



Pacific  
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du Pacifique



# Guide to gender statistics and their presentation



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Compiled by the Gender, Culture and Youth Section, Social Development Division,  
Pacific Community



Noumea, New Caledonia, 2015

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## Foreword

The *Guide to gender statistics and their presentation* is a guide, bibliography, and almanac, all rolled into one, packed with smart and current advice that everyone can apply. It will appeal to a wide range of users of gender statistics, as well as to those who produce gender statistics. The guide is not just for inexperienced users of statistics, but is also a good reference for bringing experienced data analysts, who are new to gender statistics, up to speed. This guide does not aim to replace all of those huge statistical reference books that are essential tools for statisticians (but the guide does include links to these kinds of references). The point of this guide is to familiarise readers with how to use and present gender statistics.

This guide explains how to overcome familiar hurdles, and anticipates challenges, offers alternative solutions and provides examples of how to improve our use and presentation of gender statistics. It begins by explaining gender statistics concepts and uses, with an assessment of the reasons for the generally limited use of gender statistics in the Pacific region. It familiarises users with the different sources of gender statistics and the wide range of resources available about gender statistics.

It will help if readers come to this guide with some prior statistical knowledge, but if not, readers will be able to pick up the ideas as they go along. The basics of data presentation provides readers with practical tips and advice about what to do and what not to do – useful checks for us all to make, regardless of our level of expertise. This guide offers a range of techniques for how to present gender statistics in ways that are appropriate for both the nature of the statistics and the audience. It provides practical tips and advice about what information is needed for statistical graphs and charts, cross-tabulations, infographics and maps, and how to write key messages for your audiences.

The Pacific Community uses this *Guide to gender statistics and their presentation* in training workshops throughout the Pacific region, providing practical, hands-on learning to familiarise beginners and more experienced practitioners with gender statistics.

The *Guide to gender statistics and their presentation* offers a range of benefits to readers, who will discover how to present gender statistics in a wide range of ways, and, through building up their skills, they will add these valuable techniques to their professional tool bag.

I find this guide to be a valuable resource. I think you will too.



Dr Colin Tukuitonga  
Director-General,  
Pacific Community

## Abbreviations

CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women
CES	Conference of European Statisticians
CRC	Convention on the Rights of the Child
CSO	Civil society organisation
DHS	Demographic and health survey
ESCAP	Economic and Social Commission for Asia and the Pacific
GIS	Geographic information system
HIES	Household income and expenditure survey
ICPD	International Conference on Population and Development
ILO	International Labour Organization
MDGs	Millennium Development Goals
NGO	Non-governmental organisation
NSDS	National Strategy for the Development of Statistics
NSO	National Statistics Office
ONS	Office for National Statistics (United Kingdom)
PICTs	Pacific Island countries and territories
RPPA	Revised Pacific Platform for Action
SPC	Pacific Community
UN	United Nations
UNECE	United Nations Economic Commission for Europe
UNESCO	United Nations Education, Science and Cultural Organization
UNFPA	United Nations Population Fund
UNSD	United Nations Statistics Division
WHO	World Health Organisation



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# 1. Introduction

Gender statistics are a key input in making informed decisions and developing sound policies in relation to sustainable development. The Pacific Community (SPC) has been committed to gender equality and the advancement of women since it was established more than sixty years ago, and is supporting improvements in gender mainstreaming through increased capacity of governments to deliver services that will positively impact women's lives. A key strategy is to improve monitoring mechanisms through the increased use of gender statistics and associated gender analysis.

The Pacific region's *commitment to and capacity for measuring and monitoring* degrees of gender (in)equality remains partial at best. Many important indicators about Pacific gender issues remain uncounted, miscounted or under-counted: comprehensive gender indicators remain the exception rather than the norm in the region, which exacerbates the lack of attention to policy-making in regard to gender issues. In a number of areas data that are needed to produce gender statistics are being collected, but are often not accessible to those who need them. Limited capacity in data analysis and the effective communication of statistics are part of the reason that data remain untapped, and gaps in data availability persist.

This guide is a resource for statisticians and non-statisticians who produce or use gender statistics. It aims to increase national capacity to compile, analyse and use gender statistics for law and policy development, programming, monitoring and reporting. Improving the availability and accessibility of gender statistics in order to inform the monitoring of national and regional progress on gender equality commitments (CEDAW, Revised PPA, Pacific Plan, MDGs, Pacific Leaders Gender Equality Declaration, ICPD, etc.) is essential for making gains towards addressing gender concerns. Better evidence on the situation of women and men at the national and regional level will guide policy, planning and advocacy, and contribute to the long-term strengthening of statistics and information throughout the Pacific region.

## 2. About gender statistics

Gender statistics cut across all fields of statistics to ensure that accurate data on the status and roles of women *and* men, boys *and* girls, in society are produced and used. They are an essential component of national development, and the demand for such data is high across the Pacific.

Gender statistics have been defined by the United Nations as statistics that adequately reflect differences and inequalities in the situation of women and men in all areas of life. This involves much more than simply ensuring data are sex-disaggregated. In fact, gender statistics involve the sum of four characteristics:

1. data are collected and presented disaggregated by sex as a primary and overall classification;
2. data reflect gender issues;
3. data are based on concepts and definitions that adequately reflect the diversity of women and men, and capture all aspects of their lives; and
4. data collection methods take into account stereotypes, and social and cultural factors that may induce gender biases.<sup>1</sup>

This closely follows the Beijing Platform for Action adopted at the Fourth World Conference on Women in 1995, which requested nations to '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, 1995, para. 206 (a)).

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1 United Nations Gender Statistics Manual. <http://unstats.un.org/unsd/genderstatmanual/Glossary.ashx>

### Box 1: Difference between 'sex' and 'gender'

The term 'gender', is different from the closely related term 'sex'. Sex is the biological and physiological characteristics that define men and women. Gender is the socially constructed role, behaviour, activities and attributes that a society considers suitable for men and women.

*'Male' and 'female' are sex categories,  
while 'masculine' and 'feminine' are gender categories.*

While it is not uncommon to see and hear the terms sex and gender used interchangeably, it is not really correct to do so.

Taking steps to enhance gender statistics at the national level involves activities related to the collection, analysis, dissemination and use of data on the economy, environment and society. Developing gender statistics involves:

- ensuring existing statistics are relevant and useful to data users;
- introducing new collections of statistics to meet demands for information, such as on ownership of assets, the informal economy, economic empowerment, time use and unpaid work, gender-based violence and gender roles in politics and decision making;
- reviewing existing collection mechanisms to eliminate gender bias (e.g. from the way questions are asked, or how enumerators are recruited and trained);
- improving coordination between data producers in line with ministries and government organisations;
- harmonising data collection, storage, analysis, and dissemination;
- adopting international and regional standards and methods;
- improving data analysis, presentation, dissemination and use of statistics;
- improving data warehousing, data sharing and access to data.

## State of gender statistics in the Pacific

'Transformative and gender-sensitive statistics are essential for systematic and effective measurement and monitoring of progress towards women's empowerment and the achievement of equality between women and men'.<sup>2</sup> Several Pacific regional reports have recognised progress made in the increased availability of sex-disaggregated data and statistics, with new data collections producing statistical information about violence against women and fertility preferences which have been used widely. But the capacity to use the statistical information 'to inform policies across government needs to be strengthened'<sup>3</sup>, users are not able to maximise the use of available information, and the limited level of coordination and cooperation among stakeholders compromises the use of gender statistics in the region.

During the review process for the Economic and Social Commission for Asia and the Pacific (ESCAP) set of gender indicators, it was noted that while countries produce a range of poverty and education statistics, the proposed indicators were either not produced or were not disaggregated by urban and rural areas. The review noted that more research is needed to understand the reasons why some key gender indicators are not produced, even when the data exists to do so.<sup>4</sup>

2 UNESCAP Committee on Statistics, 2015, Developing a core set of gender indicators for Asia and the Pacific, Paper E/ESCAP/CST(4)/9. [www.unescap.org/official-documents/committee-on-statistics/session/4](http://www.unescap.org/official-documents/committee-on-statistics/session/4)

3 See for example SPC, 2015, Beijing +20 review of progress in implementing the Beijing Platform for Action in Pacific Island Countries and Territories. [www.spc.int/en/featured-publications.html](http://www.spc.int/en/featured-publications.html).

4 UNESCAP, 2015, E/ESCAP/CST(4)/9.

## Uses of gender statistics

Gender statistics are useful for a variety of purposes. They provide the evidence needed to advocate for change and convince decision-makers, policy makers and the general public about gender issues that need to be addressed.

A good example of this has been the collection of data on the prevalence of domestic violence gathered through household surveys. Conducted in many Pacific Island countries and territories (PICTs), statistics from these surveys have provided new evidence on the high percentage of women who experience physical and/or sexual violence, often perpetrated by their husband or partner. This has shed light on an issue that is difficult to discuss and confront in most societies. It has provided the impetus for governments to enact legislation that makes domestic violence a crime, and has seen new resources directed towards providing support to families living in such situations. For example, civil society organisations, such as the Fiji Women's Crisis Centre, use the evidence from these surveys to raise awareness in training for police, health workers and the judiciary, and to support their work to increase the services available to survivors of domestic violence.

