-term land improvement for holdings operated by women and men. In many countries in the less developed regions there are great gender disparities in ownership of land, livestock and agricultural machinery. Women are less likely than men to hold titles to land. The land and livestock owned by women also tend to be of smaller size. Lack of land tenure decreases women's eligibility for formal sources of credit, membership in farmers' organizations, access to training and extension services and their chances of developing their own business in agriculture.

595. Sex-disaggregated data on ownership of assets and management of each subholding collected at the individual level of household members show who owns what, who has access to and control over which agricultural resources and who decides which agricultural activities will be undertaken. Data would also show whether women subholders, compared to men subholders, are more likely to manage owned or rented plots of land or whether women are more likely to become the managers of a plot when they own that plot. This information is crucial in understanding intrahousehold gender inequality in access to agricultural resources.

#### **Improving data collection from a gender perspective**

596. As much as possible, data on ownership of land, livestock and agricultural machinery should be collected at more finely disaggregated levels within the holding, at the subholding level or at the level of individual household members. The collection of data on land tenure at the parcel or plot level is important from a gender perspective. A holding may have one or more tenure types corresponding to each land parcel. In fact, the FAO guidelines on agricultural censuses (FAO, 2007) recommend as one of the supplementary items that data on land tenure be collected for each parcel. Similarly, in countries where herds of various types of animals are owned and managed separately by the husband or by the wife, data on the number of owned animals should also be collected at the subholding level.

597. Identification of the household members who are the owners of agricultural assets in a holding or subholding should allow for joint ownership. Manuals and training materials should provide examples of ways to avoid underreporting women's co-ownership of agricultural assets. The ownership of a holding/subholding should also be considered independent of the management of that holding/subholding. For example, a husband and a wife own, together, two plots of land, and the husband is the subholder (manager) of one of the plots, while the woman is the subholder (manager) of the other plot. In this case, the ownership of each of the two plots should be recorded as joint ownership by a woman and a man, while the subholders should be identified as a man for one plot and as a woman for the other plot.

### *Use of agricultural services and agricultural practices*

#### **Relevance for gender statistics**

598. Data on use of agricultural services and agricultural practices – such as the use of credit, extension services or irrigation, or the use of veterinary services – collected in agricultural censuses and surveys are commonly used to understand aspects such as agricultural productivity, crop patterns, the use of inputs or the use of long-term investments in land or livestock. These data are usually collected at the holding level. Therefore, from a gender perspective, data obtained can be disaggregated only by sex of the holder. The information obtained can show whether women-operated holdings differ from men-operated holdings in terms of agricultural practices and agricultural services used. For example, in many countries, women farmers, who usually manage smaller holdings and own less or no land, have less access to formal credit or other financial services and rely more heavily on informal sources of credit. Women farmers also tend to have more limited access to agricultural education and training because, traditionally, extension services have been tailored to men's needs.

#### **Improving data collection from a gender perspective**

599. When data are collected at the holding level, information on the roles of women and men in obtaining credit, accessing agricultural information or using irrigation or technology on their own subholdings remain obscured. For example, when a holding managed by a man, or jointly managed by a woman and a man, is recorded as having obtained formal credit, it is not clear who in the household actually applied for and obtained credit, and what parcels, crops or subholdings benefited from it.

600. As much as possible, data on use of agricultural services and agricultural practices should be collected at the subholding level. Depending on the social structure of the society, however, data collection for a small number of items, such as the use of credit, may be collected at the individual level, applying the questions to either all adult household members or all subholders.

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## Labour force surveys<sup>8</sup>

### Introduction

#### *Uses of labour force surveys for gender statistics*

601. The labour force survey is a household sample survey designed to collect data on the labour force and its characteristics (Husmanns, Mehran and Verma, 1990). It is conducted in many countries and is particularly important when administrative records are non-existent or incomplete and where establishment surveys are expensive and difficult to conduct.

602. Household sample surveys are the most flexible of all data collection instruments on the labour force and its characteristics and are the most valuable from a gender perspective (Husmanns, Mehran and Verma, 1990; Mata-Greenwood 2003). They can cover a wide range of topics. Information on employment, unemployment, occupation or status in employment can be collected at the same time as information on education and training, income or household and family. This combined information is useful for understanding the participation of women and men in the labour force. Furthermore, the surveys can accommodate more questions for each topic, enabling a more precise measurement of economic characteristics, based on international standards for concepts, definitions and classifications. In fact, some of the criteria specified in the international standards that are crucial for correct reporting of women's and men's economic activity can only be implemented through household surveys (Husmanns, Mehran and Verma, 1990; Mata-Greenwood, 2003).

603. Labour force statistics disaggregated by sex, age group, activity status, status in employment, occupation, branch of economic activity and income from employment provide essential information for the design and evaluation of overall government policies aimed at (a) the promotion and creation of employment; (b) the alleviation of poverty and the redistribution of income; and (c) equal opportunity and treatment in employment (Husmanns, Mehran and Verma, 1990). Trend data in employment and unemployment for particular subgroups of population (such as women and men, or young persons and older workers) are also crucial to the assessment of the social effects of government employment policies or structural adjustment policies. Furthermore, statistics on economic characteristics disaggregated by sex, age, education and other social individual and family characteristics can show gender-specific contributions to the economy, gender differences in employment conditions, gender segregation in the labour market and gender-specific family-related obstacles in labour force participation.

<sup>8</sup> Materials developed for this section are based on concepts and definitions laid out in the resolution adopted by the Thirteenth International Conference of Labour Statisticians in 1982. In 2013, new standards for measuring work, employment and labour underutilization were adopted by the 19th International Conference of Labour Statisticians. Activities to revise and update national data collection practices to be in line with the new standards are under way in a number of countries and regions around the world. The likely impact of the new standards on how statistics on women's and men's participation in the labour market are collected and how gender should be integrated fully into labour force surveys will require careful evaluation. For any further development, please contact the Department of Statistics, International Labour Office.

604. Labour force surveys may be conducted on a recurring basis at short intervals to provide data for current purposes, or they may be conducted at longer intervals and provide benchmark data and data necessary for structural in-depth analysis (Hussmanns, Mehran and Verma, 1990). It is important that a gender perspective be taken into account in both approaches, although more gender-related comprehensive information may be obtained in the second approach. In the recurring programme, the focus is on adequately monitoring the trends and seasonal variations of the currently active population, both employed and unemployed. In developed countries, a continuous survey may provide monthly or quarterly statistics on the labour force. In developing countries, however, such surveys may be collected less often. Still, it is important that countries collect statistics for both agricultural peak and slack seasons, as the seasonal variations in labour force participation are different for women and men.

605. In the non-current statistics programme, more-comprehensive surveys may be conducted once every few years. These surveys should provide comprehensive information on the economically active population by industry, occupation and status in employment, and on activity patterns over the year, work experience, multiple job-holding, education and training, hours worked and income from employment (Hussmanns, Mehran and Verma, 1990). Other topics, such as time use or informal employment, may also be included, along with demographic and household and family characteristics. The benchmark statistics obtained, as well as the possibility of in-depth analysis, are particularly valuable for understanding gender issues.

#### *Avoiding gender bias in data collection*

606. Questionnaire design, the development of manuals and the training of the interviewers are key elements in avoiding gender bias in data collection. These elements should be reviewed from a gender perspective before implementing the survey. For each topic covered by the labour force survey, there are strategies for reducing the underreporting of economic activity and the misreporting of categories of labour force or employment conditions, as presented in detail in the following subsections. Box III.5 and box III.6 present a summary of those measurement strategies.

#### **Box III. 5**

##### **Designing the questionnaires for labour force surveys for better gender statistics: a checklist**

- Ensure that members of the team designing the questionnaires are trained in gender issues and gender-specific measurement issues related to work
- Use a set of questions rather than one direct question for each of the topics
- Include additional probing questions for selected groups of employed or status-in-employment categories
- Use lists of economic activities that are usually underreported (for example, those considered an extension of domestic activities, and/or carried out in the home)
- Avoid using keywords such as “economic activity”, “occupation” or “looking for work” that may induce underreporting of non-market economic activities
- Avoid using keywords that apply exclusively to one of the sexes, such as “housewife” or “fisherman”
- Include short explanatory notes in the questionnaire and detailed instructions, including explanations of concepts, in the interviewers’ manual
- Use specific questions on reasons for not seeking work to identify particular subcategories of unemployed or non-active persons, such as discouraged workers or seasonal workers
- Use additional questions with gender-specific reasons for: being absent from work; not being available for work; steps taken to seek work; reasons for not seeking work; and reasons for choosing certain non-regular jobs or non-standard working arrangements.

**Source:** Hussmanns, Mehran and Verma, 1990; Mata-Greenwood, 1999, 2003

**Box III. 6****Integration of gender in the preparation of manuals and training of interviewers in labour force surveys: a checklist**

- Key gender issues related to work are identified and integrated in the general training of staff involved in the survey
- The language and all the examples given in the manual or during training exercises are free of gender-based biases or other stereotypes related to the characteristics measured
- Training examples are reviewed so as not to foster gender-based or other stereotypes related to the characteristics measured
- Explanation of work-related concepts is followed by a warning that the respondents' or the interviewers' understanding of the concepts may be different from the concept intended to be measured; stereotypes of women as housewives are discussed
- Interviewers are trained to use probing questions and lists of activities and lists of economic activity that may be underreported and lists of housework activities that are not considered economic are compared and the differences between those activities are made clear
- In-depth training based on examples and explanations is required for those items in the questionnaire where the interviewer has to categorize the replies given by the respondents, such as in the case of recording information on status in employment
- Clear guidelines in selecting the appropriate respondent are given
- Both women and men are selected as training instructors and as trainers presented in audiovisual materials
- Both women and men are trained to interview persons of the same sex and of the opposite sex

**Source:** Hussmann, Mehran and Verma, 1990; Mata-Greenwood, 1999.

## Topics covered

607. Labour force surveys usually cover the following topics: the economically active population; employment; unemployment; hours of work; industry (branch of economic activity); occupation; and status in employment. A wider range of information relevant to gender can also be generated by attaching additional modules on income, informal employment, time use or work-family balance to labour force surveys.

### *Economically active population*

608. The measurement of the economically active population involves two basic considerations: (a) the distinction between economic activities and non-economic activities; and (b) the use of a short reference period or a long reference period in applying that distinction. Both considerations are relevant from a gender perspective, as shown in the paragraphs that follow.

609. According to international standards, the distinction between economic activities and non-economic activities should be based on the general production boundary of the System of National Accounts. Economic activities cover market work and non-market work involved in producing goods for own consumption, as specified in the System of National Accounts. Respondents' and interviewers' understanding of the notion of "work" and "economic activity", however, may not be as encompassing as the definition envisaged by international standards (Hussmanns, Mehran and Verma, 1990). The forms of work that are more likely to be underreported are those performed for own consumption and those carried out at home. As these forms of work are commonly performed by women, their participation in economic activity is often underestimated. Cultural perceptions of women as housewives and the failure

of the proxy respondents or the interviewers to take into account the multiple activities of women also contribute to the underreporting of women's economic activity.

610. Underreporting of economic activity may be reduced by avoiding keywords such as "economic activity" and by supplementing the general leading question on work performed with probing questions referring to specific activities. Where non-standard work situations are widespread and varied, probing questions may be formulated in terms of activity lists. Those activity lists should cover activities commonly carried out in the country by women and men and suspected as going unreported without probing (Hussmanns, Mehran and Verma, 1990). Training of the interviewers and clear explanations of the scope of economic activity in the instruction manual are also needed.

611. The economically active population is measured based on the current activity status or usual activity status. The most widely used is the "current activity" measurement. It is based on a short reference period, such as one week or one day, and it provides a snapshot of the economically active population at a given point in time (Hussmanns, Mehran and Verma, 1990). In this approach, currently active population is the labour force. The "usual activity" measurement is based on a longer reference period, such as one year, and is particularly useful in developing countries with significant seasonal variation of the labour force (Hussmanns, Mehran and Verma, 1990). For certain groups of population involved in seasonal activities, the employment pattern obtained on the basis of a current activity approach will be different from the employment pattern obtained by employing a usual activity approach. In particular, women are more likely than men to be involved in seasonal activities such as those in agriculture, and their dominant pattern of activities over the year may differ from the current situation at given points of time during the year. The distinction becomes clearer when the measurement of usual activity is combined with the measurement of current activity in the same survey. Retrospective measurement over a long reference period, such as a year, has limitations; however, a month by month recall with probing questions and memory cues may be used to reduce the recall errors (Hussmanns, Mehran and Verma, 1990).

### *Employment and hours of work*

612. Employment and unemployment are the two categories of the currently active population (labour force). Employment includes persons at work for at least one hour in a short reference period of one week or one day, including persons temporarily absent from work. The measurement of employment has to ensure that (a) all economic activities as defined by the System of National Accounts production boundary are reported, by using probing questions and activity lists, as explained previously; and (b) persons temporarily absent from work are included, by using a question or list of reasons of absence. The question on reasons of absence is particularly useful in preventing the underreporting of employment for women temporarily absent from work owing to pregnancy and birth delivery.

613. Additional data may be collected on hours of work (actual or usual), in order to identify, within the employed population, subgroups with different degrees of labour force participation (Hussmanns, Mehran and Verma, 1990). These data are the basis for identifying the visible underemployment and for distinguishing between full-time, part-time and other working arrangements for women and men (Hussmanns, Mehran and Verma, 1990). When visible underemployment is of interest, additional questions may be asked regarding reasons for working fewer hours than normal; willingness and availability for additional work; and the kind of additional work sought or available (see Hussmanns, Mehran and Verma, 1990). The categories of answers for reasons for working fewer hours should be detailed enough to capture some of the differences in gender roles within the household (such as time needed to take care of children or of older persons).

### *Unemployment*

614. Unemployment is defined by three main criteria that need to be satisfied simultaneously: persons who during the reference period were (a) “without work”; (b) “currently available for work”; and (c) “seeking work”. The criterion “without work” is used to differentiate between employed on one side and unemployed or not currently active on the other side. Furthermore, the criteria “currently available for work” and “seeking work” are used to differentiate between the unemployed and not-currently-active population.