Aside from providing new evidence, gender statistics reveal where gaps between men and women or boys and girls exist, in traditional areas of statistics. This includes areas such as education (e.g. attendance at school, or completion of secondary education), health (e.g. risks to health, causes of death), migration and the labour force (e.g. occupations, rates of pay). Monitoring whether the situation is the same or different between the sexes and how this is changing over time informs the development of policies and other interventions to narrow any gaps that exist.

Reporting to international bodies and development partners is another important use of gender statistics. Comprehensive and disaggregated data are needed to show how resources should be directed towards particular populations, such as rural women, or young people who are in neither education nor employment. Development partners often demand gender statistics to grant funding, and they require the latest statistics to monitor whether the policy or programme intervention has had an impact. National commitments to human rights, such as the Convention for Elimination of All Forms of Discrimination against Women (CEDAW) and the Convention for the Rights of the Child (CRC) require states to produce and use gender statistics in reports to the Office of the High Commissioner for Human Rights.

These are just some of the uses for gender statistics. The demand will depend on national issues, commitments to gender equality and whether there is a culture of evidence-based policy-making. It will also depend on how statistically literate government officials and members of civil society are. The ability to access, understand, interpret and apply gender statistics is a skill that should be taught and nurtured. Good presentation of gender statistics will aid understanding and should increase the use of this valuable resource to inform the public about progress towards gender equality.

### Box 2: Quantitative versus qualitative evidence

Quantitative and qualitative evidence are both valuable for understanding gender roles and concerns. Definitions vary for what is meant by quantitative versus qualitative data and evidence. Generally, quantitative data relates to something that can be quantified or counted, whereas qualitative evidence is more descriptive and tends to be based on views or perceptions of experiences. Quantitative evidence is gathered through censuses, surveys and administrative records, and qualitative evidence is gathered through mechanisms such as focus group discussions and interviews.

In statistics, the difference between quantitative and qualitative data relates to the type of thing (variable) being measured. A quantitative variable is one that is measured in numbers (e.g. number of children per woman), whereas a qualitative variable is a measure of 'types' or categories, and is measured using a name, symbol or number code (e.g. a person's occupation, or the country in which they were born).<sup>5</sup>

Another distinction is between quantitative and qualitative indicators. The former relate to indicators that give the number or percentage of the measured population impacted or participating in a certain activity (e.g. the percentage employed). Qualitative indicators relate to attitudes, behaviours or perceptions<sup>6</sup> (e.g. the percentage of survivors of violence who seek help from the police).

Gender analysis can be described as qualitative information as it uses gender statistics to identify disparities between men and women (e.g. gender pay gap), and then seeks to explain the situation by examining why such disparities exist (e.g. roles in caring for children and family members) and the types of policy interventions that may close the gaps (e.g. maternity leave, child care).<sup>7</sup>

## Sources of gender statistics

Many organisations contribute to the production of gender statistics. The main generator of official statistics is the national statistical system, comprising the National Statistics Office (NSO) and other public agencies that collect and produce data either directly, through surveys, or as a bi-product of their administrative processes.

In addition to the NSO, key players in the national statistical system that contribute to the production of gender statistics include central or reserve banks; customs and revenue departments; ministries of transport and public works, livestock, agriculture, forestry and fisheries, finance, health and education; the police and the judiciary; superannuation or social security funds; immigration; labour; civil registration systems for births, deaths and marriages; the meteorological department; and the agency responsible for national and local government elections.

Regulatory authorities for telecommunications, utilities and aviation, chambers of commerce and other business associations, and civil-society organisations (CSOs) can also play an active role in producing statistical information.

5 Australian Bureau of Statistics, Statistical Language: Quantitative and Qualitative Data.  
<http://www.abs.gov.au/websitedbs/a3121120.nsf/home/statistical+language+-+quantitative+and+qualitative+data>

6 United Kingdom Department for International Development (DFID) 2002.

7 DFID 2002.

### **Box 3: Strengthening capacity through national strategies for the development of statistics**

Most PICTs are strengthening their national statistical system under the frameworks of their respective national strategies for the development of statistics (NSDS). The NSDS process helps PICTs to advocate for the value of statistics and build a stronger cycle of demand, supply and use of data. It does this by clarifying the legislative framework for producing statistics, identifying and involving stakeholder agencies, and establishing a roadmap for achieving a well-functioning and sustainable statistical service that meets national requirements.

Including the improvement of gender statistics as a specific output within the NSDS is encouraged. It will provide the basis for gaining support to increase investment in the production of sex-disaggregated data, collection of data specific to gender issues (e.g. domestic violence, time use), and in gender analysis and reporting.

The Cook Islands Strategy for the Development of Statistics ([www.mfem.gov.ck/nsds](http://www.mfem.gov.ck/nsds)) is an example of how this is being done. Cook Islands' NSDS includes a number of strategies to improve the collection, compilation and dissemination of gender statistics:

- Regular collection and release of statistics on:
  - economic empowerment, labour force and human resources;
  - crime and justice; and
  - social protection, including welfare payments, NGO service providers and cost of dependent care.
- Analysis of household survey data in relation to vulnerable groups (youth, disabled, older persons, women).
- Support for measuring progress in the implementation of policies related to vulnerable groups.

### ***Gender statistics produced by the National Statistical Office***

The NSO has two main sources of gender statistics:

1. censuses and surveys; and
2. databases of administrative records that it has access to, in agreement with the agencies producing the data – usually authorities responsible for enforcing taxation, duty and tariffs on imported items, business licences, immigration, labour, and so on.

Annex 1 outlines the typical data collections conducted by Pacific NSOs and their partners, the types of indicators they produce, the pros and cons associated with the method, and how often they tend to be conducted.

The main sources of gender statistics in terms of household surveys are:

- Census of Population and Housing: conducted every 5–10 years and captures demographic, social and economic information about the whole population and their housing.
- Demographic and Health Survey (DHS): conducted as funding permits, and captures demographic, fertility, health, nutrition, and women's empowerment information from a nationally representative sample of households.

- Household Income and Expenditure Survey (HIES): generally conducted as funding permits – although some PICs conduct HIES on a five yearly basis – and captures economic, social and housing information that is used to analyse living conditions, consumption patterns and a range of socioeconomic indicators information from a nationally representative sample of households.
- Household Labour Force Survey: conducted on a regular basis in some PICs, and captures official statistics on employment, unemployment and labour underutilisation, wages and hours worked from a nationally representative sample of households.
- Family Health and Safety Survey: conducted as funding permits, and captures information about violence against women and children, health impacts, attitudes towards violence and women's empowerment and risk factors from a nationally representative sample of women, men and children.

## Linking gender statistics with gender equality

Gender statistics are a means to an end, and should always be used in relation to national, regional and international commitments towards gender equality and the empowerment of women. The government agency responsible for gender equality is typically responsible for implementing the national policy for gender equality and the empowerment of women, which should contain strategic goals and usually a parallel implementation plan along with a monitoring and evaluation framework.

There are many existing resources that provide guidance on producing and using statistical indicators for measuring progress towards gender equality, which can be adapted for national policies. Some examples are:



### Gender Statistics Manual

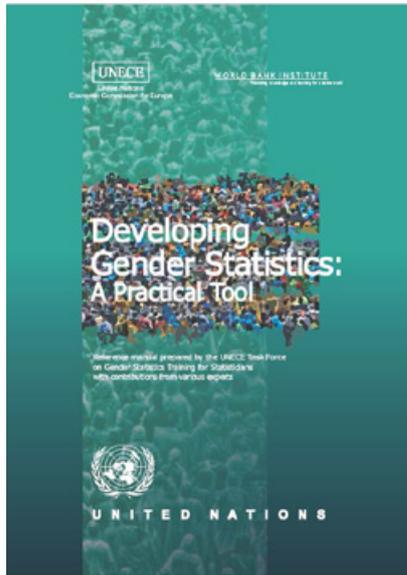
United Nations Statistics Division

[unstats.un.org/unsd/genderstatmanual](http://unstats.un.org/unsd/genderstatmanual)

This manual aims to foster a gender perspective in national statistics. It provides information needed to:

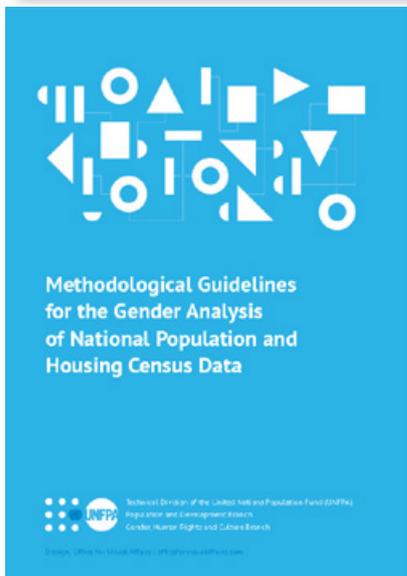
- achieve a comprehensive coverage of gender issues in data production activities;
- incorporate a gender perspective into the design of surveys or censuses, by taking into account gender issues and avoiding gender biases in measurement; and
- improve data analysis and data presentation and to deliver gender statistics in a format that is easy to use by policy makers and planners.

Available online, it is targeted at statisticians working in less-developed national statistical systems. It can also be used as a resource manual for training in gender statistics.



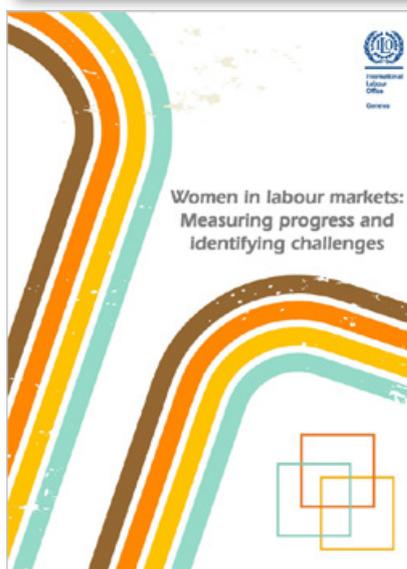
**Developing Gender Statistics: A Practical Tool**  
United Nations Economic Commission for Europe  
[www.unece.org/?id=17450](http://www.unece.org/?id=17450)

This comprehensive manual aims to guide statistical organisations in the production and use of gender statistics. It represents a consolidated reference for any organisation or individual interested in producing information about gender differences, guides producers of gender statistics and assists in improving the availability of high-quality information on women and men.



**Methodological Guidelines for the Gender Analysis of National Population and Housing Census Data**  
United Nations Population Fund

This guide aims to increase the analysis and use of population and housing census data for monitoring gender concerns. It is a tool for staff of National Statistical Offices (NSOs), national ministries responsible for gender equality and women's empowerment, and civil society gender advocates, to be used in their efforts to promote equality, human rights and equity issues between women and men, through the appropriate analysis of census data.



**Women in labour markets: Measuring progress and identifying challenges**  
International Labour Organization

This report emphasises the importance of labour market information and analysis for informed policy-making. It examines 12 of the key labour market indicators that, together, paint a fairly accurate portrait of how women and men engage in labour markets.



**Gender-sensitive education statistics and indicators: a practical guide**  
United Nations Education, Science and Cultural Organization (UNESCO)

This guide focuses on some of the best practices for presenting and analysing indicators of gender disparities in literacy and schooling, utilising regional and country data available at the UNESCO Institute of Statistics.

Similar to the aims of toolkit in this document, it provides practical ideas and guidance to policy-makers and managers of education in using gender-sensitive education statistics and indicators.



**Gender and Health Data and Statistics: an annotated resource guide**  
Measure Evaluation

This guide lists over 100 resources related to the production and use of gender statistics on health issues. It provides a good starting point for locating resources for further study on gender statistics.

### 3. Understanding gender statistics

Statistical offices are not in the business of producing statistics for themselves. Together with existing and potential users of gender statistics, they face the ongoing challenge of preparing statistical products that are not only statistically sound, but most importantly, are useful and utilised. Every collection should be based on a clear demand and the production process constructed around meeting specific needs for that information. This involves consultation, communication and building understanding, on both the supplier and user sides.

The quality of statistics is usually measured by dimensions such as relevance, accuracy, timeliness, accessibility, interpretability, coherence.<sup>8</sup> Achieving a high standard for most of these elements depends squarely on understanding data use and then ensuring statistical products meet those needs (relevance), while being easy to understand (interpretability), making sense when considered in light of other official statistics (coherence), and being available in a form that is appropriate for the target audience (accessibility).

To achieve high-quality gender statistics, it is clear that those producing the data and those eventually using them have to work together at all stages of the data production process.



#### Increasing statistical literacy

Reaching the intended audience in the right format – which helps them to understand, interpret and apply statistical information – is a huge task. This is especially so for Pacific Island countries and territories, which tend to have small NSOs, and statistical systems operating with a minimum of resources. The challenges are compounded by the fact that those working on gender and development policy and programmes, while having a need for the data, are not necessarily familiar with and comfortable in using statistics, or indeed numbers. Interpreting data requires particular skills, and not everyone has a high degree of what is often referred to as 'statistical literacy'.

There are a number of ways to increase statistical literacy. This is an ongoing process, and can include:

- providing training and guides on understanding statistics;
- informative videos, posters and brochures;
- promoting statistics through events linked to World Statistics Day or World Population Day;
- briefings, presentations and meetings where data producers can explain the statistics and respond to questions;
- working with the education system to incorporate statistics into primary, secondary and tertiary education;
- working with the media to include official statistics in their reporting on social, economic and environmental issues;
- delivering data using clear and simple presentations, such as infographics and summaries of key findings.

8. Examples of data quality assessment frameworks can be found in the knowledge base at [www.paris21.org](http://www.paris21.org) (IMF, Eurostat, FAO, ABS, et al.).

## What can NSOs and other data producers do?

Developing skills in communicating statistics through clear and simple presentation may be the best starting point in improving statistical literacy. This is attested by the extent to which well-resourced countries, such as Australia, Canada, New Zealand and United Kingdom, have invested in statistical communication. The proliferation of infographics and videos as a way for distilling statistical information into clear and understandable messages also highlights the benefits to be gained from good presentation.

Supporting NSOs and other data producers to develop skills in this area can go a long way to improving the understanding and accurate interpretation of data. While good presentation does not have to involve buying new software or systems (most things can be done using Microsoft Word and Excel), it does require significant time and effort to present data well – but the rewards are considerable. Apart from increasing the use and demand for gender statistics, as well as helping to realise the benefits from the investment in data collection, it gives statisticians an opportunity to work with their data and to showcase the valuable information they produce.

## How this guide will help

This guide aims to help producers of gender statistics (as well as users) to develop presentation and communication skills. It draws on the many good resources that have already been developed by other statistical offices and experts in this field, and aims to provide a resource that is aimed specifically at those involved in gender statistics in the Pacific region.

The guide is primarily focused on how statistics are displayed in tables and graphs, and how the surrounding text that explains the data can be written in an engaging and effective way. However, much of this information also translates into how we orally present and speak about numbers, including of course with the visual tools (e.g. PowerPoint presentations) that we use during such presentations.

The next section looks at the many options for presenting or displaying statistics. It provides tips on issues that are particularly relevant to gender statistics, and includes examples from across the region.

## 4. Key considerations when presenting gender statistics

Data visualisation is an essential skill for producers and users of statistics, and holds the key to increasing the understanding and use of gender statistics. Of the five senses, vision is the most powerful and efficient way for receiving information. In fact, approximately 70 per cent of the human body's sensory receptors are dedicated to receiving visual messages.<sup>9</sup>

There are many options for presenting gender statistics, either using a statistical tabulation – which is usually called 'a table', line graph, pie graph – or some other format. Selecting the method and determining how to put the data together to create a statistical product, such as a web page or a print publication, is key to increasing the use of data in decision making.

No matter what the medium, there are a number of things to consider when deciding how to present statistical information. Below is a recommended set of steps to take when designing a gender statistics product.

### Basic steps in designing a statistical product

1. **Determine the audience.** The data needs of different audiences can vary widely, and so too can their preference for forms of presentation. For example, politicians and the media usually need summary and visual information that is concise and explained in plain language. Gender specialists may want more textual description to guide their interpretation of data tables and graphs. The first step in designing a statistical product should be consideration of the target audience. Who are they? What are their data needs? What style of presentation is most likely to suit their needs? The section below discusses methods for identifying and addressing the varying needs of different target audiences.
2. **Decide on the message or messages.** There are usually a number of possible findings within a set of statistics that could be of interest. What is the compelling information you are trying to get across? Is that what is most relevant to your audience? Rather than simply presenting data and leaving it to your readers to extract the main findings, focus on providing specific and meaningful messages when presenting statistical information. For example, decreasing fertility rates and the impact this is having on living conditions.
3. **Select the best way to display the message.** Consider the options for displaying your message in a way that will appeal to the target audience. This chapter provides tips on when to use tables and particular types of graphs. Practise with different types of visualisation to see what you think works best.
4. **Ensure that the information is shown simply, clearly and accurately.** Make the data stand out by reducing visual distractions, such as borders, gridlines, shading and colours. Remove all unnecessary components and highlight what is most important to your message.<sup>10</sup>
5. **Test your product.** Show what you have produced to someone from your target audience and ask them to explain what they see. Check that tables and graphs can be understood without reading the surrounding text. Seek their suggestions for improving the product.

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9 Few, S. 2012.

10 Few, S. 2012.

## Role of the data producer

What is the role of the data producer in explaining the statistics they produce? To what extent should they analyse and interpret their data? Some producers believe their role should only involve presenting the results, and that explaining the data is beyond their realm of responsibility. The numerous statistical yearbooks that comprise table after table of data are evidence of that fact. Others have noticed that data without explanation tends to be unused, and therefore invest in developing more effective ways of presenting and communicating statistical information.

It is true that data producers need to maintain impartiality, but this does not preclude them from taking steps to interpret and explain statistical information. As the producer of the data, they are best placed to know the strengths and limitations of the statistics. However, the skills needed to produce data are different to those needed to present and communicate statistics effectively. Therefore, data producers need training and assistance, such as through this guide, to develop those skills. Some statistical offices are beginning to appoint communication and dissemination officers who are responsible for liaising with the media and helping statisticians to prepare user-friendly statistical products.