615. Questions regarding steps taken to seek work, reasons for not seeking work and reasons for not being available for work are necessary to properly identify unemployed women and men; certain groups such as discouraged workers or seasonal workers that may be more often associated with women or men; and gender-specific obstacles in labour force participation. These questions and detailed categories of responses are particularly important in the developing countries where the labour market is relatively unorganized or of limited scope and the conventional means of seeking employment are of limited relevance. Such countries may choose to use a relaxed criterion for seeking work. The relaxation of the seeking-work criterion may have more effect on the unemployment classification of women than of men (Husmanns, Mehran and Verma, 1990). For example, “discouraged workers” are those persons who are available for work and want a job, but who give up searching because they believe they cannot find a job. More women than men may be found in this situation. Under a strict “seeking work” criterion, “discouraged workers” should be considered “not active”, while under the relaxed criterion they should be considered “unemployed”. Even when the standard definition of unemployment is adopted, this category of workers should be identified separately, among the population not currently active (Husmanns, Mehran and Verma, 1990). Similar considerations should be taken into account when classifying seasonal workers. During the off-season, these persons are available for work but not seeking work while waiting for the busy season (Husmanns, Mehran and Verma, 1990).

### *Major economic classifications: industry, occupation, status in employment*

616. Data on industry, occupation and status in employment disaggregated by sex provide information on the conditions of work for women and men. These data are the basis for the study of the structure of the economically active population and the development of human resources.

617. Industry (branch of economic activity) and occupation refer to the main job of the person, often defined as the job where the person spends the most time working, or, sometimes, the job that provides the highest income from employment. Industry is identified on the basis of a description of the characteristics of the economic unit in which the person works such as the kind of goods or services produced at the place of work and the types of activities carried out by the economic establishment. Occupation is identified on the basis of the job title and a description of the tasks and duties performed by the person in the job. The textual responses obtained from the questions on industry and occupation are coded after the field information has been gathered, and this activity constitutes a major task of data processing. The framework used for coding industries is that of the International Standard Industrial Classification of all Economic Activities. The framework used for coding occupation is that of ISCO. Coding involves classification and subject-matter specialists at the planning stage and specially trained coders at the operational stage. It is important that wrong assumptions due to gender stereotypes are avoided at the stage when rules for data coding, data editing or data imputation are formulated.

618. Status in employment is categorized on the basis of the type of contract of employment, economic risk and authority over the establishment or other workers (International Labour Office, 1993). A worker may have more than one job during the reference period and, as a consequence, she or he may have more than one status in employment. For example,

a woman or a man may work as an employee in one job and as an own-account worker in another. While status in employment should be measured for the main job (the same main job used for industry and occupation), it may also be useful, for analytical purposes, to collect information on status in employment for more than one job (Husmanns, Mehran and Verma, 1990).

619. The information on status in employment is usually obtained through one question (such as “Did you work as..?”; “Were you a..?”; or “What is your employment status in your present job?”) followed by a list of precoded answer categories (Husmanns, Mehran and Verma, 1990). The number and types of the precoded answer categories to the question on status in employment may vary. In addition to the five broad categories recommended by the International Classification of Status in Employment, it may be necessary to include other categories, either as separate groups or as subgroups. It is important that categories of status in employment where women or men are overrepresented be considered. For example, women may be overrepresented among the “subsistence workers”, “casual workers”, “short-term workers” or “seasonal workers”; men may be overrepresented among the “owner-managers of incorporated enterprises” or “employees with stable contracts”. Additional questions may be needed to identify those categories of workers.

620. Training and instructions included in the interviewers’ manuals should aim to prevent misclassification of status in employment owing to gender bias. For example, when a household enterprise is operated jointly by a couple, the appropriate statistical treatment would be to consider both persons as employers or both as own-account workers rather than considering one person as employer or own-account worker and the other as contributing family worker (Husmanns, Mehran and Verma, 1990; Mata-Greenwood, 2003).

#### *Modules attached to the labour force surveys*

621. A wide range of information relevant to gender can also be generated by attaching topic-specific modules to the labour force surveys. Modules may refer to, for example, income from employment, informal employment, time use or work-family balance; however, countries need to consider carefully the length and complexity of the interview, the increased respondent burden and increased work on data processing and data analysis. Countries may choose, for example, to integrate a different module within each round of the ongoing labour force survey.

#### **Income from employment**

622. Employment-related income consists of payments in cash, in kind or in services as a result of an individual’s current or former involvement in paid or self-employment jobs (International Labour Office, 1998). Data on employment-related income provides crucial information for the analysis of the income-generating capacity of different economic activities; income access and underemployment; and the economic well-being of women and men. Depending on the objectives set, the information on employment income may need to be collected in relation to the job (when interested in the income-generating capacity of economic activity) or in relation to the individual (when interested in women and men’s access to income and their well-being). From a gender perspective, the latter approach is preferred. Different reference periods may also apply. In the latter case, the focus may be on the past-year employment experience and income from all jobs held during the period, including main activities as well as other activities. Income should be collected separately for each component of payment and, as much as possible, directly from the person concerned.

#### **Informal employment**

623. Informal employment is defined as the total number of informal jobs, whether carried out in formal sector enterprises, informal sector enterprises or households, during a given period (International Labour Office, 2003). The measurement of informal employment in-

volves a combination of several questions leading to the identification of different types of informal employment (Husmanns, 2004):

- a) A question on status in employment. Contributing family workers will be considered in informal employment owing to the fact that they do not have explicit written contracts of employment and are not subject to labour legislation, social security regulations or collective agreements;
- b) A set of questions about the characteristics of the enterprise where the person works, such as the size of the enterprise, legal ownership, the type of accounts and formal registration of the enterprise. Several categories of workers in informal employment are derived, including own-account workers and employers working in their own informal sector enterprises, members of informal producers' cooperatives, and own-account workers engaged in the production of goods for own final use;
- c) A set of questions about social protection or other employment benefits addressed to all employees – specifically, the payment of social security contributions or the existence of paid leave. The category of workers in informal employment derived is employees holding informal jobs in the formal sector. (For more information on gender and informal employment, see United Nations, Economic Commission for Europe, and World Bank, 2010).

624. These types of informal employment vary in terms of the vulnerability of jobs and the level of payment as well as in terms of the shares of women and men involved. Therefore it is important that they are identified and presented in dissemination products as separate categories.

#### **Time use**

625. A time-use module may utilize for data collection either a separate instrument, such as a light-time diary, or, more often, a set of questions on specific paid and unpaid activities integrated within the same questionnaire dedicated to labour force measurement (United Nations, 2005). The reference time period is usually the 24 hours of a day or the seven days of a week. Information on time use is crucial to understanding gender roles in productive and non-productive activities. It is the basis for the measurement of unpaid work such as household production or volunteer community work. This work, more often performed by women than by men, is not usually covered by the labour force statistics. In addition, time-use information can be used to better capture some forms of work that, although considered economic and productive by international standards, are not properly reported, especially in the case of women. Lastly, information on time spent by women and men on specific activities such as caring for children or the elderly, cooking, washing or repairing are important for understanding intrahousehold distribution of gender roles and gender-specific work-family balance.

#### **Work-family balance**

626. Understanding work-family balance requires additional information about the person and other household members. First, demographic characteristics such as sex and age should be collected for all household members; in addition, basic economic characteristics should be collected for all adults in the household. That information will show whether children or older persons (groups usually in need of some care) are part of the household, and whether other adults in the household have a source of income. Second, the distribution of gender roles within the household may be captured through questions on household responsibilities in taking care of children or ill, disabled or older household members, and involvement in various types of housework. The time spent in each activity may be provided by a time-use module. Third, questions regarding the availability and quality of childcare services are particularly important in countries where such services are not easily and equally available to all population subgroups. Fourth, questions regarding the individual reasons for choosing

certain non-regular jobs or non-standard working arrangements may show whether family or non-family factors are among the main reasons.

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## Time-use surveys<sup>9</sup>

### Uses of time-use data for gender statistics

627. Time-use data show how individuals allocate their time to specific activities over a specified period - typically over the 24 hours of a day and over the seven days of a week (United Nations, 2005). These data are generally obtained through two types of survey instruments: 24-hour time diaries and stylized analogues of these diaries. In time diaries, the respondents report all activities undertaken during a prescribed period of time and the beginning and ending time for each activity. In stylized versions of diaries, respondents are

<sup>9</sup> This section of the manual draws extensively on the United Nations publication *Guide to Producing Statistics on Time Use: Measuring Paid and Unpaid Work* (2005). Readers are strongly encouraged to consult the above-mentioned publication, as more detail as well as additional information are covered at length.



asked to recall the amount of time allocated to certain activities during a specified period of time. Compared to stylized questions, diaries can be a more reliable tool for measuring time use and therefore a more reliable tool in obtaining gender statistics; however, the resources required and the burden on the respondents are considerably higher.

628. Time-use data are the basis for obtaining gender statistics related to several topics: time allocation patterns; unpaid work; participation in all forms of paid work; working time, work locations and the scheduling of economic activities; work-family balance; the investment of time in education and health; welfare and quality of life; and intrahousehold inequality.

629. *Time-allocation patterns.* Time-use data can show differences between women and men in time-allocation patterns (types of activities and their schedule during a specified period of time), reflecting differences in roles and expectations with regard to family, domestic life and participation in work and social activities outside the home. Women, for example, tend to spend more time than men taking care of children and less time than men working for payment outside of their homes. The schedule of various episodes of activities may also be different for women and for men. For example, men may be more likely than women to spend time on paid work activities during the night; or, time spent with children may be more concentrated for men in the evening hours and during the week-end. Gender differences extend beyond the traditional distribution of roles in paid and unpaid work. Different patterns of leisure activities may be described for women and for men. In some societies, for example, men may spend more time than women doing sports and fitness activities.

630. *Unpaid work.* Time-use data are essential in estimating the participation of women and men in unpaid work (activities unaccompanied by remuneration) and the value of this unpaid work for the economy. Some types of unpaid work are not covered by conventional labour statistics or the System of National Accounts. Conventional labour statistics are limited to activities that contribute to the production of goods and services, as defined by the System of National Accounts, and cover mainly market activities and some unpaid non-market activities. Unpaid work referring to own-account production of services is outside the general boundary of the System of National Accounts and therefore not covered at all in conventional labour force statistics. Examples of unpaid work include cleaning dwellings, performing small repairs, preparing and serving meals, caring for and instructing children, caring for other persons in the household and certain types of volunteer community services. Data on time use for those types of activity are typically obtained in time-use surveys or time-use modules attached to labour force surveys, living standard surveys or other multitopic surveys. The data obtained can be used to estimate household production in satellite accounts that extend measurement of gross domestic product (GDP) to include non-System of National Accounts production, making the national accounts more complete and comparable across countries. At the same time, time-use data on unpaid work is crucial to making the contribution of women to the economy and society more visible. Women, more often than men, tend to be involved and spend a great amount of time in unpaid work in the home and community. When only cash transactions are taken into account in the measurement of economic production, a large portion of women's work remains unaccounted for.

631. *Participation in all forms of work.* Time-use data have an important role in improving estimates of employment and labour force participation through more extensive capturing of the participation in non-market activities that are within the general production boundary of the System of National Accounts. These activities refer to the production of goods for own consumption, such as agricultural work, fishing, hunting, cutting firewood, carrying water, threshing and milling grain, making butter and cheese and slaughtering livestock. Such activities are taken into account by current concepts of labour force and employment and should be covered by conventional labour statistics. As a result of bias in data collection, however, these activities are often underreported in labour force surveys or censuses. Women in particular tend to have their participation in labour force underreported, because they tend to be more often involved in non-market economic activities and because it is often assumed (by interviewers or respondents themselves) that women's activities are limited to the domestic

area. Time-use surveys are more suited for capturing the involvement of women and men in atypical cases of non-market activities that should be considered within the general production boundary of the System of National Accounts, and for obtaining a measure of the amount of time allocated to those activities.

632. *Working time, work locations and the scheduling of economic activities.* Characteristics of work such as working time, work locations and the scheduling of economic activities are often different for women than for men. Time-use data can be used to improve the measurement of time spent for economic activities and to better identify work locations and the scheduling of activities during the week and within 24 hours. Time-use surveys may be able to provide better estimates of working time than labour force surveys, especially when the distinction between periods of work and non-work may be unclear or when such periods are frequently interchanged. They may also provide better estimates of when work is carried out, and at what locations. Work is increasingly undertaken in non-traditional places. A good portion of paid work may be performed at home or while commuting. Contextual information (i.e., for whom and for what purpose is the activity done) is important in order to identify activities outside the workplace that are actually performed for an institution, even if they appear to be personal. Reporting work-related activities may also help to identify, non-paid activities that are performed for work. For example, self-employed persons may carry out various activities that are important for their business but are not formally remunerated, such as socializing.

633. *Work-family balance.* Time-use data can provide great insights into the gender specifics of the interaction of work and family life and the relationship between the labour force participation of various female and male household members and their involvement in domestic care activities. Time-use data can also show how the gender division of labour is changing with the change in the balance between market and non-market activities. This is especially the case when there is supplementary information available regarding local infrastructure, domestic appliances and the consumption of market services that substitute for households' own labour (maids, childcare centers and nursing care, for example).

634. *Investment of time in education and health.* Time-use data can contribute to understanding gender differences in investment in education and health. Data on children's investment in education may refer to time use spent on activities such as being in school and doing homework or other learning activities, as well as on the balance between time spent on learning activities and time spent in employment or doing housework. Data on time use can also be used to better understand gender differences related to physical access to school when girls and boys do not use the same means of transportation or do not attend the same schools. Furthermore, data regarding the use of technology such as the Internet, computers or telephones in performing various activities can be used to assess gender gaps in access to communication and technology.

635. *Time-use data can be used to understand the relationship between gender and health.* Commonly, time-use data cover activities of care for the sick and disabled, which are more often the responsibility of women than of men. Time-use data may also cover transportation to health facilities and waiting time to obtain a consultation, which may show gender differences in accessing health services. Lastly, some data needed to assess the time lost to ill health, which are often used as a measure of health status for individuals and as a non-consumption indicator of poverty, can also be obtained in time-use surveys or multipurpose surveys collecting data on health and time use.

636. *Welfare and quality of life.* Time-use data on leisure and the psychological well-being experienced while performing various types of activities can be used as measures of welfare and quality of life for women and men. In certain contexts, the shortage of leisure can be an indicator of poverty. Poor people have to spend most of their time producing the income required for basic needs and do not often have time for leisure. Leisure may include social interactions, relaxation, cultural activities, solitude, physical exercise or participation in sports

or games; however, the definition of an activity as leisure is cultural and varies from person to person. Cooking is often given as an example of an activity that may be a chore for one person, but leisure for another person. Women are usually responsible for cooking, and this activity is often identified as a household chore; however, cooking, for example, may be performed once in a while by the husband, as a hobby, and therefore it may be identified as leisure. Shopping is another example of an activity that can be defined as household chore or individual leisure.

637. Variables that measure psychological well-being while performing each activity (for example, whether people experience negative emotions such as tension or stress or positive feelings such as enjoyment or content) can also be used to differentiate between activities that are performed as duty and activities that are performed as hobby, and to give an indication of the quality of life. Women are most often in charge of taking care of their children, for example. A woman may experience positive feelings while spending time with her children when the availability of childcare services prevents the time invested from becoming a burden. When care services are not available and the woman is the only care provider, however, negative emotions and lower quality of life may be associated with some of the activities related to the care of children.

638. *Intrahousehold inequality.* Data related to the amount of time spent by all household members on household chores can be used as an indicator of household and individual living standards and help redefine poverty in terms of the lack of time resources. At the household level, for example, “household time overhead” is defined as the minimum number of hours that a household must spend on the basic chores vital to the survival of the family, such as the preparation of meals, washing clothes, cleaning the house and time spent fetching water and firewood for cooking. A household with low household time overhead is better off than a household with a high time overhead. How the burden of work is distributed among women and men of the household is an important contribution by time-use data to the understanding of intrahousehold inequality. The household maintenance tasks are not distributed evenly among household members and have a different impact on women and men. As a result, women are, more often than men, “time poor”. Furthermore, data on time use can show how the gender allocation of time within the household is changed when access to public services, infrastructure or domestic appliances is provided. They can also show whether the household time overhead is covered by girls or boys when adults, especially women, spend more time on market activities, and whether there are gender differences in the impact on time devoted to schooling and learning activities.

## Avoiding gender bias in data collection

639. Several aspects specific to time-use surveys are important in avoiding gender bias in data collection: the classification of activities covered; the recording of contextual information; the recording of simultaneous activities; the coverage of relevant individual and household characteristics; and sample coverage.

### *Classification of activities*

640. Time-use classifications should be detailed enough to identify separately the activities mainly undertaken by women or mainly undertaken by men. It is important that activities with great gender differences in time use be collected in as detailed a manner as possible and later, at the stage of the coding, analysis or presentation of data, they are not collapsed into larger categories where the gender differences disappear. Also, when using light diaries or stylized analogues of time diaries, the predefined list of activities of interest should capture the specificity of the type of activities carried out by women and men, and the different amount of time allocated to each. It is important that the data collected be as detailed as possible. For example, instead of one category of care for children, adults or the elderly, more categories

should be defined, such as care of children, care of ill adults, care of the elderly and care of the disabled. Fetching water and fetching firewood should also be included as separate activities among other types of non-market work.

641. Time-use classifications should allow for a distinction between market work, non-market work, domestic activities and volunteer work and enable the provision of data that can be linked to official statistics emanating from the System of National Accounts and labour statistics frameworks. This is especially critical in situations in which time-use data are used to measure unpaid work in satellite accounts that extend the measurement of GDP to include non-System of National Accounts production. Furthermore, the distinctions between different types of work are particularly important in understanding the specific contribution of women and men to the economy and society.

642. For example, the International Classification of Activities for Time-Use Statistics uses the System of National Accounts as a basic framework and distinguishes between productive activities within the System of National Accounts, productive activities outside the System of National Accounts, and personal activities. Also useful for understanding gender differences are the categories of unpaid non-System of National Accounts activities included in the classification. For instance, three of the major groupings of the classification are “unpaid domestic services for own final use within households”, “unpaid caregiving services to household members” and “community services and help to other households”.

#### *Recording of contextual information*

643. The separation between different types of work and between work and leisure is possible only when additional contextual information is collected in the time-use surveys. The context in which activities take place include the location of an activity, the other people present, the person or institution for whom the activity was done, the purpose of the activity and any remuneration that may have been received for the activity. Contextual information is crucial to coding and classifying activities reported in the time-use surveys. For example, information on the persons or institutions for whom a particular activity was being carried out, and whether payment was involved, would be needed to identify volunteer work, unpaid work within the household and unpaid work outside of the household.

644. Other contextual information can be useful from a gender perspective. For instance, subjective information on well-being experienced while performing an activity may be used in constructing measures of quality of life for women and men. Also, information on the ownership of assets and durable goods such as domestic appliances, and information on types of fuels used in the household and types of water sources can be used for valuing unpaid work and the construction of satellite accounts.

#### *Recording of simultaneous activities*

645. Time use for specific types of activities, often related to unpaid work and often performed by women, can be adequately identified only when simultaneous activities are recorded. An activity may be carried out in parallel with one or more other activities over an interval of time. For example, a woman may take care of her children while cooking or while doing the laundry. When estimates of time use are based only on primary activities, many activities, such as caring for children, older persons, ill or disabled persons, for example, are clearly underestimated. These “missing” activities would typically be reported as secondary or simultaneous activities.

646. A large proportion of secondary activities tend to be underreported. For example, respondents may perceive domestic or personal care activities as not important. Probing questions can bring out unreported simultaneous activities. When multiple activities are recorded in a questionnaire for the secondary activity and only one activity can be recorded in the

database, priority should be given to activities such as unpaid domestic work, childcare, care of the elderly and care of the sick and disabled.

647. The ability to collect data on simultaneous activities depends on the methods of data collection used. For example, it is difficult to record simultaneous activities through a telephone interview. Underreporting of secondary activities may be more likely to appear when using activity lists and stylized questions that constrain people to summarize their activities into a total of 24 hours.

#### *Coverage of relevant individual and household characteristics*

648. Gender differences in time allocation for specific activities tend to vary in different groups of population and at different life stages. Individual characteristics commonly recorded in time-use surveys refer to sex, age, marital status, the presence of children, education and labour force status. This information will allow time-use data to be disaggregated at the level of particular groups of women and men. When time-use data is collected for only one person in the household, and the questionnaire needs to be kept to a minimum, it is important for the demographic, social and economic characteristics of the partner of the respondent to be recorded. When data on time-use is collected for all relevant household members and more extensive background characteristics can be recorded, however, individual characteristics should be captured for all household members. In addition, information on housing characteristics or other measures of wealth of the household should be collected. Such information will enable the identification of patterns of intrahousehold allocation of time resources according to various types of living arrangements and wealth group of households.

#### *Sample coverage*

649. Samples used in time-use surveys should cover all relevant groups of population and all seasons. In particular, children and older persons should not be excluded by the survey sample. It is also important for the sample of days included in the survey to cover all seasons relevant to agricultural or other weather-dependent activities.

650. Data on time use for multiple persons from the same household are the basis for understanding intrahousehold allocation of time and resources. A full accounting of time use during the past 24 hours for all eligible household members is necessary in order to study how housework and childcare are allocated among household members, and how a change in one person's labour activities affects the use of time by other household members.

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## Surveys on violence against women<sup>10</sup>

### Uses of surveys on violence against women for gender statistics

651. Surveys on violence against women have a unique role in measuring the extent, nature and consequences of all types of violence against women. Data collected in these surveys are necessary (a) to estimate the prevalence of violence against women; (b) to identify the groups of women most at risk of violence; (c) to identify the characteristics of perpetrators; (d) to estimate the impact of violence on women's physical and mental health; (e) to identify the barriers faced by victims of violence in seeking support and services; and (f) to understand attitudes towards violence against women. This information is crucial to efforts of prevention and response to violence against women.

652. Surveys on violence against women are an effective tool to measure the prevalence of physical, sexual, psychological and economic violence. Data are usually collected for four types of violence against women: physical, sexual, psychological and economic abuse. In dedicated surveys, these types of violence can be examined in depth, through detailed questions. Some other surveys that include modules on violence against women may not be able to include all types of violence. When surveys have limited space to accommodate questions on violence, psychological and economic abuses are often left out. On the other hand, administrative records of data on violence against women are characterized by massive underreporting of violence, and therefore cannot be used as a reliable source of data for measuring the prevalence of violence against women.

653. Surveys on violence against women collect data necessary to identify the groups of women most at risk of violence. In particular, dedicated surveys have the advantage of using samples designed to represent various groups of women in sufficient numbers to allow the calculation of specific prevalence rates for each group. In all societies, women and girls from various social groups can be victims of violence. In many countries, there is even a cultural acceptance of violence. Not all groups of women have an equal risk of being abused, however. Surveys on violence against women can identify the groups most at risk by collecting information on the characteristics of women who experience violence and those who do not. Characteristics usually measured include age, age at first marriage, marital status, educational attainment or literacy, economic activity, place of residence, ethnicity, language and religion. Other data on women's awareness of legal rights or on characteristics showing women's ability to access resources and live independently (such as regular and stable cash income or the ownership of property) may also be useful to understand women's vulnerability to violence by intimate partners or other perpetrators.

654. Detailed information on perpetrators covering all types of violence and all types of victims are often collected only in dedicated surveys focused on violence against women. Data

<sup>10</sup> This section of the manual draws extensively on the United Nations publication *Guidelines for Producing Statistics on Violence against Women: Statistical Surveys* (2014). Readers are strongly encouraged to consult the above-mentioned publication, as more details as well as additional information are covered at length.

on characteristics of victims and perpetrators serve as the basis for designing strategies for the prevention of violence and early intervention. Data on the relationship to the perpetrator is a key element of any survey on violence against women. This characteristic serves as the basis for identifying perpetrators who are intimate partners (current or former) and other perpetrators (such as various types of relatives, acquaintances, friends, co-workers, local authorities or others). Slightly different data are usually collected on intimate partners and on other perpetrators. For intimate partners, a minimum recommended list of characteristics includes age, educational attainment and literacy, economic activity, substance abuse and witnessing partner violence in the family of origin. These characteristics should be collected for the current partner as well as for the most recent previous partner. Characteristics of non-partner perpetrators that could be accurately recalled by respondents include the sex and relationship of the perpetrator and the location where the violence occurred.

655. Surveys on violence against women are a source of representative and comprehensive data on the impact of violence against women. Data collected may refer to frequency of violence by type of violence, types of physical injuries and the need to seek medical attention. Additional data on mental health impacts, relying on self-evaluation, may refer to being afraid or depressed, experiencing anxiety and suicidal thoughts, being unable to perform paid or unpaid work or turning to alcohol or drugs. It is also important to identify violence that took place at specific life stages, such as during pregnancy, and whether the violence resulted in miscarriage. All this information is crucial in order to plan appropriate services for victims and effective responses to the violence.

656. Surveys on violence against women may be the only source of data on the proportion of victims of violence seeking help and receiving informal and institutional support and services. Barriers faced by victims of violence in accessing support and services can be identified on the basis of data on victims seeking help from family, friends or institutions and data on using medical or social services, combined with data on individual and household characteristics. The information obtained is crucial to the development of policy and programmes that more effectively respond to the needs of the victims of violence, such as emergency housing, counselling, medical assistance, the prevention of sexually transmitted diseases and unwanted pregnancy.

657. Surveys and survey modules on violence against women can collect data on the extent to which violence is tolerated in the wider community. The information obtained can be used to design strategies of zero tolerance towards violence against women directed at the general public or targeted at groups of women most at risk of violence.

658. Additional sources can be used by national statistical offices to collect data on violence against women. Data on the prevalence of violence and additional related topics can be collected in modules attached to more general household sample surveys focused on health, such as DHS and MICS, or crime, such as victimization surveys. Considering the sensitivity of the topics addressed, health surveys in particular provide a feasible vehicle for a module of questions measuring women's experiences of violence. Although these surveys may not be able to accommodate the detailed range of questions needed to study violence against women in all its complexity, they may be a practical alternative for measuring violence against women when the budget is limited.

659. Other sources of data regarding violence against women are administrative and include but are not limited to records from health and medical services, agencies of the criminal and civil justice systems, social services, legal aid services, research and documentation centres, and services designed specifically to respond to women who have experienced violence, such as shelters or refuges, rape/sexual assault centres, crisis telephone lines, women's groups and advocacy organizations and women lawyers' associations. These agencies and organizations collect data about women experiencing violence as part of their daily recording practices. The data collected provide an indication of societal responses to reported cases of violence against women and available services for victims. Acts of violence against women go highly unre-

ported, however, and those that are brought forward to agencies and services are often among the most severe and affect the most disadvantaged women. Therefore, data collected are not representative of the full extent and nature of the problem and cannot be used to measure the prevalence of violence against women taking place within a population.

### Avoiding gender bias in data collection

660. The following paragraphs focus on data collection issues specific to surveys on violence against women, organized into four categories: concepts and measurement; questionnaire design; sample coverage; and the selection and training of interviewers.