In the Pacific region, exchange of experiences in the communication of statistics is typically integrated in various expert groups and workshops that are based on strengthening statistics. In the Asia-Pacific region, there is currently no dedicated forum for sharing information on how to effectively communicate statistics. However, in Europe and North America, where many statistical offices employ teams of communication professionals to manage the presentation and dissemination of statistics, an expert group meets regularly to discuss issues and develop common standards.<sup>11</sup> The products of this group provide a useful resource to PICTs wanting to strengthen their capacity in dissemination and communication.

## Getting to know your audience

The first consideration when presenting any kind of statistics should be the audience you are aiming to reach. Common target audiences for gender statistics include politicians and senior government officials, national planners, gender and development practitioners in government and non-governmental organisations (NGOs), researchers, the media, and the general public. Each audience has specific needs in terms of the amount and complexity of statistical information they need. Table 1, following, outlines typical target audiences by the level of detail they tend to prefer, and the style of product that could appeal to them.

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11 United Nations Economic Commission for Europe (UNECE) Expert Group on Dissemination and Communication of Statistics (DissComm), [www.unece.org/stats/mos/diss.html](http://www.unece.org/stats/mos/diss.html).

**Table 1 – Style of statistical product by type of audience**

<b>Audience</b>	<b>Level of detail</b>	<b>Style of product</b>
Politicians, media, general public	Low	A short factsheet or well-written press release is a good way to communicate gender statistics to these audiences. Bullet points and more visual information than text is likely to appeal.
Development and gender specialists in government, NGOs and development partners	Moderate	These audiences often want more detailed statistics, such as disaggregation by sub-national areas and vulnerable groups, such as rural women, or people with a disability. They are often familiar with standard statistical indicators, but using plain language and clear and simple presentation still works best. Provide them with summary and disaggregated data, as well as some analysis of the results, such as trends over time. This audience will probably appreciate links to good metadata (definitions, description of collection methodology, etc.).
Gender analysts, data analysts, researchers and academics	High	These audiences are experienced users of statistics and usually prefer to access data in electronic form so they can do their own analysis. They will want detailed metadata, such as questionnaires, code books, etc. in order to be able to understand and work with the data.

Getting to know your audience takes some time and effort. Various methods have been used by statistical offices to engage with their users and better understand their needs. Possibilities include:

- **Consultation meetings** to discuss data needs need not be conducted solely in the lead-up to a survey or census. Regular consultations (e.g. annual) can be organised to discuss whether and how existing data are being used, issues that have arisen when trying to access and use data, and what are the forthcoming monitoring and reporting commitments that could drive demand for gender-related data. Such consultations should be targeted to groups of users with similar needs and levels of statistical literacy. For example, separate consultations with basic users and those more advanced (e.g. researchers) are more likely to work as discussions can focus on the specific needs of each group.
- Conducting a **user satisfaction survey**, either online, on paper-based, or through personal interview, can gather quantitative data on how audiences are accessing gender statistics and the degree to which they are satisfied with current products. Such surveys provide a way to engage with users in a service-oriented way that encourages feedback and can strengthen user-producer relationships. For an example of a general (not related to gender statistics) satisfaction survey, refer to the Office for National Statistics (United Kingdom) Customer Satisfaction Survey, at [www.ons.gov.uk/ons/about-ons/get-involved/consultations-and-user-surveys/satisfaction-surveys/ons-customer-satisfaction-survey](http://www.ons.gov.uk/ons/about-ons/get-involved/consultations-and-user-surveys/satisfaction-surveys/ons-customer-satisfaction-survey).
- **Monitor the use of gender statistics** by keeping track of website usage and downloads, and requests for data by phone, email and in person that relate to gender issues. Encourage users to comment on the accessibility, useability and their general perceptions of quality of statistical products. Such feedback is extremely valuable in understanding how users view statistical information and how to make products more user friendly.
- **Participate** in workshops and consultations organised by other line ministries, development partners and NGOs. This will increase understanding of national issues and ensure the statistical system is well placed to offer data that can be used to inform policy and programme development.

## Importance of metadata

It is essential that metadata is provided with statistics so that readers can understand and correctly interpret the data. If the format only allows a minimum of metadata, such as in a factsheet or press release, then links to more detailed information should be provided.

Key metadata elements include:

- data source (collection method) and the organisation that produced and/or published the data (e.g. Education Management Information System, Ministry of Education);
- definitions of concepts and terms (e.g. unemployment, employee, own-account worker);
- guidance on how indicators have been calculated (e.g. net enrolment rates, total fertility rate); and
- indications of data quality (e.g. response rates, confidence intervals).

Deciding on which metadata to include will depend on the target audience and the style of the product. Data producers are encouraged to publish a metadata library or database online. Developing such a tool will help manage metadata in a consistent and coherent way, and allow products to link to a single source of information about the statistical data, facilitating easy access to the explanatory information needed by a range of different audiences.

## Develop a gender statistics dissemination and communication strategy

Being explicit about the purpose of dissemination and communication, target audiences, and the methods to reach them is likely to increase the impact of your statistical products and services. A dissemination and communication strategy is a brief document that provides a clear plan for how to reach users effectively. It usually covers:

- contextual and background information
- objectives and purpose of the strategy
- description of target audiences and their data needs
- methods of dissemination
- methods of communication
- pricing of statistical products (if any)
- dealing with errors, revisions and misuse of data
- presenting metadata
- expected results and outcomes
- an action plan
- monitoring and evaluation framework

A template, with a brief description of each section, which may be useful for developing your own strategy, is provided in Annex 2. If your office already has a dissemination and communication strategy, developing one specifically for gender statistics may not be necessary. Instead, dissemination and communication activities that are aligned with the overarching strategy could be integrated in a gender statistics action plan. In the absence of a general dissemination strategy, producing one for gender statistics could be an opportunity to test the value of this approach and later expand it into other statistical domains.

## 5. Basics of data presentation

Presenting statistics involves thinking about both the content of the message and the way that it appears on the page or screen. The colours used, the font (typeface) chosen and how the various elements are laid out on the page all influence people's decision to read on or not.

### Colours

#### Dos:

- ✓ Select colours carefully and keep it simple.
- ✓ Use vibrant, bright colours sparingly to highlight particular information.
- ✓ Use tools like [www.colorbrewer.org](http://www.colorbrewer.org) to choose colours that work well together<sup>12</sup>.
- ✓ Test that the presentation makes sense when viewed in greyscale or printed in black-and-white.

#### Don'ts:

- ✗ Don't use colours from opposite sides of the colour wheel (Figure 1) in the same graph – it distracts from the data.
- ✗ Don't use different colours for presenting the same data (unless you want to highlight a particular point, such as in Figure 2).

Figure 1 – Red-Yellow-Blue colour wheel

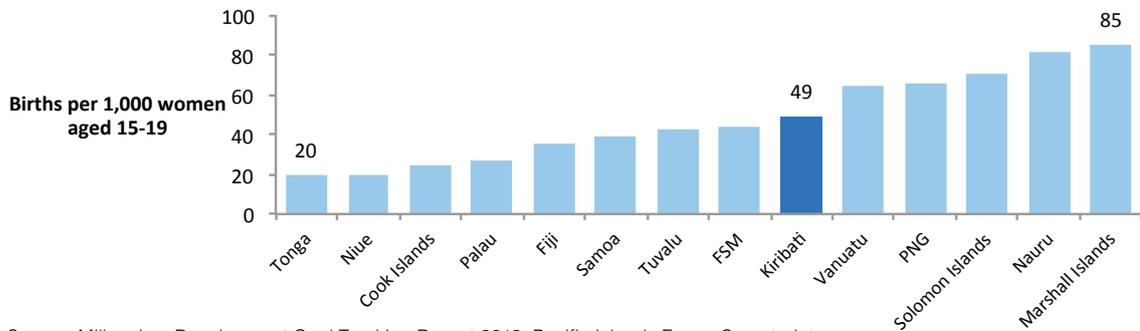


Source: Wikipedia.org

Figure 2 – good example of using colour to highlight a particular value

**Kiribati has one of the higher rates of teenage mothers in the Pacific**

Adolescent (age 15-19) birth rate, various Pacific Island countries, latest year available



Source: Millennium Development Goal Tracking Report 2013, Pacific Islands Forum Secretariat

*Recommended colour palettes<sup>13</sup>*

The palettes below are examples of useful palettes for selecting suitable colours. The light colours are useful for large objects, such as bar graphs; medium colours are good for smaller objects, such as lines and data markers; the dark and bright colours are useful for highlighting a particular item. Selecting the varying shades of the same colour from each palette can make a good combination. The RGB codes<sup>14</sup> are also provided for ease of reference.