#### *Concepts and measurement*

661. Prevalence of violence against women should be measured using questions listing different acts of violence for each type of violence. Detailed, behaviour-specific questions are needed to ensure that respondents consider a wide range of acts in their responses that they might otherwise omit if they are left to speculate about the meaning of a more general term. For example, physical violence encompasses all acts of intentional force that have the potential to cause injury or death (not including forced sexual contact). Questions measuring the prevalence of physical violence should list acts such as hitting with a fist, open hand or hard object; kicking; biting; pushing; squeezing; pulling hair; repeated hits that result in beating; choking; burning; holding the person down; threatening to use a gun, knife or other object used as a weapon; and actually using a weapon. This list and other suggested lists of behaviours needed to measure each other type of violence (sexual, psychological and economic) as well as the definitions of all concepts used are presented in the United Nations publication *Guidelines for Producing Statistics on Violence against Women: Statistical Surveys* (2015).

662. Severity of violence should not be assumed based on specific acts of violence. Similar acts of physical violence can have very different consequences owing to a number of circumstances (prolonged violence as opposed to a single incident, for example). Severity should be assessed separately according to the consequences suffered by the victim, including frequency, injury and other impacts that make it difficult for the woman to carry out usual daily activities. Emotional consequences, such as fear of the perpetrator, for example, could also be incorporated as indicators of the severity of intimate partner violence.

663. Broad concepts of marital status and intimate partners should be used in order to adequately estimate the prevalence of violence by intimate partner. The recording of marital status should extend beyond relationships that are socially or legally sanctioned and cover forms of informal unions specific to each country. In addition, the definition of intimate partner should not be limited to legally married partners, but kept as broad as possible and include, for example, boyfriends and dating partners. Testing of the questions and training of interviewers is essential to ensure that responses are recorded accurately. Probing questions should be used if necessary.

#### *Questionnaire design*

664. The questionnaire design is instrumental in ensuring participation in the survey; establishing rapport and trust; ensuring the disclosure of sensitive information and the safety of the respondent; and reducing the risk of emotional trauma. Of particular importance are the presentation of the survey, the introductory sections of the questionnaire, the sequence of questions in the questionnaire and the wording used.

665. The presentation of the survey in the initial approach to a selected household and subsequently to a selected respondent should not put the respondent's safety in jeopardy. It is common practice to introduce the survey to the household not as a survey on violence against women but as a study on women's health, safety or other issues of particular relevance



to women, without specifically mentioning violence. This is done to avoid raising suspicion from other family or community members and to encourage participation in the survey. Interviewers will not know in advance if the woman has experienced violence or is currently living in an unsafe situation; therefore precautions must be taken at all stages not to disclose the specific objectives of the survey to anyone in the household or community.

666. Introductions to various sections of the questionnaire are essential for building rapport and trust, ensuring disclosure and setting the context. At the beginning of the questionnaire, the respondent should be provided with information about measures that have been put in place to ensure her safety while she responds to sensitive questions, such as rescheduling to another time or switching to a neutral questionnaire if a family member comes on the scene. Careful introductions should be designed for the sensitive sections. For example, sensitive questions on intimate partner violence should be introduced by first assuring respondents that relationships have both good and bad moments in order to avoid the risk that only socially desirable responses are given. At the same time, the respondent should be reassured that their answers will remain confidential and that participation in the survey remains voluntary. Introductions are also important for setting the context of a particular section in the questionnaire. For example, an introduction to questions about violence involving individuals other than intimate partners should help the respondent consider a wide range of actors, including violence by male or female relatives, friends and acquaintances or strangers.

667. The flow of the questionnaire should be from topics and questions that are non-threatening and less sensitive to topics and questions that are more personal and sensitive. This gradual transition is critical to the disclosure of experiences of violence, reducing the risk of a participant prematurely terminating the interview and reducing the risk of emotional trauma. Questions about family composition, health, social networks, personal characteristics and partner characteristics can be situated prior to modules about experiences of violence. Situating questions about psychological and economic abuse by partners prior to questions about physical and sexual violence is important for providing a gradual lead-up to these more sensitive questions. It is good practice to place questions about forced sexual acts after questions about physical assaults because of the difficulty many women will have disclosing these very personal experiences to an interviewer. Questions concerning childhood experiences of violence may also be placed towards the end of the questionnaire. Within each section covering a type of violence, the behaviour-specific questions should also range from less serious to more serious acts of violence.

668. Careful wording is essential to reducing underreporting of experiences of violence. As a general principle, value-laden and stigmatizing terms such as “rape” and “violence” must be avoided in the questions or introductions as they lead to underreporting of experiences of violence. Instead, detailed, behaviour-specific terms, which yield much higher disclosures of identical experiences, should be used.

669. Survey questions and introductions to various sections of the questionnaire should cue respondents to consider a variety of different settings (for example, home, work, school and outside locations) and specific categories of perpetrators (for example, current partners, former partners, other male relatives and males in positions of authority).

670. The drafting of the introductory sections of the questionnaire and the development of the right wording of the questions can greatly benefit from focus group discussions engaging local women. Preferably, focus groups should include women identified as experiencing partner violence and sexual violence. These women can be recruited from shelters and counselling groups, for example. It is also important that women participants in the focus group represent various social groups, including immigrants and other minority groups.

### *Sample coverage*

671. All significant subgroups of population should be represented in the sample in numbers large enough to allow analysis at their levels. The expected prevalence of types of vio-

lence in the sample population and the requirement to conduct analysis for subgroups of population, such as different age groups, geographic areas or ethnic minority groups, are important factors in deciding the sample size and sample design. In order to produce prevalence estimates of specified precision for subgroups, the sample size will have to be increased considerably or higher sampling fractions may need to be applied to the smaller subgroups.

672. The method of data collection should not prevent the possibility of covering specific groups of women. Women living in violent situations may be prevented from using the telephone or may not take the risk of undergoing detailed questioning over the telephone if their movements are monitored by a violent partner. As another example, web-based and disk- by-mail surveys require wide-ranging computer ownership, Internet access and literacy.

673. It is recommended that only one woman be interviewed in each household, for safety reasons. Surveys on violence against women that interview all women in the household should take extra precautions to ensure the safety and privacy of all respondents.

#### *Selection and training of interviewers*

674. All interviewers for a survey on violence against women must be female. Using female interviewers increases disclosure of sensitive information, particularly experiences involving sexual victimization and violence perpetrated by male partners. Field supervisors must be female in face-to-face interviewing situations since they must travel with interviewers periodically to oversee their work. When forming teams of field workers, however, project managers must take into account local norms prohibiting women from working in public spaces and other barriers female interviewers may face when approaching households to obtain an interview. In these situations, teams of male and female interviewers working in tandem have been shown to improve household contact, lower refusal rates and be beneficial in ensuring the safety of female interviewers. In telephone situations, it is possible to have male supervisors if the supervisors do not have contact with respondents and if the supervisors have the required skills and training to further train interviewers and support them through regular debriefings.

675. Age is an important factor to consider when selecting interviewers. Interviewers that are seen as too young may experience distrust from respondents, which can lead to outright refusal to participate in the survey or reluctance to disclose personal information. In some locations, it would be considered inappropriate for a young woman to pose questions related to violence to an older woman. While there is no recommended specific age limit or range applicable across all settings, many respondents perceive older female interviewers as warmer and more reassuring than younger women.

676. Other characteristics of interviewers that may affect participation and disclosure rates should be taken into account when selecting interviewers and during training. Particularly important to obtaining accurate information from the respondents are non-judgemental and empathetic attitudes, good interpersonal skills and sensitivity and knowledge of gender issues and issues related to violence against women. These skills should be further developed through extensive training.

677. Training of interviewers is a crucial step in reducing bias in data collection. Training is essential to ensure that interviewers understand the purpose of the survey and know the structure of the data collection instrument; are skilled in conducting the interview and developing a rapport with the respondent; understand the ethical requirements of the survey, including confidentiality, safety and support for respondents; are aware of the possible dangers women face when responding to questions concerning their experiences of violence; are able to ensure the safety and emotional well-being of respondents; and guard the confidentiality of the information collected. All interview training should be in accordance with the guidelines for addressing ethical and safety issues in research on violence against women established by the World Health Organization.

678. Sensitivity training is an important component of interviewer training. Sensitivity refers to an interviewer's ability to pose very delicate questions about experiences of violence in a respectful manner, accurately assess the feelings or reactions of respondents in a variety of situations and respond appropriately. Sensitivity training must facilitate the understanding of gender issues related to violence, the dynamics and causes of male violence against women and the impacts of violence on women's health and well-being. Training techniques can be used to reduce the chances that interviewers will respond with judgmental or blaming comments when interacting with respondents. Such techniques include listening to and discussing in-depth testimonies of abused women and advocates for abused women; the discussion of general or local stereotypes, prejudices and myths regarding female victims of violence; the discussion of an interviewer's own biases and stereotypes concerning women who have experienced violence; and role playing. Role-play scenarios are particularly important in preparing the interviewers for situations in which women refuse to participate in the survey, or situations that may compromise the safety and well-being of respondents and the confidentiality of information (such as interruptions of the interview by other household members, including threatening husbands, or emotional reactions by respondents to the disclosure of experiences of violence).

679. Interviewers should be trained to control the interviewing environment in order to ensure the safety and privacy of respondents and the confidentiality of the information disclosed. The potential that women may be put at risk of violence for participating in a survey cannot be underestimated. It is essential that respondents be in a position to answer freely and without fear of repercussions. As mentioned before, selecting only one female member of the household to be a respondent is one of the mechanisms used to ensure that women who have experienced violence from intimate partners or other family members are able to respond in a manner that will not jeopardize their safety. Other strategies oriented towards the safety and privacy of respondents should be developed by survey designers and covered in interviewer training. It is recommended that interviews should take place at a time when other household members, particularly male partners, are not present. Interviewers should be prepared to switch to a neutral questionnaire if a household member comes on the scene. In some contexts, it may be advisable for escorts accompanying the primary interviewer to conduct interviews with other family members to distract them from the main focus of the survey. When the privacy of the respondent cannot be ensured, the interview should be rescheduled. In telephone surveys, respondents should be offered a toll-free telephone number they can use if they have to hang up suddenly or want to continue the interview at another time. Interviewers can establish a safety plan with respondents so that respondents can stop an interview at any time if they feel unsafe. Interviewers should also check in with respondents periodically during the interview to confirm that they are able to proceed.

680. Interviewers should be trained to identify and respond properly to respondents' emotional trauma. Given the personal and delicate nature of the information requested in surveys on violence against women, respondents can be expected to react in a wide range of ways. Some respondents may be open to disclosing their experiences and may view the survey as an opportunity to allow them to make their experiences known. Others, however, may be fearful that a violent partner might learn of their participation in the survey, feel disturbed by the content of the interview, be traumatized by recent experiences of violence or feel embarrassed or stigmatized when disclosing their experiences. Interviewers should be trained in ways to properly react to this multitude of possible reactions. It is important that the reaction to emotional distress is in a warm, empathetic but neutral manner. Interviewers must be instructed not to counsel respondents themselves. They should be able to refer respondents to a list prepared in advance consisting of agencies in the local community who can provide assistance. Where few resources exist locally, the survey design may need to take into account the development of short-term support mechanisms.

681. Interviewers should be trained to identify their own emotional reactions and reduce their own stress. In surveys on violence against women, interviewers will be engaged in emotionally draining work. Interviewers should be trained to identify their own emotional reac-

tions to the numerous disclosures about violence and helped to develop skills that manage and reduce their stress. Supervisors should also be trained to recognize emotional trauma among interviewers during fieldwork. Strategies to prevent burn-out should be considered, such as regular debriefings by supervisors or counsellors specially engaged as part of the project team, or offering interviewers the chance to participate in less taxing administrative tasks between interviews.

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## Chapter IV.

# Analysis and presentation of gender statistics

## Introduction

682. Previous chapters have presented important elements to consider when producing gender statistics, including gender issues and the data needed to address those issues and their coverage in censuses, surveys or administrative records, gender bias in data collection and ways to improve data collection from a gender perspective in censuses and surveys. After data have been collected, adequate data analysis and presentation ensure that meaningful differences and similarities between women and men are reflected in the statistics that are disseminated. This is the focus of the last chapter of this manual.

## Descriptive analysis of data

683. The degree of data processing and analysis varies according to the types of statistical products prepared by the national statistical offices. (See box IV.1 for types of statistical products that may include gender statistics.) Typically, tables constructed to disseminate data collected in censuses or surveys involve minimum data processing and analysis. Large amounts of data are provided, often as absolute frequencies or counts of observations, making it difficult to discern the main differences between women and men. Additional processing and analysis are developed when more analytical reports or articles focused on specific topics are prepared. In those cases, the differences between women and men may become more visible.

684. Gender statistics requires the cross-tabulation of at least two statistical variables: sex and the main characteristic that is studied, such as educational attainment or labour force participation. Ideally, additional variables are used in further cross-tabulation of data (for example, by age group or geographical areas) in three- or multiple-way tables. Although statistics on individuals have been traditionally disseminated as totals with no further information on women and men, data are increasingly disaggregated by sex in dissemination materials. Still, one limitation in producing gender statistics persists. Sex is often used as only one of the breakdown variables for the data presented. As explained in chapter I and shown in chapter II, gender statistics and a meaningful gender analysis commonly require disaggregation by sex and other characteristics at the same time. For example, gender segregation in the labour market is partially determined by the gender gap in education, therefore data on occupations should be further disaggregated by the level of educational attainment.

685. A basic descriptive analysis of data involves the calculation of simple measures of composition and the distribution of variables by sex, and for each sex, that facilitate straightforward gender-focused comparisons between different groups of population. Depending upon the type of data, these measures may be proportions, rates, ratios or averages, for example. Furthermore, when necessary, such as in the case of sample surveys, measures of association between variables can be used to decide whether the differences observed for women and men are statistically significant or not.

686. Percentages, ratios, rates or averages are the basis for the calculation of gender indicators. Indicators, in general, are used to “indicate” how differently one group performs by comparison to a norm or reference group. Gender indicators should show how women perform in comparison to men, and their status relative to men’s status, in areas such as education, formal work, access to resources, health and decision-making. In this regard, gender indicators are important tools for planners and policymakers in monitoring progress towards gender equality.