Light	R	G	B	Medium	R	G	B	Dark & bright	R	G	B
	140	140	140		77	77	77		0	0	0
	136	189	230		93	165	218		38	93	171
	251	178	88		250	164	58		223	92	36
	144	205	151		96	189	104		5	151	72
	246	170	201		241	124	176		229	18	111
	191	165	84		178	145	47		157	114	42
	188	153	199		178	118	178		123	58	150
	237	221	70		222	207	63		199	180	46
	240	126	110		241	88	84		203	32	39

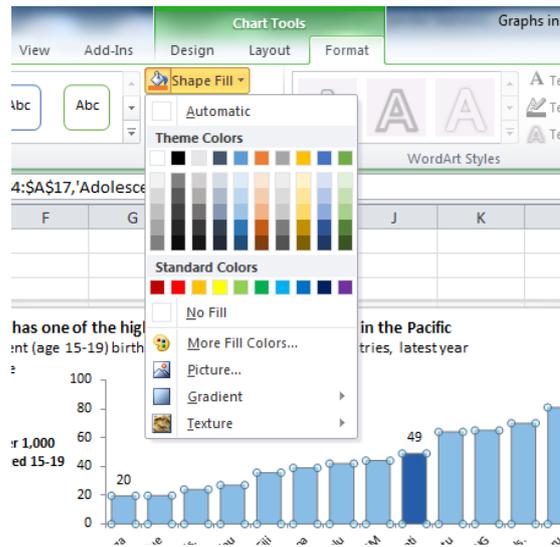
Source: Few, S. 2012.

Recent versions of Word and Excel have good built in colour palettes, which are usually accessed through the 'Format' menu that comes up when the graph or shape is selected (see Figure 3).

<sup>13</sup> Few, S. 2012.

<sup>14</sup> RGB colours related to a code for the red-green-blue composition of colours. This can be manually set in Word or Excel using the 'More Colours' option, and the 'Custom' tab from any colour or shading menu.

Figure 3 - Example of colour palette available in Microsoft Word 2010



## Fonts (typefaces)

The font (or typeface) you select will play an important role in how readers view your presentations. The primary considerations should be legibility and consistency. It is important to know that there are two kinds of typeface:

### Serif

Serif fonts have a stroke added to the beginning and end of the main strokes of the letter. Serif fonts are better for reading large amounts of text and are often used in printed books.

Recommended serif fonts include Times New Roman, Book Antiqua and Georgia.

### Sans serif

Sans serif fonts simply have no serifs. They are more modern looking and are better for more visual presentations and on-screen reading.

Recommended sans serif fonts are Arial, Calibri, Tahoma and Verdana.

#### Dos:

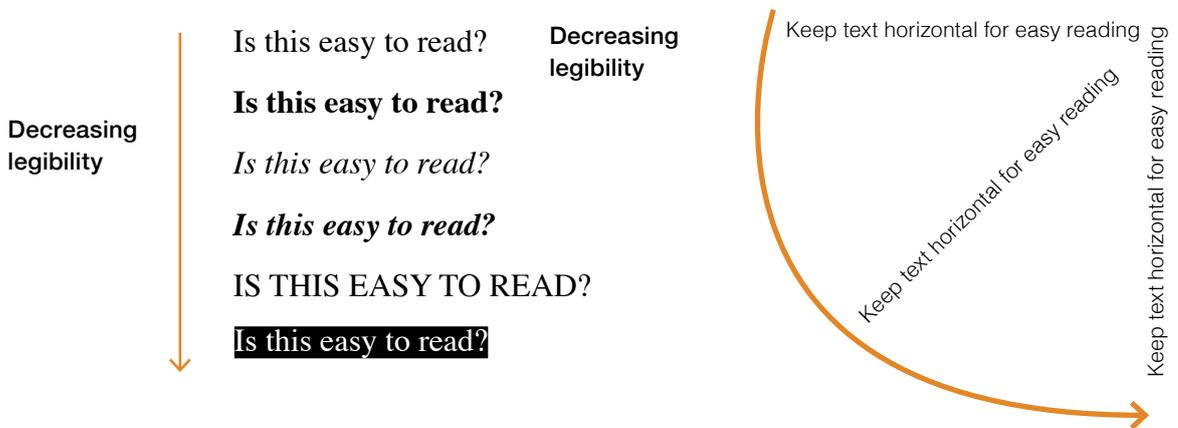
- ✓ Select typefaces that are consistent with the rest of the document.
- ✓ Use standard typefaces that work on multiple platforms (e.g. in both Office 2010 and 2014, on both Apple Mac and Windows PC).<sup>15</sup>
- ✓ Agree on standard typefaces that your organisation will use in all statistical products.
- ✓ Using a serif font for the title or headline and sans serif font for graph elements can add variety and look appealing.

#### Don'ts:

- ✗ Don't use unconventional fonts such as *Amaze* or **Cooper Black** – they are likely to distract from the data you are presenting.
- ✗ Don't overuse capitalisation, bold or italics.
- ✗ Don't use too many different typefaces in one presentation – it looks unprofessional.
- ✗ Don't use a font size that is smaller than 8 points (this is 8 point, in the printed version of this guide).

15 Examples of typeface families that are compatible with both Windows (PC) and Apple Mac are Arial, Calibri, Courier New, Georgia, Impact, Lucida Console, Lucida Sans Unicode, Palatino, Book Antiqua, Tahoma, Geneva, Times New Roman, Trebuchet, Verdana, MS Sans Serif and MS Serif (source: <http://www.ampsoft.net/webdesign-l/WindowsMacFonts.html>).

### Examples of decreasing legibility



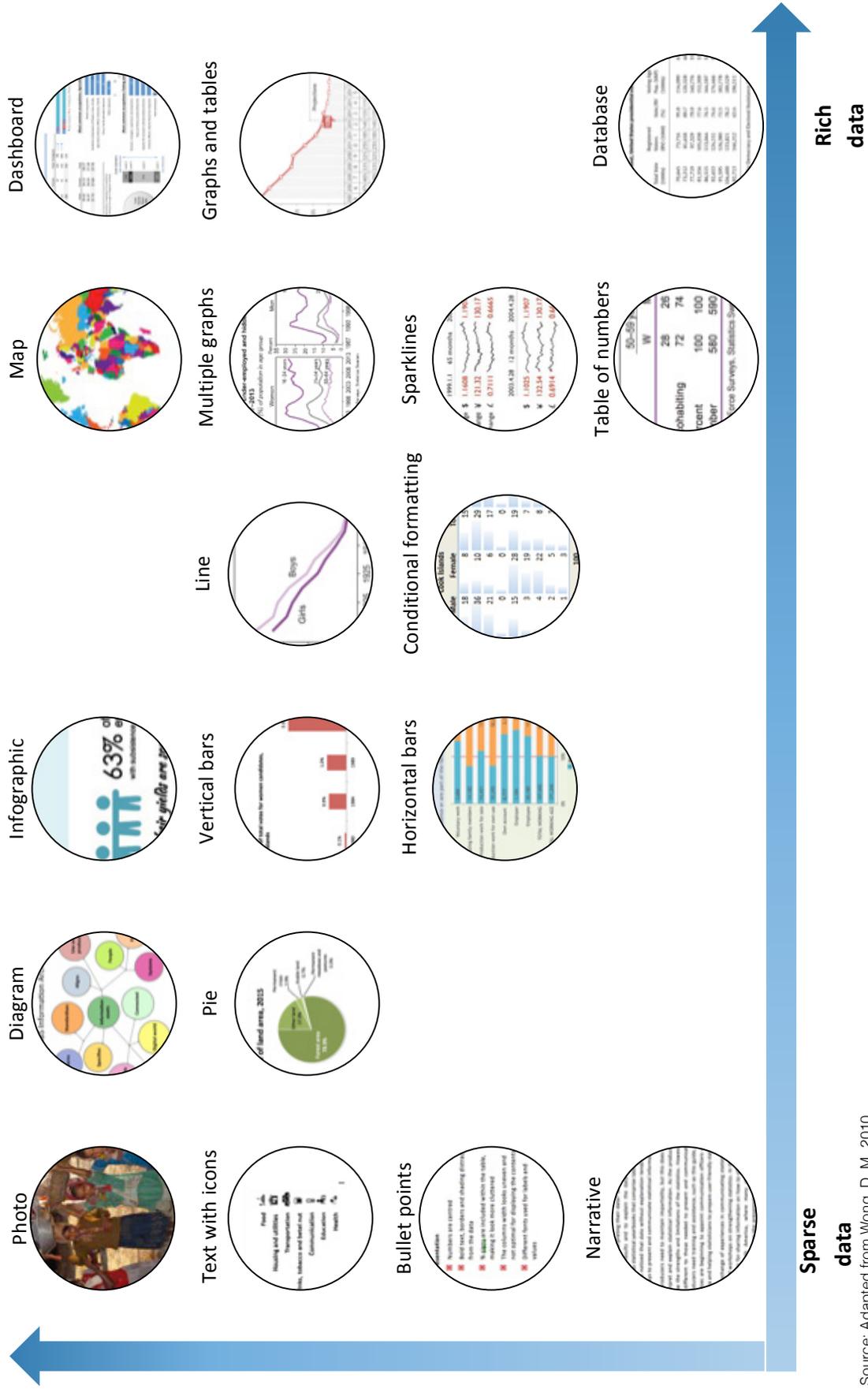
Source: Wong, D.M. (2010), *The Wall Street Journal Guide to Information Graphics: the dos and don'ts of presenting data, facts and figures*.

### Choosing the right presentation for your data

There are many options for presenting gender statistics, whether it is in a table, bar graph, line graph or other form. Each has advantages and disadvantages for getting particular messages across. It is up to you to find the 'right' format for your specific data, message and audience.

Figure 4 shows a range of options for presenting information based on the richness of the data being presented and the degree of visual impact. The following two chapters examine the typical forms of presentation more closely, suggesting when they are useful and not so useful, and the main dos and don'ts to remember. Each is illustrated with 'bad' and 'good' examples, so you can clearly see what to avoid and what tends to work best.