687. The sections that follow present the type of data involved in gender statistics, measures of composition and distribution used in gender statistics and the types of gender indicators that can be constructed using those measures.

#### Box IV.1

##### Types of statistical products that disseminate gender statistics

Gender statistics are made available by national statistical offices through various types of dissemination products. Some of the dissemination products are part of the regular production of a statistical office and are aimed at making available data collected in censuses, sample surveys or compiled from administrative records. They usually concern one type of data source or one statistical field and are intended for specialists who wish to further analyse the results of censuses or surveys or to carry out research on specific topics. The data disseminated in these types of products can be detailed, organized in large tables and often are presented as absolute values or raw data that give specialists more flexibility in doing their own analysis. A gender perspective can be integrated into these products through the systematic sex-disaggregation of data and the systematic coverage of data needed to address gender issues.

Other dissemination products that may include gender statistics are analytical reports or articles focused on specific topics. Data and other information may be compiled from more than one source and different statistical fields may be covered. Policy concerns are usually taken into account. These publications are intended for a larger audience: not only statisticians but also research and policy specialists in the topic or topics covered. Data disseminated in this type of product is presented in small summary tables and charts and discussed in the accompanying text. Large tables with more detailed data may be provided in annexes. A gender perspective can be integrated into these products using three elements: data-based analysis of gender issues specific to the selected topic; illustrations with gender-sensitive tables and charts; and systematic sex-disaggregation of data presented in the annexes of the publication.

Statistical publications focused on gender issues are one type of analytical reports. A typical example are the “women and men” publications produced by many national statistical offices. These publications contain data from different statistical fields and from different sources, cover multiple policy areas and gender issues and are addressed to a large audience, including persons with limited or no experience in statistics. They are an important tool for non-statisticians, gender specialists, gender advocates and policymakers. Instead of presenting data and letting the reader analyse them and draw their own conclusions, these publications are focused on presenting the main results of data analysis and their interpretation, including implications for policymaking. They are usually designed to be user friendly and written in easily comprehended language, with simple tables and charts and an attractive presentation.

Lastly, gender statistics are disseminated through dedicated databases or through more comprehensive databases such as those focused on social indicators, development indicators or human development indicators. Data disseminated in this format usually cover several areas of concern and several points in time or time periods. Data are usually presented already processed into indicators that facilitate comparisons over time or between various groups of population. Information on the calculation of indicators included in the database, underlying definitions or concepts used and sources of data used are sometimes made available with the database. This type of dissemination product is usually targeted to specialists interested in analysing statistical information themselves, including for monitoring purposes.

**Source:** Hedman, Perucci and Sundström, 1996; United Nations, 1997; and United Nations, Economic Commission for Europe, and World Bank Institute, 2010.

## Types of data involved in gender statistics: qualitative and quantitative variables

688. Statistical variables are classified into two broad classes based on their measurement level: qualitative variables, also called categorical variables (for example, sex, marital status, ethnicity and educational attainment); and quantitative variables (for example, age, income and time spent on paid or unpaid activities). Categorical variables are of two major types: nominal variables (such as sex and marital status) and ordinal variables (such as educational attainment). Nominal variables do not imply any continuum or sequence of categories. Typical examples include sex or ethnicity. The categories can be arranged in any order without inconvenience in the analysis. For convenience in presentation, however, they can be arranged alphabetically, in order of their relative size in the population or in order of relative focus of the publication (for example, first women, followed by men). Ordinal variables imply an underlying continuum. When dealing with ordinal variables, the categories must be arranged in the order implied by the continuum to facilitate analysis of the data. A typical example is “level of educational attainment”. The categories can be organized in ascending or descending level of education. For example: no education, primary education, secondary education, post-secondary non-tertiary education and tertiary education. Some continuous variables tend to be coded into a few categories and treated as ordinal variables. For example, age in single years can be recoded in 5-year age groups and displayed from the youngest to the oldest ages.

689. The distinction between types of variables is important because specific statistical measures can be applied to each category, as shown in the paragraphs that follow.

### Measures of composition or distribution for qualitative variables

690. Computations of proportions, percentages, ratios and rates are basic statistical procedures used in describing the categorical composition or distribution of qualitative variables and serve as useful tools for the standardization of the statistics compared. It is important to keep in mind that the measures of composition or distribution should not be calculated for small numbers of observations. In that case, actual numbers (absolute frequencies) should be preferred.

#### *Proportions and percentages*

691. A proportion is defined as the relative number of observations in a given category of a variable relative to the total number of observations for that variable. It is calculated as the number of observations in the given category divided by the total number of observations. The sum of proportions of observations in each category of a variable should equal to unity, unless the categories of the variable are not mutually exclusive. Most often, proportions are expressed in percentages. Percentages are obtained from proportions multiplied by 100. Percentages will add up to 100 unless the categories are not mutually exclusive.

692. In gender statistics, proportions can be calculated as relative measures of (a) distributions of each sex by selected characteristics; and (b) sex distributions within the categories of a characteristic. These two types of proportions are presented in the table IV.1. In the first case of distribution, the proportions are calculated as relative frequencies of the categories of a characteristic for each sex, with women’s and men’s respective totals used as the denominators. For example, in the third column of data in table IV.1 it can be observed that employed represents 39 per cent of all women. This is calculated as the number of women employed divided by women’s total population in the corresponding age group and multiplied by 100. In comparison, employed represents 73 per cent of all men, as shown in the fourth column of data. This is calculated as the number of men employed divided by men’s total population in the corresponding age group and multiplied by 100.

693. In gender-related analysis, proportions calculated as percentage distributions can be used to compare women and men with regard to various social or economic characteristics. A simple measure of the gender gap is the differential prevalence, where per cents in the distribution of a characteristic within the female population are subtracted from corresponding per cents in the distribution of the characteristic within the male population. The resulting percentage-point difference indicates the gender gap in the characteristic considered. In our case, the proportion of women employed is lower than the proportion of men employed by 34 percentage points.

694. The percentage distribution of the categories of a characteristic for each sex is the basis of most of the gender indicators. A few examples include the labour force participation rate, the literacy rate, the school attendance rate and contraceptive use. Based on the proportions calculated in columns 3 and 4 in table IV.1, two indicators of the status of women and men on the labour market can be directly figured out. For example, the proportion of women who are employed (39 per cent in our case) is actually the indicator employment-to-population ratio, one of the indicators for the first Millennium Development Goal on the eradication of poverty and hunger. Furthermore, the proportion of women who are employed or unemployed give the labour force participation rate (in our case, the labour force participation for women is  $39+2=41$  per cent). Based on the data presented in the table, two other indicators can be calculated: unemployment rate (which is the proportion of unemployed in the total of employed and unemployed); and employment rate (which is the proportion of employed in the total of employed and unemployed).

**Table IV. 1**

**Economic activity status for population aged 15-64, Peru, 2007**

	Percentage distribution		Sex distribution (per cent)		
	Women	Men	Women	Men	Total
Employed	3,460,389	6,186,103	39	73	100
Unemployed	154,781	301,469	2	4	100
Not economically active population	5,156,664	2,030,531	59	24	100
Total population	8,771,834	8,518,103	100	100	

Source: United Nations, 2012.

695. Sex distribution within the categories of a characteristic are shown in columns 5 and 6 in table IV.1. In this case the proportions are calculated by raw numbers, as opposed to the previous type of proportions, calculated by columns. For example, 36 per cent of the employed are women and the rest, 64 per cent, are men. The share of women employed is calculated as the number of women employed divided by the total number of women and men employed and multiplied by 100.

696. Among the gender indicators constructed, based on sex distribution within a category of population, are the proportion of seats in parliament held by women, the share of girls among the children out-school, the share of women among agricultural workers and the share of women among the older population who are living alone.

697. This type of indicator is often used for population groups known to have an overrepresentation of women or men. The selected groups are often linked to a policy concern. For example, in many countries women represent a minority of parliament members, ministries, chief executives of corporations, mayors and researchers. Policies based on gender quotas are used by some countries to increase the participation of women in those groups.



698. The percentage of women and the percentage of men in a group always add up to 100 per cent. Because of that, often only one of the indicators (usually share of women) is presented in tables or graphs.

### *Ratios*

699. Particular compositional aspects of a population can be made explicit by use of ratios. A ratio is a single number that expresses the relative size of two numbers. The ratio of one number A to another number B is defined as A divided by B. Ratios can take values greater than unity. Because of the way they are calculated, proportions can be considered a special type of ratio in which the denominator includes the numerator. Ordinarily, however, the term ratio is used to refer to instances in which the numerator (A) and the denominator (B) represent separate and distinct categories. Ratios can be expressed in any base that happens to be convenient; however, the base of 100 is often used.

700. A well-known example of a ratio based on qualitative variables is the sex ratio: the number of males per 100 females, used to state the degree to which members of one sex outnumber those of the other sex in a population or subgroup of a population. A variation of this indicator is the sex ratio of birth, defined as the number of male live births per 100 female live births.

701. Other gender indicators based on sex ratios may involve the standardization of the variables used. For example, a gender parity index calculated for participation at various levels of education is intended to reflect the surplus of girls or boys enrolled in school. The indicator can be calculated simply by dividing the number of girls enrolled by the number of boys enrolled. This gives a good estimation of the distribution by sex in enrolment. The indicator gives a poor measure of gender differences in access to education, however, because the differences in the number of girls and number of boys that should be in school (the school-age population) are not taken into account. An alternative calculation of the indicator that controls for the sex composition of the school-age population uses the ratio of net enrolment rates (or gross enrolment ratios) for girls to net enrolment rates (or gross enrolment ratios) for boys.

### *Rates*

702. In general, proportions and ratios are useful for analysing the composition of a population or of a set of events. Rates, in contrast, are used to study the dynamics of change. Most often used in gender statistics are rates of incidence. A rate of incidence is usually defined as the number of events that occur within a given time interval (usually a year) divided by the number of members of the population who were exposed to the risk of the event during the same time interval. Rates can be considered a special type of ratio, in the sense that they are obtained by dividing a number (of events) to another number (of population exposed to the event). In calculating rates, it is usually assumed that the events are evenly distributed throughout the year, while the population at risk is approximated as the midyear population. Demographic rates such as fertility rates and mortality rates are typical examples of rates calculated in gender statistics. By convention, some ordinary percentage figures showing the composition of a population group are called rates. For example, what is called a literacy rate is actually a simple percentage of the population that is literate.

703. When data on population exposed to risk are not easily available, a close approximation of that population is used as a denominator to summarize the incidence of the events considered. The indicator obtained is not considered a rate anymore, but a ratio. For example, in the case of maternal mortality, when the originating population (the number of pregnant women) is not available, the indicator is calculated on the number of live births, and is more accurately called a maternal mortality ratio.

704. Data used for the numerator and data used for the denominator in calculating rates sometimes come from different sources. For example, in the case of mortality rates, data on deaths used for the numerator may come from the civil registration system, while data on population used for the denominator may come from population censuses. When data from different sources are to be combined, it is essential to ascertain whether they are comparable in terms of the coverage of all groups of population, and geographic areas and time period (see box IV.2).

### *Probabilities*

705. A probability is similar to a rate, with one important difference: the denominator is composed of all those persons in a given population at the beginning of the period of observation. Typical examples are the infant mortality rate and the under-5 mortality rate. The numerators are infant and child deaths, respectively. The denominator used is the number of births, which represents the population at risk of dying at the beginning of the period of observation.

## **Measures of composition or distribution for quantitative variables**

706. In gender statistics, the measures of central tendency and dispersion commonly used to analyse continuous variables are the median and quantiles, the arithmetic mean and the standard deviation.

### *Medians and quantiles*

707. The median is the value that divides a set of ranked observations into two groups of observations of equal size. Examples of indicators based on the median are the median age of the population and the median income in the population. The concept of median can be generalized, obtaining quantiles, which divide a ranked distribution into groups of equal number of observations. Examples of quantiles are quartiles, quintiles, deciles and percentiles. Quartiles divide the ranked distribution into 4 equal groups, quintiles into 5 groups, deciles into 10 groups and while percentiles into groups of 100. These measures are often used to present the distribution of income or wealth scores.

### *Means and standard deviation*

708. The arithmetic mean (or average) is defined as the sum of values recorded for a quantitative variable divided by the total number of observations. Examples of indicators based on arithmetic mean include the average time-use for unpaid work by sex, the average size of land owned by sex of the owner, mean age at first marriage by sex and mean age of the mother at first child. Some gender indicators are calculated as ratios between the averages calculated for women and for men. For example, one of the indicators commonly used to show the gender pay gap is the ratio of female to male earnings in manufacturing. It is calculated by dividing the average earnings gained by women employed in manufacturing by the average earnings gained by men employed in manufacturing.

709. Deviations from the mean are differences between the values of each observation for a particular variable and the mean of all values observed for that variable. Values of some observations are greater than the mean, therefore their deviations from the mean are positive; values of other observations are smaller than the mean, therefore their deviations from the mean are negative. When the deviations from the mean are squared, all the negative deviations become positive. The sum of all squared deviations divided by the number of observations (or by the number of observations minus 1 in the case of data from sample-based surveys) is called variance. Variance is a measure of variability in the distribution of a variable. It represents the degree to which individuals differ from a mean value of a variable. The greater the spread of observations, the greater the variance. Because the variance is measured

in squared units of the variable, it is difficult to interpret its values. Taking the square root of the deviance returns the measure to the original unit of the variable. This measure is called the standard deviation. The size of the standard deviation relative to that of the mean is called the coefficient of variation.

710. Although measures of dispersions such as the standard deviation and the coefficient of variation are not often presented in gender statistics, they have an important role in measuring the degree of association between variables and in making inferences about a population on the basis of data collected from a sample of that population.

#### Box IV.2

##### Using data from different sources

When data from different sources are to be combined, it is essential to ascertain whether they are comparable in terms of coverage, time period, definitions and concepts. Statistics from different government sources may differ in arrangement, detail and choice of derived figures. Moreover, what appear to be comparable figures may not be, because of errors or variations in classification or data-processing procedures. Lack of comparability can also be a problem with time-series data if concepts or methods have changed from one period to another.

Checks for consistency and comparability between different sources should be made whenever different sources are to be combined. Obtaining comparable data for the period covered by a study or for completing a time series should be a paramount concern. It is most problematic when different sources are used for the same indicator (say, if missing years require supplementary data). Any variations in concepts from different sources and even different years within the same source should be thoroughly checked.

In most cases these checks can be made by reviewing the source's documentation. It is also a good idea to consult specialists in different fields who may themselves supply or use the data. These specialists often have additional information on the availability of data (which may not be well publicized). They often understand special considerations of specific types of data and know of existing evaluations.

Source: Excerpt from United Nations, 1997.

## Presentation of gender statistics in graphs

711. Graphs can be used to great effect in publication. They can summarize trends, patterns and relationships between variables. They can illustrate and amplify the main messages of the publication and inspire the reader to continue reading. Graphs are generally better understood and interpreted by the average reader, and therefore appeal to a wider audience. If done well, they can give readers a quick and easy understanding of the differences and similarities between women and men.

712. Every graph should make a point, which can be given in the title. Nevertheless, in many publications, titles state the subject and the coverage of data in the graph. In this case, the title should start with the key word(s) of the statistics presented.

713. There are many types of charts. The type of chart used depends on the kind of data used in the analysis and the point the authors wish to make. Choosing the correct chart can make the difference between providing the reader with a strong message and confusing the reader.

### Line charts

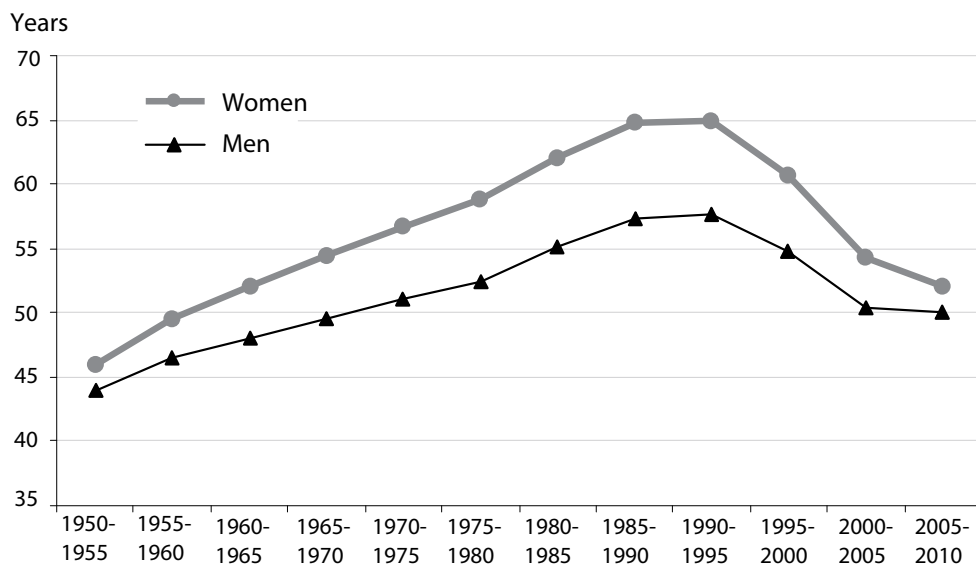
714. Line charts provide a clear picture of changes over time or over age cohorts that cannot easily be discovered in data tables. Time-series data that are often presented in line charts

include life expectancies at birth, infant mortality, literacy rates and labour force participation rates. In general, it is expected that advances in human development over time will be reflected in declining infant mortality rates and increasing literacy rates and life expectancies, while labour force participation rates are expected to respond to changes in overall market and trade conditions. Chart IV.1, for example, shows trends in life expectancy at birth for women and men in South Africa.

715. It is generally recommended that charts start from zero at the y-axis of a quantitative variable, so that the differences or similarities between women and men are not distorted. At the same time, however, it is important for the comparison between women and men to be facilitated. In this case all the values of life expectancy are concentrated above the age of 35. The focus on differences between women and men in the chart allows the viewer to see how the HIV/AIDS epidemic in South Africa changed in the 1990s with regard to women's and men's trends in life expectancies.

**Chart IV. 1**

**Life expectancy at birth by sex, South Africa, 1950-2010**

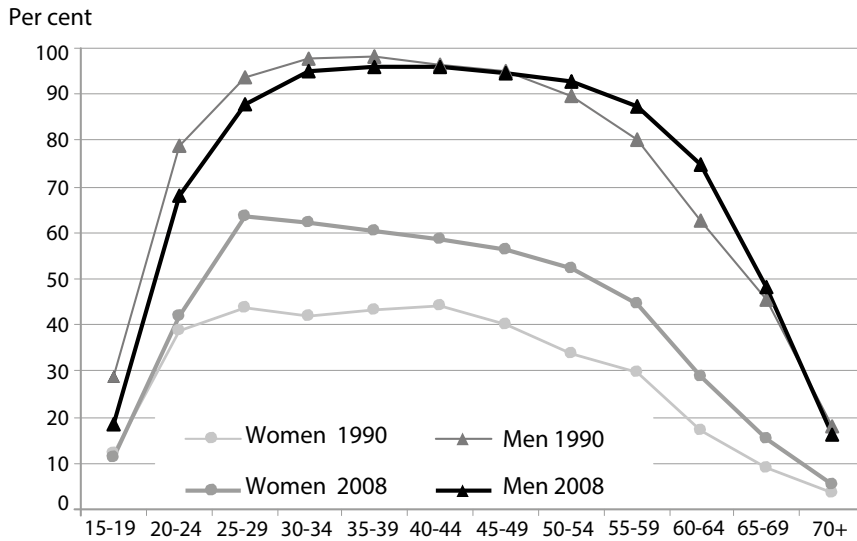


Source: United Nations, 2011.

716. Line charts are also useful in revealing changes from one age cohort to another in labour force participation, employment or literacy, for example. Chart IV.2, for instance, shows age patterns in labour force participation for women and men in Chile for two points in time. The chart illustrates three main points: (a) at all ages, labour force participation rates are lower for women than for men; (b) in the last two decades women's participation rates increased more than men's participation rates; and (c) in the most recent year observed, women tended to withdraw from the labour market after the age of 30.

**Chart IV. 2**

**Labour force participation rate by age group, by sex, Chile, 1990 and 2008**



Source: ILO, 2012a.

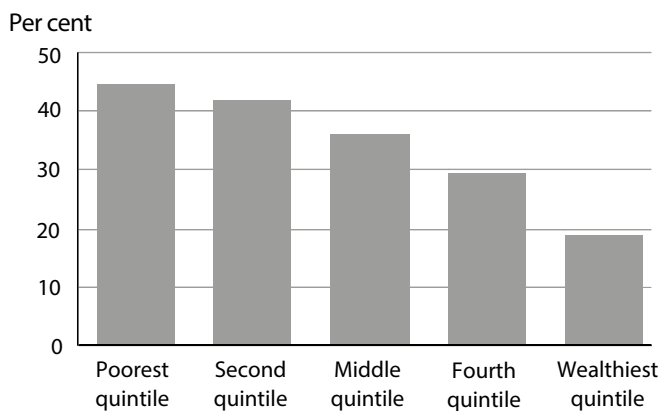
### Vertical bar charts

717. Bar charts are common in the presentation of gender statistics. One of the axes, usually the x-axis, is formed by a qualitative variable with distinct categories. This variable can be sex or another breakdown variable such as urban/rural area, region, or wealth quintile. The other axis can represent absolute frequencies or percentages, sums or averages. Bar charts can be used to illustrate data that do not vary too greatly in magnitude.

718. Chart IV.3 is an example of a simple vertical bar chart. It shows the percentage of women in India who have ever experienced physical violence for different categories of wealth, ordered from the poorest quintile (poorest 20 per cent of the population) to the wealthiest quintile (wealthiest 20 per cent of the population). Other examples of simple bar charts may include total fertility rate by region, antenatal care by urban/rural area, or proportion of women married before the age of 18 by level of education.

**Chart IV. 3**

**Women aged 15-49 who have experienced physical violence since the age of 15 by wealth quintiles, India, 2005-2006**

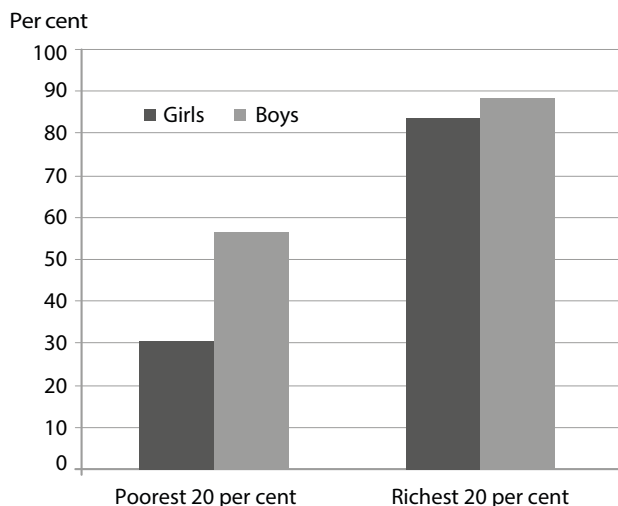


Source: International Institute for Population Sciences and Macro International, 2007.

719. Grouped (or clustered) bar charts present the same characteristic for two or more categories of population at the same time, thereby facilitating comparisons. Often, the values of a characteristic for women and men are shown as two sets of differently colored or shaded bars side by side for each category. For example, in chart IV.4, data on school attendance in Yemen is presented for girls and boys side by side within two categories of population (the poorest and the wealthiest quintiles). It is shown that girls have lower school participation rates than boys in both wealth groups; however, the gender gap is much more substantial in the poorest group of population.

**Chart IV. 4**

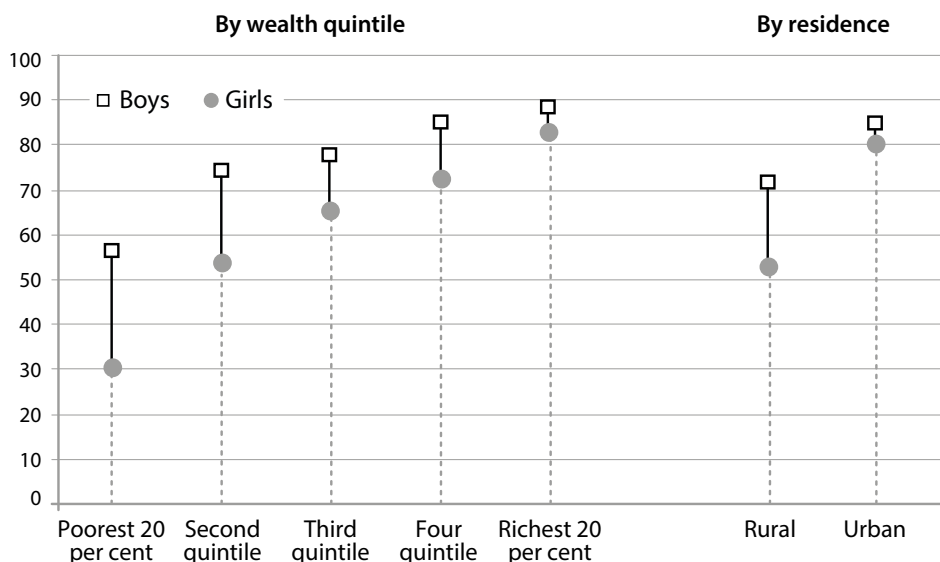
**Primary school net attendance rate for children in the poorest and wealthiest quintiles, Yemen, 2006**



Source: Yemen, Ministry of Health and Population and others, 2008.

**Chart IV. 5**

**Primary school net attendance rates for girls and boys by wealth quintile and by urban/rural areas, Yemen, 2006**



Source: Yemen, Ministry of Health and Population and others 2008.

720. If more categories or data points need to be illustrated, the bars can become too thin and difficult to interpret. In such case it is recommended that some dot charts be used instead of grouped bar charts. For example in comparison to chart IV.4, chart IV.5 presents gender differences in school attendance for all wealth quintiles and for urban and rural areas. Chart IV.5 show the disadvantage of girls in school participation in all groups and how this disadvantage is greater in the poorer population and in rural areas.

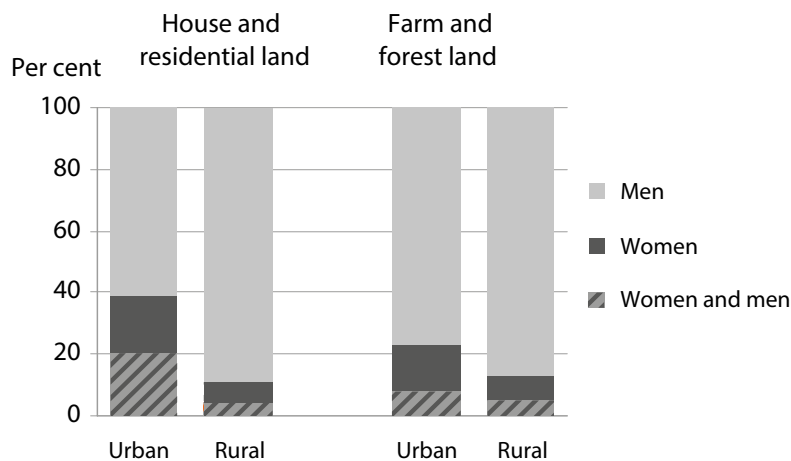
## Stacked bar charts

721. Similar to the grouped bar charts, stacked bar charts illustrate data sets consisting of two or more categories. Stacked bar charts can be used for most kinds of data, but they are most effective for categories that add up to 100 percent. A common problem with stacked bar charts is that one or more segments are too short to be visible on the scale. Another problem is that using more than three segments of the bar can make it difficult to compare one bar to another.