Figure 4 – Selecting the right presentation for your data



Source: Adapted from Wong, D. M. 2010.

## 6. Presenting data in tables

Statistical tables are often the most effective way to present large amounts of data with low visual impact. Even with the increasing emphasis on visualisation and infographics, tables remain a valuable and important way to present statistics. Where visual impact is important, an option is to combine detailed tables with visualisations, such as graphs and maps.

### When to use tables.<sup>16</sup>

- ✓ if data is for reference or comparison
- ✓ if readers need to know the numbers (*graphs have limited space for labels showing precise numbers*)
- ✓ if data has a wide range (*small quantities that are clear in a table can be lost in a graph*)
- ✓ if data include more than one unit of measure (*e.g. population in thousands, land area in square kilometres and population density in people per km<sup>2</sup>*)

### When not to use tables:

- ✗ if you want high visual impact
- ✗ if your readers are unfamiliar with numbers or statistics
- ✗ if you have a lot of blank or missing cells

## Presentation tables versus reference tables

There are two types of tables: presentation (or demonstration) tables and reference tables.<sup>17</sup> Presentation tables are concise and tend to have a clear message or point. They are the tables we typically see in analytical reports, press releases, web pages and the like. Reference tables contain more information and provide a ready reference to data, rather than having a single, clear message. They are the data source for producing presentation tables, and other forms of visualisation. The large set of basic tables in a population and housing census publication is a good example of reference tables.

Many statistical offices are moving away from publishing reference tables (in print or PDF) and towards disseminating data in online databases that allow users to customise their data request and download what they want in electronic form. Presentation tables continue to be a fundamental way to summarise and communicate gender-related statistics. This guide focuses on the dos and don'ts of presentation tables, although most of the principles also apply to reference tables.

### Example of a presentation table

#### Almost two-thirds of women experience violence

Experiences with violence during lifetime (since age 15), women aged 15-49 who have ever been in a relationship, Solomon Islands, 2009

Type of violence	% of women
Intimate partner physical violence	45.4
Intimate partner sexual violence	54.7
Intimate partner physical and/or sexual violence	63.5
Non-partner physical and/or sexual violence	29.1
Non-partner physical violence	18.2
Non-partner sexual violence	18.0

Source: Solomon Islands Family Health and Safety Study, 2009

<sup>16</sup> Bigwood, S. and Spore, M. 2005.

<sup>17</sup> UNECE. 2009b.

## Elements of good table design

Every table, no matter what the topic, should have common elements. These include a title that indicates what is being measured, and the geographic locations and timeframes to which the data relate. The source(s) of data and any explanatory notes that are needed to correctly interpret the statistics should also be a standard part of any table. The diagram below illustrates the essential elements of good table design.<sup>18</sup>

**Column labels** in the first row should identify the data being presented in each column and any relevant metadata, such as **unit of measurement** (*in this case %*)

**Row labels** in the first column should identify the data presented in each row. **Indent** to show sub-groups, **avoid jargon or abbreviations**, and be sure to sort rows in a standard or logical way (*this example uses the standard for listing administrative divisions in Nauru; an alternative would be to sort from highest to lowest based on total, male or female, depending on your message*)

### Girls more likely to attend high school

Net attendance rates in secondary education, by sex and district, Nauru, 2011

Districts	Net attendance rate (NAR) - secondary school (%)		
	Male	Female	Total
<b>Nauru (total)</b>	<b>59.6</b>	<b>67.4</b>	<b>63.3</b>
Yaren	48.8	71.8	59.8
Boe	51.7	58.5	56.1
Aiwo	61.9	68.3	64.6
Buada	70.9	86.4	77.8
Denigomodu	53.3	41.7	48.1
Nibok	37.8	61.3	47.4
Uaboe	69.6	33.3	53.7
Baitsi	60.5	75.7	68.0
Ewa	80.0	90.3	84.5
Anetan	50.0	62.1	55.7
Anabar	57.1	66.7	60.9
Ijuw	50.0	71.4	57.1
Anibare	50.0	81.8	65.2
Meneng	62.1	67.1	64.8
Location	63.6	61.0	62.4

#### Notes:

Location is not officially a district, but is considered a statistical unit area and so is included in the list of districts.

Official secondary school age range used for calculating net attendance is 13 to 18 years.

Source: 2011 Population and Housing Census, Statistics Nauru.

**Title** that gives the headline message in the data e.g. the gender gap or non-gap, highest or lowest values, or other value of interest

**Sub-title** that indicates what is in the table, and to where and when the data relate

**Footnotes** that provide additional information needed to understand the data

**Source** of the data, which includes the **data collection method** and the **organisation** that produced or published it

**Dos:**

- ✓ Make sure all six elements (title, sub-title, column and row headings, footnotes and source) are included.
- ✓ Align numbers on the decimal place.
- ✓ Swap technical terms for language that is easy to understand.
- ✓ Provide links and references to compilation guides/metadata for those who want to know more about the data source.
- ✓ Use a minimum number of decimal places and be consistent in the number of decimal places throughout.

**Don'ts:**

- ✗ Include heavy borders, shading or colouring that distract from the data and look unprofessional.
- ✗ Allow the table to spread across the page unnecessarily. Tables should only be as wide as the data content and adequate spacing requires.
- ✗ Include unnecessary text. Be succinct and provide references instead.
- ✗ Leave any cell empty. Identify missing values with 'not available' or 'not applicable'. If using 'NA' this needs to be defined in the notes to the table.

### Avoid common mistakes

Text should usually be aligned to the left, but numbers should always line up on the decimal point. Tables should not be published with the numbers centred or left aligned. This makes it difficult for readers to absorb and compare the data, as shown in the example below:

**Household in Region D are the highest earners**

Household income (US\$), Country X, 2011

	Household income (\$)	Household income (\$)	Household income (\$)
Region A	965.24	965.24	965.24
Region B	89,457.25	89,457.25	89,457.25
Region C	454.78	454.78	454.78
Region D	100,877.04	100,877.04	100,877.04
Region E	55,014.61	55,014.61	55,014.61
Region F	8,421.74	8,421.74	8,421.74
Region G	653.83	653.83	653.83
Total	255,844.50	255,844.50	255,844.50

Align data on the decimal point like this. Never left aligned or centred, as shown in the first two columns on the left

Note: includes income from paid employment, government pensions, investments, remittances, and any other sources.

Source: 2011 Household Income and Expenditure Survey, Country X Bureau of Statistics

Using too many borders, heavy lines, shading or colouring will distract from the data and make the presentation look unprofessional, as shown below, in the two examples on the left. Remove unnecessary lines and shading to allow readers to focus on the data, as per the example on the right.

## Household in Region D are the highest earners

Household income (US\$), Country X, 2011

	Household income (\$)	Household income (\$)	Household income (\$)
Region A	965.24	965.24	965.24
Region B	89,457.25	89,457.25	89,457.25
Region C	454.78	454.78	454.78
Region D	100,877.04	100,877.04	100,877.04
Region E	55,014.61	55,014.61	55,014.61
Region F	8,421.74	8,421.74	8,421.74
Region G	653.83	653.83	653.83
Total	255,844.50	255,844.50	255,844.50

**Minimise lines, borders, shading and colours** like this. Avoid distractions from the data as shown in the first two columns.

Note: includes income from paid employment, government pensions, investments, remittances, and any other sources.

Source: 2011 Household Income and Expenditure Survey, Country X Bureau of Statistics

## Bad and better: example of a poorly presented table and how it can be improved

**Table A: Education level of employees**

	Government employees				Private sector employees			
	Men		Women		Men		Women	
<b>Lower level schooling</b>	1,631	42%	926	38%	8,473	74%	4,516	69%
<b>Completed senior secondary</b>	1,660	43%	1,142	47%	2,161	19%	1,655	25%
<b>Tertiary</b>	562	15%	340	14%	746	7%	376	6%

### What is wrong with Table A?

#### Content

- ✗ The title is missing the where (country or area) and the when (year).
- ✗ Data source is missing.
- ✗ We don't know the age range of the employee population.
- ✗ No title to give the headline message of the table.
- ✗ Definitions of the different levels of schooling would help interpret results and aid regional and international comparison.
- ✗ Total is not included.

#### Presentation

- ✗ Numbers are centred.
- ✗ Bold text, borders and shading distract from the data.
- ✗ % signs are included within the table, making it look more cluttered.
- ✗ The column's width looks uneven and not optimal for displaying the contents.
- ✗ Different fonts used for labels and values.

**Table B: Women employees have slightly higher education**

Education attainment level of employees aged 15 and above, Vanuatu, 2009

Highest education attainment	Government				Private sector			
	Men		Women		Men		Women	
	Number	%	Number	%	Number	%	Number	%
Low level	1,631	42	926	38	8,473	74	4,516	69
Senior secondary	1,660	43	1,142	47	2,161	19	1,655	25
Tertiary	562	15	340	14	746	7	376	6
<b>Total</b>	<b>3,853</b>	<b>100</b>	<b>2,408</b>	<b>100</b>	<b>11,380</b>	<b>100</b>	<b>6,547</b>	<b>100</b>

Footnotes

Employee: the population who are working for cash or pay.

Education attainment: highest level of formal schooling attended and successfully completed.