722. Some stacked charts illustrate the percentage distribution by sex within various categories of variables, such as the share of women and men among categories of occupations. Chart IV.6 is one example of this type of stacked chart, and it shows that, in Viet Nam, women hold only a small proportion of property titles.

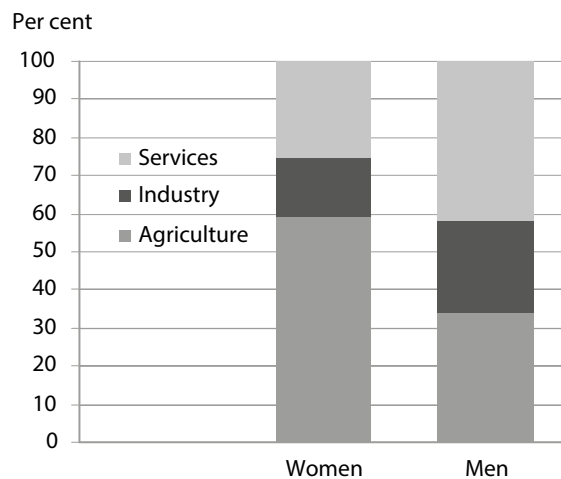
**Chart IV. 6**

**Distribution of property titles by sex of the owner and urban/rural areas, Viet Nam, 2006**



**Source:** Viet Nam, Ministry of Culture, Sports and Tourism and others, 2008.

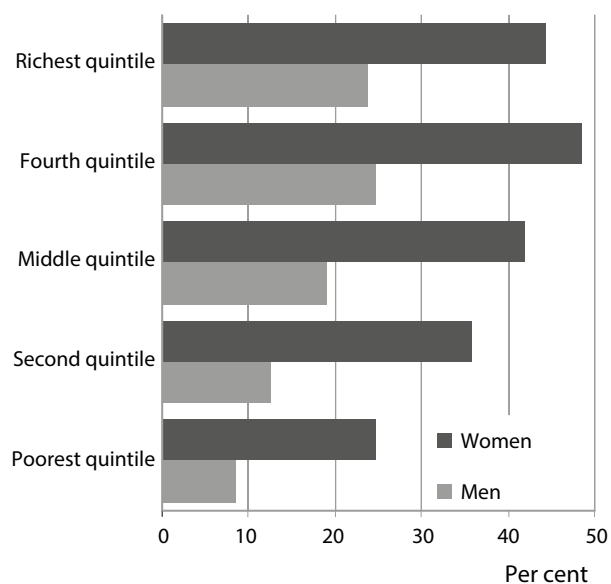
723. Other stacked charts, however, can illustrate the distribution of variables within the female and male population, such as the distribution of female and male deaths by cause of death or the distribution of female and male employment by sector of employment. Chart IV.7, for example, shows that women's employment in Morocco is concentrated primarily in agriculture, while men's employment is concentrated primarily in services and secondarily in agriculture.

**Chart IV. 7****Employment by aggregate sector, by sex, Morocco, 2008**

Source: ILO, 2012b.

### Horizontal bar charts

724. Bar charts can also be presented horizontally. They are often used when many categories need to be presented, or when the categories presented have long labels. Men and women can be presented side by side for each category, as in chart IV.8. Similar to vertical bar charts, when a graph needs to display the sex distribution within a category and the values for women and men add up to 100 per cent, a stacked bar chart should be considered.

**Chart IV. 8****Proportion of obese persons, by sex and wealth quintile, Egypt, 2008**

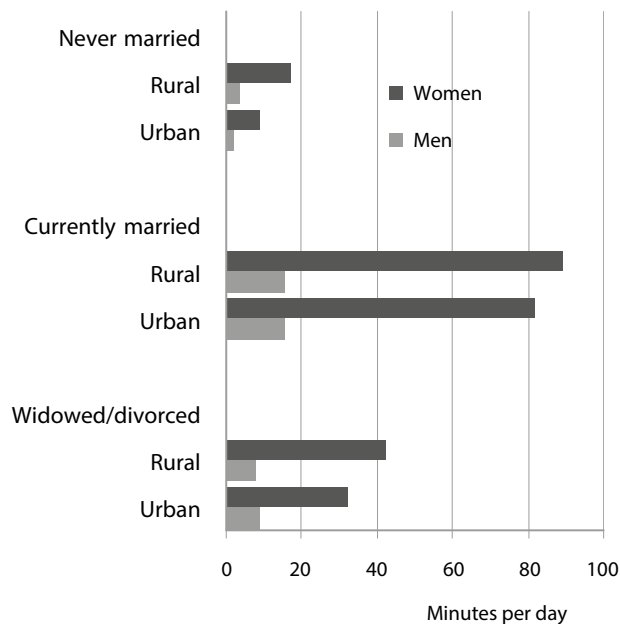
Source: El-Zanaty and Way, 2009.



725. Horizontal bar charts are also ideal for showing time-use data, because the left-to-right motion (in Western cultures) on the x-axis generally implies the passage of time. Chart IV.9 provides such an example.

**Chart IV. 9**

**Average time spent on care for children, the sick and the elderly by sex, urban/rural areas and marital status, Pakistan, 2007**  
(minutes per day in total population aged 10 and higher)



**Source:** Pakistan, Statistics Division and Federal Bureau of Statistics, 2009.

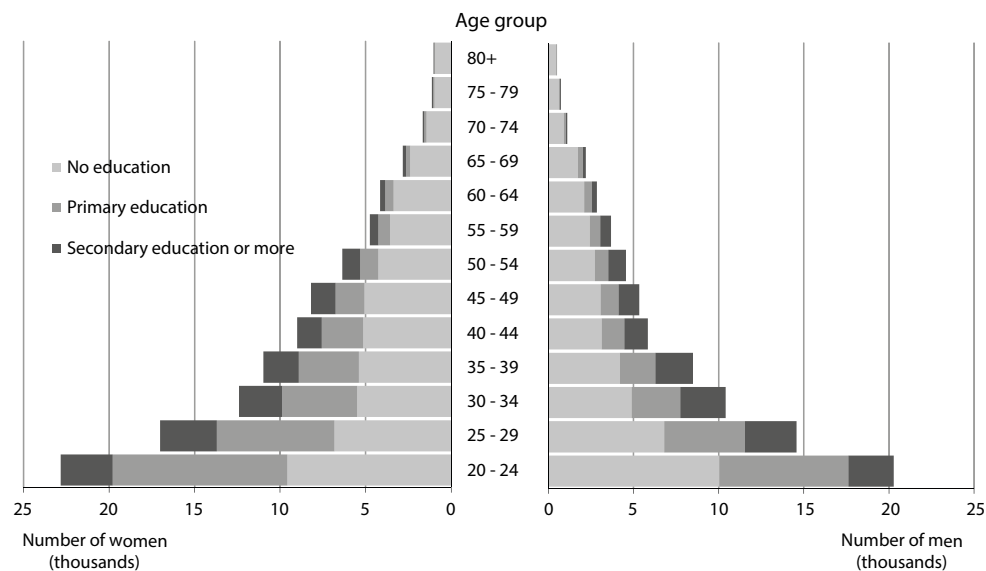
726. Bar charts are often used to present gender statistics for different regions of a country. When there are many regions to be presented, a horizontal bar chart may be preferred. It is important that the regions considered are presented in such a way that they facilitate comparisons between women and men within and between the regions. Presenting the regions alphabetically is seldom a good solution. When no other dimension is the focus of analysis (such as the level of economic or human development of the region, for example), it is important that the regions are presented in the graph according to the rank of values observed for women or, less frequently, for men. Ranking of the regions by gender gap may also be considered if it would not make the graph too confusing.

727. Another way to use a horizontal bar chart is to plot against each other (extending left and right from the y-axis) two variables that are visibly correlated. An example of a pair of such variables would be the proportion of women married before the age of 18 and the adolescent fertility rate, both disaggregated by region; or the total fertility rate and women's contraceptive use, both disaggregated by region. The two variables considered for this type of plot do not need to have the same scale.

728. A variation on the use of horizontal bars is the "age and sex pyramid". Traditionally, age and sex pyramids plot the age composition of the population of women and men as horizontal bars originating from the y-axis, using the absolute number of women and men by age group. Because they use absolute numbers, age and sex pyramids tend to emphasize the concentration of population in particular age groups. Alternatively, this type of chart can be constructed using percentages instead of absolute numbers, emphasizing the groups where women or men are overrepresented. For example, chart IV.10 illustrates the composition of

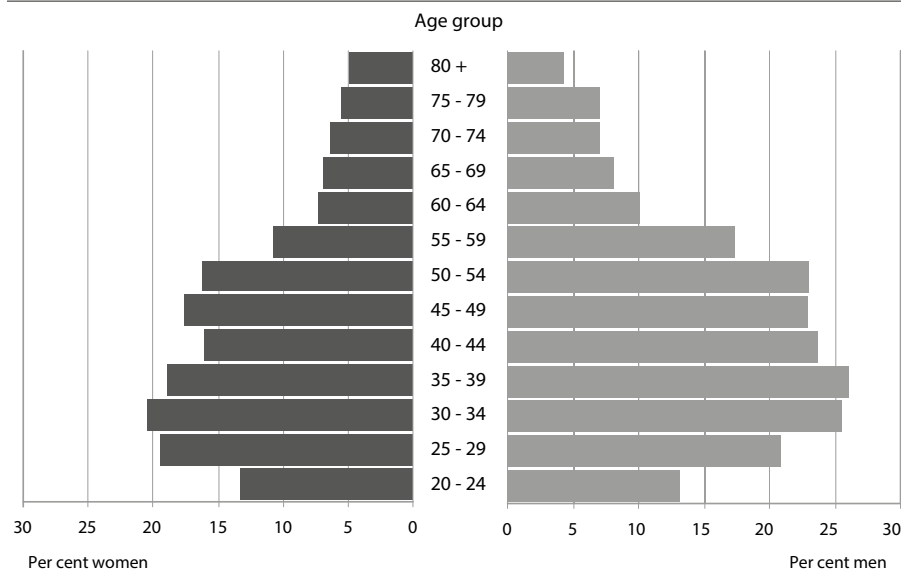
population in Swaziland by sex, age group and level of educational attainment. In comparison, chart IV.11 illustrates, for the same country, the proportion of women and men with at least secondary education within age group.

**Chart IV. 10**  
**Distribution of population by sex, age group and educational attainment, Swaziland, 2007**



Source: United Nations, 2012.

**Chart IV. 11**  
**Proportion of population with at least secondary education, by sex and age group, Swaziland, 2007**



Source: United Nations, 2012.

729. Other examples of age and sex pyramids include foreign-born population by sex, age group and marital status, or proportion of population smoking by sex and age group.

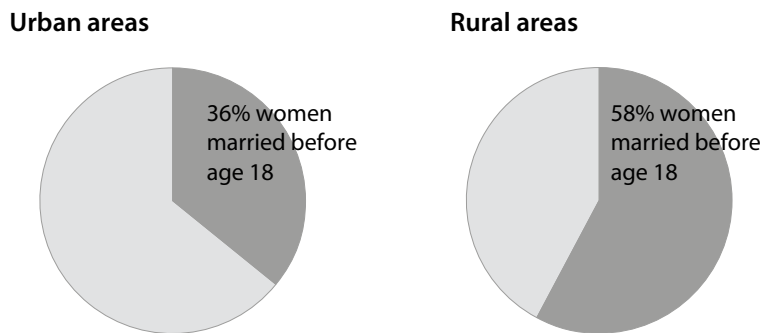
## Pie charts

730. Pie charts are suitable for illustrating the percentage distribution of qualitative variables and are an alternative to bar charts. Pie charts must always show shares that total 100 per cent. A common error with pie charts is to show too many categories, resulting in labels that are hard to read or shares that are too narrow. When too many categories need to be compared, bar charts are more suitable.

731. Pie charts are best used when only one or two shares of the whole are shown for different years, different population groups or different related categories. For example, chart IV.12 shows the percentage of women married before the age of 18 in urban areas compared to rural areas. Other examples include the share of time used by women in total time invested by women and men in various types of unpaid housework, or the share of women among managers at two points in time.

### Chart IV. 12

Proportion of women married before the age of 18 in urban and rural areas, the Gambia, 2005-2006



Source: The Gambia, Bureau of Statistics, 2007.

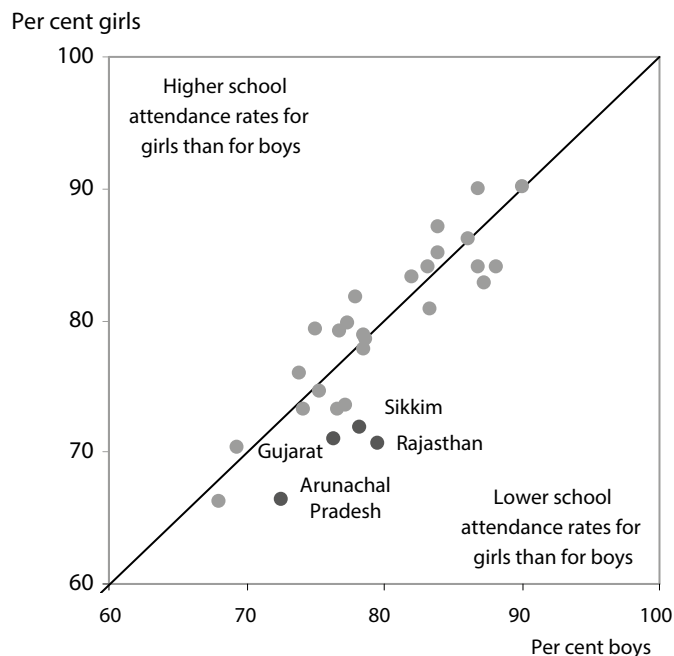
## Scatter plots

732. Scatter plots are often used to show the relationship between two variables. The two variables are plotted against each other in order to show the patterns of their grouping. Scatter plots are also used to identify and analyse outliers in the data.

733. Scatter plots are particularly useful when many data points need to be displayed, such as in the case of a large number of regions or subregions of a country that cannot be easily presented in tables or bar charts. Chart IV.13, for example, shows school attendance rates for girls plotted against school attendance for boys in the states of India. The dots that are close to the diagonal represent the states where girls and boys have similar school attendance rates. This is the case for most of the states in India; however, there are a few exceptions. A number of states with generally lower school attendance have higher rates for boys than for girls. These particular cases may be highlighted on the graph.

Chart IV. 13

School attendance rates for children aged 6-17 by sex and state, India, 2005-2006



Source: International Institute for Population Sciences and Macro International, 2007.

## Presentation of gender statistics in tables

734. Although they may not have the wide appeal of graphs, tables are necessary forms of presentation of data. Many statistical publications have as their main objective the dissemination of data and have to be specific about the values observed for the characteristics measured, which can be achieved through the use of large, comprehensive tables. Such tables are often placed in the annex to a publication and are therefore called “annex tables”. Annex tables may present information on several characteristics and indicators, covering several breakdown variables in a single table. In comparison, text tables are smaller tables that are referred to in and are part of the main text in a publication. They are often needed in support of a point made in the text. In that regard, tables are always a better alternative than the presentation of many numbers in a text, making the explanation in the text more concise. The selection of the data to be presented in small tables depends upon the findings of the analysis in terms of the most interesting groups or most striking differences or similarities between women and men.

735. Lastly, some of the data that need to be presented may be more easily conveyed by a table than in a graph. Most often, when data do not vary much across categories of a characteristic, or when they vary too much, tables are a better choice of presentation than graphs. List tables (tables with only one column of data) can be used, for example, to present data that does not have much variation between categories. List tables can show, for example, the regions of a country that have the minimum values observed for fertility rates or the lowest proportion of women married before the age of 18. For instance, table IV.2 shows the states in India that have the lowest proportion of women aged 15 to 19 who have had a live birth. Lists are often in ascending or descending order of the variable, rather than in alphabetical order.

**Table IV. 2**  
States with the lowest percentages of women aged 15-19 who have had a live birth, India, 2005-2006

	Women aged 15 to 19 who have had a live birth (per cent)
Himachal Pradesh	2
Jammu and Kashmir	3
Kerala	3
Goa	3
Delhi	4
Uttaranchal	4
Punjab	4

**Source:** International Institute for Population Sciences and Macro International, 2007.

736. List tables or tables with two or more data columns can be used when the values observed for some categories vary widely compared to the rest of categories. For example, table IV.3 shows adult mortality rates by cause of death that vary widely from one cause of death to another.

**Table IV. 3**  
Estimated adult crude death rates by cause of death, South Africa, 2008  
Selected top causes of death

	Crude death rates (per 10,000 persons aged 15-59)	
	Women	Men
HIV/AIDS	81	65
Respiratory infections	8	11
Diarrhoeal diseases	7	5
Malignant neoplasms	6	7
Cardiovascular diseases	5	7
Injuries	3	12
Maternal conditions	3	...
Nutritional deficiencies	2	1
Tuberculosis	2	7

**Source:** WHO, 2012.

737. Tables are an interesting form of presentation when the focus of analysis is a breakdown variable that is associated with a number of related indicators expressed in different units. Table IV.4 shows, for example, that in India more years of schooling of women are associated with a lower incidence of teenage pregnancies, lower total fertility rates and lower under-5 mortality rates for their children.

**Table IV. 4**  
Demographic indicators by mother's years of schooling, India, 2005-2006

	Women aged 15-19 who have had a live birth (per cent)	Total fertility rate (live births per 1,000 women)	Under-5 mortality rate (deaths per 1,000 live births)
No education	26	3.55	81
Less than 5 years completed	16	2.45	59
5-7 years completed	15	2.51	55
8-9 years completed	6	2.23	36
10-11 years completed	4	2.08	29
12 or more years completed	2	1.80	28

**Source:** International Institute for Population Sciences and Macro International, 2007.

738. Tables may be a better alternative than graphs when presenting changes in the values of multiple indicators (or one indicator disaggregated by a multi-categorical variable) between two points in time. Table IV.5, for example, shows the increase in women's participation in most of the parliamentary committees in Sweden between 1985 and 2010. Similar tables may be constructed to present, for example, changes over time in the participation of women in managerial positions within regions of a country, or changes in sex ratio in the youth labour force within the largest cities of a country.

**Table IV. 5**  
Women in parliamentary committees, Sweden, 1985 and 2010

Committee	Per cent women in total members in each committee	
	1985	2010
Labour Market	27	65
Taxation	13	59
Health and Welfare	47	59
Education	27	59
Housing/Interior	20	53
Traffic	13	53
Finance	20	47
Justice	27	47
Constitution	20	47
Environment and Agriculture	20	47
Foreign Affairs	27	47
Cultural Affairs	60	41
Defense	20	35
Social Insurance	60	35
Industry	20	29
All committees	28	48

**Source:** Statistics Sweden, 2010.

**Box IV.3****Summary of recommendations for user friendly presentations**

In the presentation of gender statistics, some simple rules apply:

- Women and men should be presented side by side to facilitate comparisons
- Women should always be presented before men
- The words “women and “men” and “girls” and “boys” should be used instead of “females” and “males” (which have a biological connotation) whenever possible
- When data are presented to a broader audience, numbers should be rounded to 1,000, 100 or 10, and percentages should be rounded to integers, to facilitate comparisons between women and men
- The gender-blind total should be deleted in tables and graphs to facilitate comparisons between women and men
- In tables, alphabetic text, such as labels, should be aligned left. Numeric values should be aligned right, usually on the rightmost digit; if numeric values are decimals, they should be aligned on the decimal point
- Charts that give clear, visual information should be used instead of tables whenever possible
- Too many categories should be avoided in pie charts and stacked bars
- The same color should be used for women along all charts
- Preference should always be given to a simple layout when designing charts:
  - Only one type of gridline, either vertical or horizontal, should be used, or not at all
  - Ticks are not necessary on the axis representing a qualitative variable
  - Labels for values presented inside a graph are distracting and redundant
  - Graphs with a third unnecessary dimension are misleading

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## Glossary of terms

**Discrimination against women and girls (gender discrimination)** is defined according to article 1 of the Convention on the Elimination of All Forms of Discrimination Against Women (1979) as “any distinction, exclusion or restriction made on the basis of sex which has the effect or purpose of impairing or nullifying the recognition, enjoyment or exercise by women, irrespective of their marital status, on a basis of equality of men and women, of human rights and fundamental freedoms in the political, economic, social, cultural, civil or any other field”. Statistics disaggregated by sex, age and other demographic, social and economic characteristics are useful in showing whether disparities between women and men on various social and economic dimensions are explained by gender discrimination or by other factors.

**Empowerment of women and girls** concerns women and girls gaining power and control over their own lives. It involves awareness-raising, building self-confidence, the expansion of choices and increased access to and control over resources and actions to transform the structures and institutions which reinforce and perpetuate gender discrimination and inequality. Statistics on the empowerment of women and girls should cover the following dimensions: (a) equal capabilities for women and men (such as education and health); (b) equal access to resources and opportunities for women and men (such as land, employment and credit); and (c) women’s agency to use these rights, capabilities, resources and opportunities to make strategic choices and decisions in all areas of life (such as political participation, decision-making in communities and intrahousehold decision making).

**Gender** refers to socially constructed differences in attributes and opportunities associated with being female or male and to the social interactions and relations between women and men. Gender determines what is expected, allowed and valued in a woman or a man in a given context. In most societies, there are differences and inequalities between women and men in roles and responsibilities assigned, activities undertaken and access to and control over resources, as well as in decision-making opportunities. These differences and inequalities between the sexes are shaped by the history of social relations and change over time and across cultures.

**Gender analysis** is a critical examination of how differences in gender roles, activities, needs, opportunities and rights/entitlements affect women, men, girls and boys in certain situations or contexts. Gender analysis examines the relationships between females and males and their access to and control of resources and the constraints they face relative to each other. Gender analysis may be conducted on the basis of qualitative information and methods and/or on the basis of quantitative information provided by gender statistics.

**Gender balance** is commonly used in reference to human resources and the equal participation of women and men in all areas of work, projects or programmes. In a scenario of gender equality, women and men are expected to participate in proportion to their shares in the population. In many areas, however, women participate less than what would be expected according to the sex distribution in the population (underrepresentation of women) while men participate more than expected (overrepresentation of men).

**Gender blindness** is the failure to recognize that the roles and responsibilities of men/boys and women/girls are given to them in specific social, cultural, economic and political contexts and backgrounds. Projects, programmes, policies and attitudes which are gender blind do not take into account these different roles and diverse needs, maintain the status quo and will not help transform the unequal structure of gender relations. (*See also Gender neutral.*)

**Gender equality** means equal opportunities, rights and responsibilities for women and men, girls and boys. Equality does not mean that women and men are the same but that women’s

and men's opportunities, rights and responsibilities do not depend upon whether they are born female or male. It implies that the interests, needs and priorities of both women and men are taken into consideration. While gender equality is an important goal in itself – an issue of human rights and social justice – steps towards greater equality can also contribute to the achievement of other social and economic objectives.

**Gender equity** refers to the process of being fair to women and men, girls and boys, by taking into account the different needs of women and men, cultural barriers and past and present discrimination against a specific group. Gender equity may involve the use of temporary special measures of differential treatment to compensate for historical or systemic bias or discrimination against one sex in order to obtain equality of outcomes and end results. It is a means to ensure that women and men, girls and boys, have an equal chance not only at the starting point but also when reaching the finish line.

**Gender indicators** are a useful tool in monitoring gender differences, gender-related changes over time and progress towards gender equality goals. In general, indicators are statistics with a reference point (a norm or a benchmark) against which value judgments can be made. Indicators have a normative nature, in the sense that a change from the reference point in a particular direction can be interpreted as "good" or "bad". In the case of gender statistics, the status of women in a particular country is usually evaluated by reference to (comparison with) the situation of men in that country. In a few cases, such as for maternal mortality or access to antenatal services, the norm is the situation of women in other countries.

**Gender issues** refer to questions, problems and concerns related to all aspects of women's and men's lives, including their specific needs, opportunities and contributions to society. Gender equality issues should be the centre of analyses and policy decisions, medium-term plans, programme budgets and institutional structures and processes. From a statistics perspective, gender issues should also be at the core of plans and programmes for developing gender statistics by national statistical systems.

**Gender mainstreaming** (general) is defined as the process of assessing the implications for women and men of any planned action, including legislation, policies or programmes, in all areas and at all levels. It is a strategy for making women's as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programmes in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated. The ultimate goal is to achieve gender equality.

**Gender mainstreaming in national statistics** means that gender issues and gender-based biases are taken into account, systematically, in the production of all official statistics and at all stages of data production.

**Gender neutral** means not being associated with either women or men and may refer to various aspects such as concepts or style of language. What is perceived to be gender neutral, however, including in areas of statistics or dissemination of data collected in reference to a population, is often gender blind (a failure to recognize gender specificities). (See also Gender blindness.)

**Gender norms** are the accepted attributes and characteristics of being a woman or a man (ideas of how men and women should be and act) at a particular point in time for a specific society or community. They are internalized early in life through the process of gender socialization, are used as standards and expectations to which women and men should conform and result in gender stereotypes.

**Gender parity** (or more accurately, sex parity) is a numerical concept. Gender parity concerns relative equality in terms of numbers and proportions of women and men, girls and boys. Gender parity is often calculated as the ratio of female-to-male values of a given indicator. When males-to-females ratios are calculated instead, the label "sex ratio" is used instead of "gender parity". Gender (or sex) parity does not necessarily imply gender equality. For

example, in terms of health, men and boys are biologically more vulnerable to diseases and health conditions and they are expected to have higher mortality levels than women and girls. Therefore, equal levels of mortality for women and men (girls and boys) should be interpreted as discrimination against women (and girls) in terms of nutrition, care and access to health services.

**Gender roles** are social and behavioral norms that, within a specific culture, are widely considered to be socially appropriate for individuals of a specific sex. These often determine differences in the responsibilities and tasks assigned to women, men, girls and boys within and outside the private sphere of their household.

**Gender-sensitive concepts and methods of data collection** take into account the diversity of various groups of women and men and their specific activities and challenges and aim to reduce sex and gender bias in data collection, such as the underreporting of women's economic activity, the underreporting of violence against women and the undercounting of girls, their births or their deaths.

**Gender statistics** are defined as statistics that adequately reflect differences and inequalities in the situation of women and men in all areas of life. Gender statistics are defined by the sum of the following characteristics: (a) data are collected and presented disaggregated by sex as a primary and overall classification; (b) data reflect gender issues; (c) data are based on concepts and definitions that adequately reflect the diversity of women and men and capture all aspects of their lives; and (d) data collection methods take into account stereotypes and social and cultural factors that may induce gender biases.

**Sex as individual biological characteristic** (female or male) is recorded during data collection in censuses, surveys or administrative records. In comparison to gender differences, which are shaped by the history of social relations and change over time and across cultures, biological differences in sex are fixed and unchangeable and do not vary across cultures and over time. Sex-disaggregated data have the capacity to reveal differences in women's and men's lives that are the result of gender roles and expectations. For example, gender may determine differences in education or work for women and men. Statisticians reveal these gender differences by collecting and analysing data on education and work disaggregated by sex as well as other characteristics.

**Sex bias in data collection** refers to the underreporting or misreporting of demographic, social or economic characteristics associated with one of the sexes. Some examples of sex bias in data collected include the underreporting of women's economic activity, the undercounting of girls, their births or their deaths and the underreporting of violence against women.

**Sex-disaggregated statistics** are data collected and tabulated separately for women and for men. They allow for the measurement of differences between women and men in various social and economic dimensions and are one of the requirements for obtaining gender statistics. Gender statistics are more than data disaggregated by sex, however. Disaggregating data by sex does not guarantee, for example, that concepts, definitions and methods used in data production are conceived to reflect gender roles, relations and inequalities in society. (*See also gender statistics.*)

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