Low level: either have no school completed; preschool/nursery school; some primary; primary leaving certificate; Form 3 certificate or Year 10 leaving certificate.

Senior secondary: have attained either a senior secondary certificate; university entrance; or attended some college but no degree.

Tertiary: have attained a Bachelor's degree; Master's degree; Doctoral degree; or Vocational certificate.

Source: Vanuatu National Statistics Office, 2009 Population and Housing Census.

**How have things been improved in Table B?**

- ✓ Title now contains enough information to indicate what the table is about.
- ✓ Row labels are more complete and concise.
- ✓ Footnotes provide a definition of terms used (an alternative would be to include a reference to a glossary rather than listing them all in the notes).
- ✓ Total included.
- ✓ Unit of measurement added to column labels and % signs removed from within cells.
- ✓ Column width looks more appropriate and makes data easier to read.
- ✓ Minimal borders allow readers to focus on the values.

**Other best practices in table design**

- Make sure there is sufficient white space between columns and rows so it is easy to read the values. A practical guide is a one-to-one ratio of data height to white space, as shown in the table on the right below.<sup>19</sup> The easiest way to do this is to change the row height to be double the point (pt) size of the font; that is, if font size is 10pt, row height should be 20 pt.

Highest education attainment	Number	%
Low level	1,631	42
Senior secondary	1,660	43
Tertiary	562	15
<b>Total</b>	<b>3,853</b>	<b>100</b>

One-to-one ratio of data height to white space makes this table easier to read; and this is even more important for tables containing many columns and rows.



<sup>19</sup> Few, S. 2012.

- Use a **font size** that is consistent with the rest of the document. A practical guide is to use a font size no more than two points smaller than the main text of the document.<sup>20</sup>
- Use the fewest number of **decimal places** needed to accurately interpret the data.
- When a high degree of accuracy is not important, **use rounding** to make it easier for the reader to scan and absorb the information. For example, rounding total income figures to the nearest hundred, or one thousand dollars (depending on income level of the area) in a table on household or individual income would not lose too much information. However, rounding precise numbers such as millimetres of rainfall, could be problematic.

## Particular considerations for gender statistics

As gender statistics usually require presentation of sex-disaggregated data, most tables need to present three variables rather than two. For example, a table on economic activity status of the population might include geographic location (e.g. urban or rural), economic activity status (e.g. employee, own account worker), and sex. Good presentation of three-way tables often involves trying out different configurations of the data to see what will work best. Where there are a large number of categories (e.g. more than four) for two of the variables, the table will become overly complex and a solution could be to present the data in two separate tables (e.g. one table for male and for female).

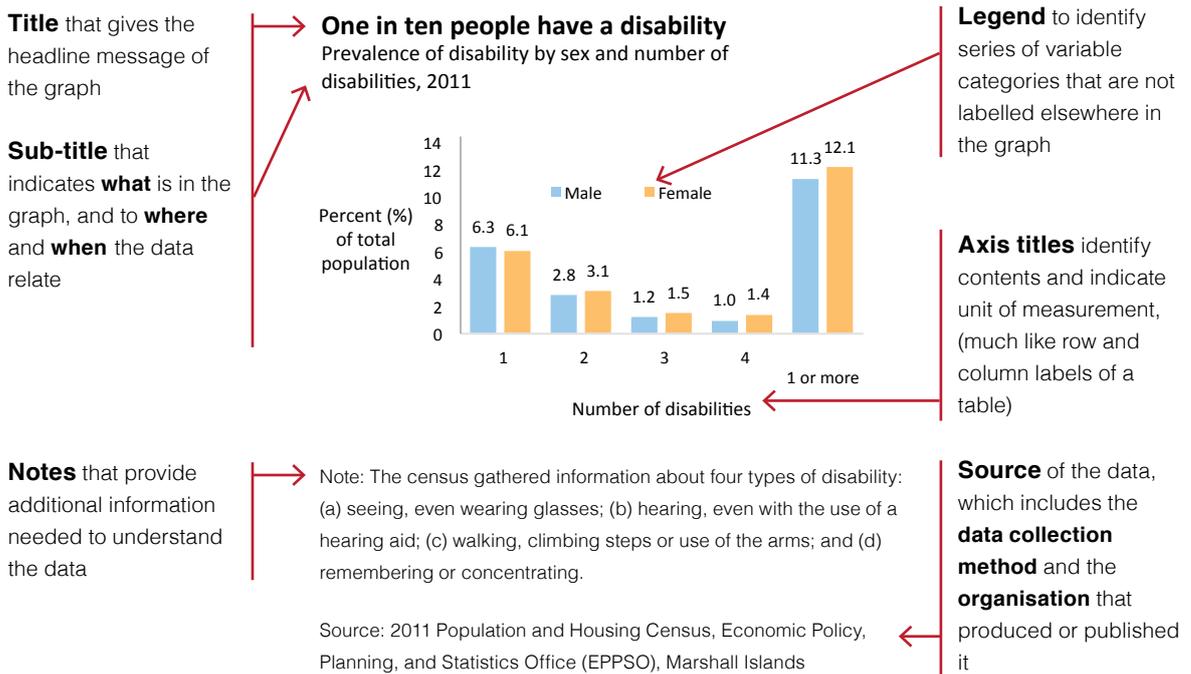
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20 Miller, Jane E. 2015.

## 7. Presenting data using graphs

Graphs (or charts) are an ideal way to display patterns, trends and exceptions. They can guide your readers to see what the statistics are saying at a glance. There are many different options for graphing data. This guide focuses on graphs most commonly used for the presentation of gender statistics. Most graphs have common elements, as shown in Figure 5 below. There are exceptions to this, such as a pie graph, which does not have an x- and y-axis, but should still have a title, legend (or labels instead), footnotes and an indication of data source.

Figure 5 – Typical components of a graph



### Do's:

- ✓ Keep it simple and make sure the message is clear from the chart.
- ✓ Choose a graph that is appropriate to the variables on display (see next page for tips).
- ✓ Make sure all essential elements are included (overarching title, axis titles, footnotes source, legend and/or appropriate data labels).
- ✓ Use language that is easy to understand instead of technical terms.
- ✓ Use standard conventions where they exist (e.g. males on left side of population pyramid and females on right).
- ✓ Use appropriate and consistent colours (see page 15).
- ✓ Check the graph is still readable when printed in black-and-white.
- ✓ Provide links and references to compilation guides/ metadata for those who want to know more about the data source.
- ✓ Ensure the scale of the axis is evenly spaced (e.g. every five years) or provide a footnote that indicates an uneven scale has been used.

### Don'ts:

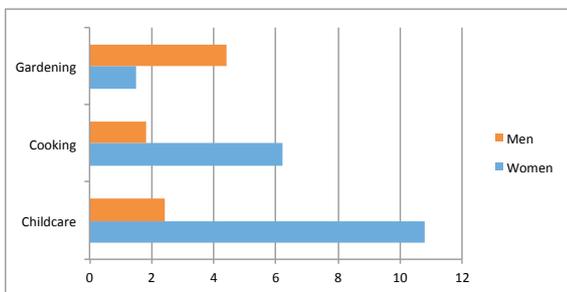
- ✗ Mislead by inappropriately adjusting the axis scale or by using inconsistent intervals.
- ✗ Use 3D versions of graphs. They typically make it more difficult to see the patterns in the data and are general considered bad practice.
- ✗ Include gridlines, shading or colouring that distract from the data and look unprofessional.
- ✗ Include unnecessary labels or text, like 'sex', which is self-explanatory when male and female labels or legends are used.

#### Box 4: Adjust the default presentations used by Microsoft Excel and Word

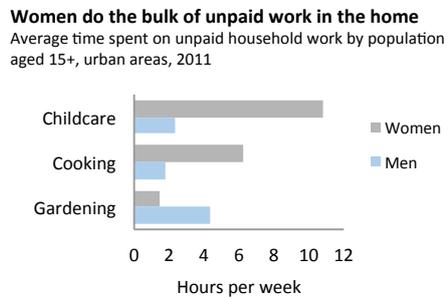
It is common to use Microsoft Excel and Word to create our graphs. These programmes work well, but their default presentations often include borders, gridlines and other elements that distract from the data. Graphs look better when these extra elements are removed. The default templates also tend to exclude elements that are required, such as the graph and axis titles.

The example below shows a default graph produced using Microsoft Word (Graph A on the left), and an improved version with unnecessary elements removed and necessary elements added, in (Graph B). The point is that graphs created in Excel or Word need some adjusting to be good presentations. Be sure not accept the default format and adjust each element of the graph until the presentation meets the right standard and the message is clear.

**Graph A: produced with default settings**



**Graph B: with unnecessary elements removed and missing elements added**



Source: Household Income and Expenditure Survey, National Statistics Office of Country A.

## Line graphs

Line graphs illustrate the relationship between two continuous variables, such as fertility rate over time, or employment rate across age groups.

### When to use a line graph:

- ✓ to show the relationship between two continuous variables
- ✓ to show the shape of a distribution

### When not to use a line graph:

- ✗ if ranking different values
- ✗ if comparing of two sets of values (unless both are time series or another continuous variable)

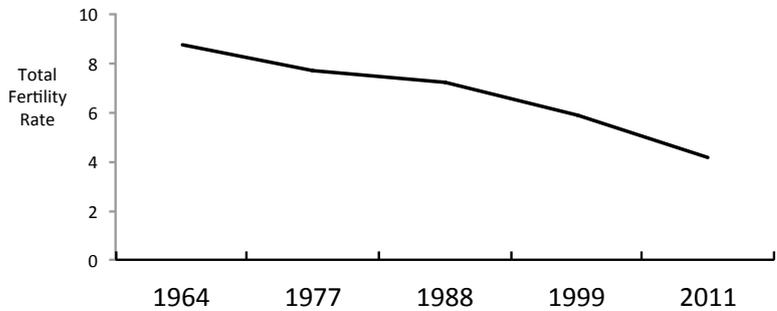
## Different types of line graph

### Single line

- If the trend over time is the main message, a line without markers or values can work well.
- Change the 'weight' or width of the line so it is clear (not too thick or thin).

### Fertility has declined significantly

Total Fertility Rate (average number of children per woman), 1964-2011



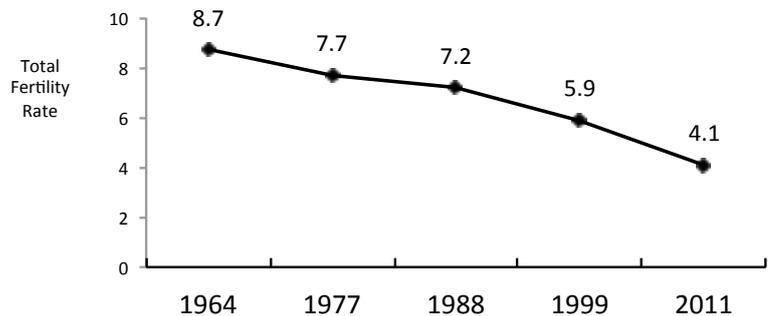
Note: Time period between the years shown varies (not evenly spaced).

Source: Report on the 2011 Population and Housing Census, Economic Policy, Planning, and Statistics Office (EPPSO), Marshall Islands.

- Use markers to make the data points clearer to see.
- Use data labels when it is useful to know the precise number, but only when there are not so many that it makes the graph look messy (in that case use a table instead, or as well).

### Fertility has declined significantly

Total Fertility Rate (average number of children per woman), 1964-2011



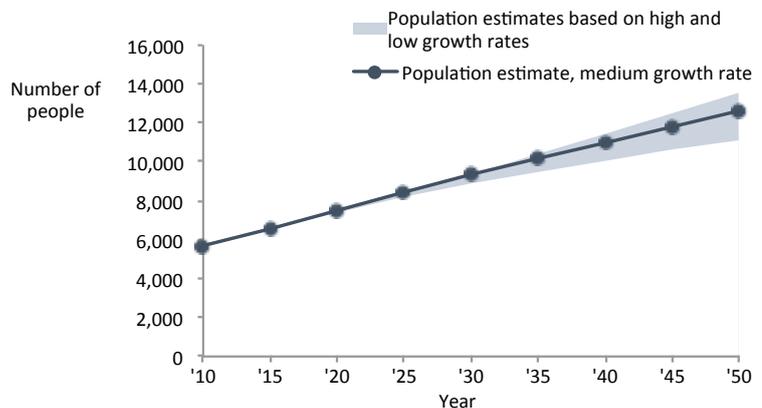
Note: Time period between the years shown varies (not evenly spaced).

Source: Report on the 2011 Population and Housing Census, Economic Policy, Planning, and Statistics Office (EPPSO), Marshall Islands.

- Shading around the line can show high-low estimates or confidence intervals.

### Population likely to double over the next 40 years

Population estimates, Area A, 2010-2050



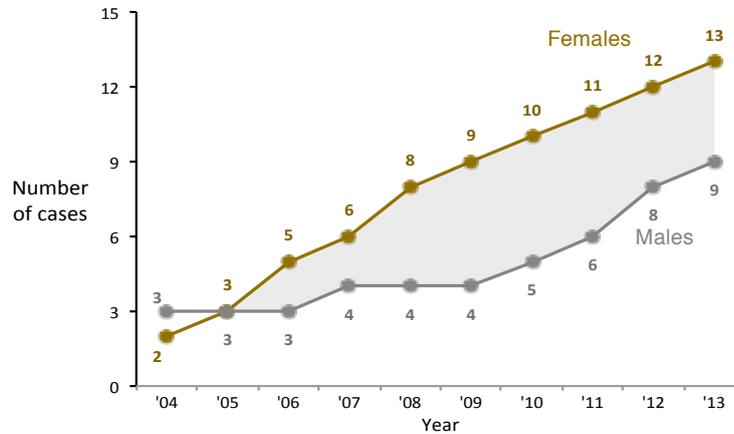
Source: National Statistics Office of Country X

### Multiple lines

- Avoid using more than three lines.
- Use shading to emphasise gaps, such as the gender gap shown in this example.

### More women have tested positive for HIV than men

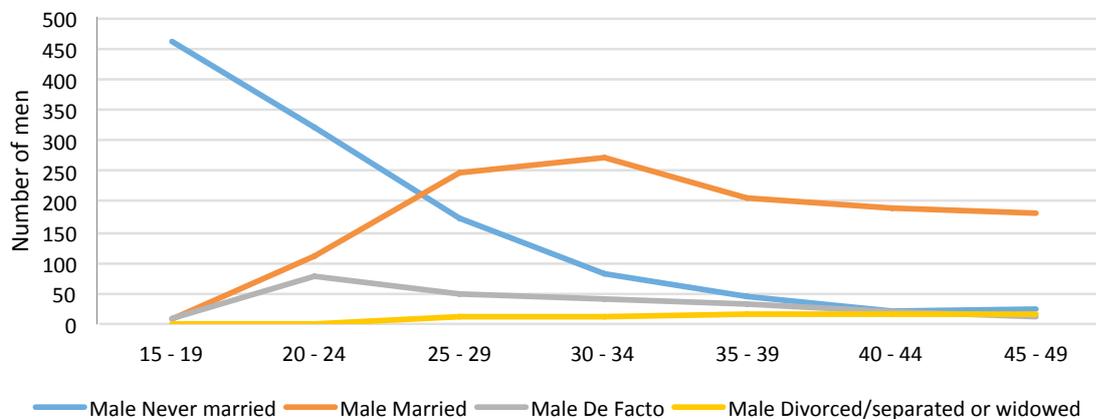
But almost twice the number of women are screened in antenatal clinic visits  
Cumulative HIV cases, by sex, Solomon Islands, 2004-2013



Source: Solomon Islands Global AIDS Progress Report 2014.

*Bad and better: example of a poorly presented line graph and how it can be improved*

### Line graph A: Marital status of men aged 15-49, Nauru, 2011



### What is wrong with line graph A?

#### Content:

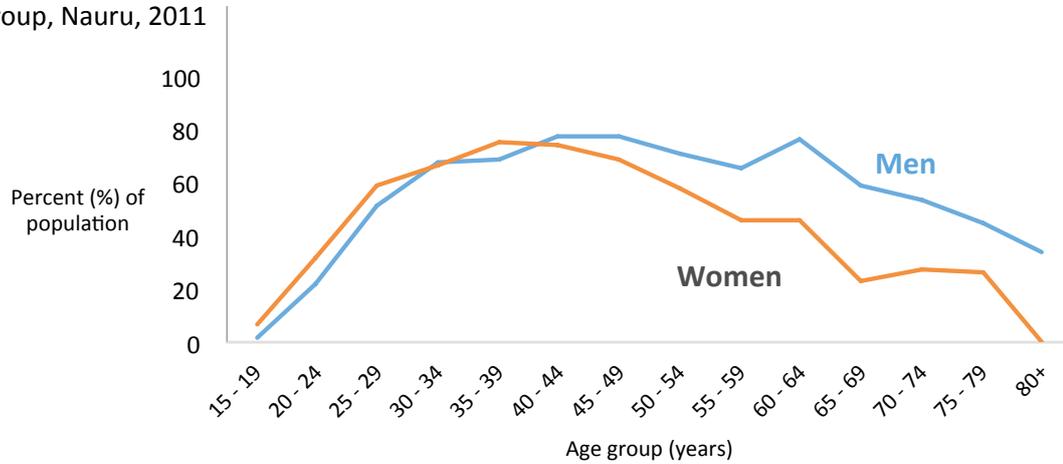
- ✗ The data is not suited to a line graph. Marital status is a mutually exclusive, or a 'category', variable (you can only have one marital status at a time) and would be better shown as a stacked bar, pie or in a table.
- ✗ No information on how marriage or de facto union is defined.
- ✗ No title to highlight the main message.
- ✗ Source is not indicated.

#### Presentation:

- ✗ Too many lines (recommended maximum is three lines).
- ✗ Horizontal (x) axis is not labelled with 'age group'.
- ✗ Gridlines across the graph distract from seeing the data.
- ✗ There are too many labels on vertical (y) axis, causing crowding.

### Line graph B: Elderly men more likely to be married

Percentage of population age 15 and over that is married, by sex and age group, Nauru, 2011



Note: 'Married' refers to those legally married and excludes those in a de facto union (measured separately).  
 Source: 2011 Population and Housing Census, Statistics Nauru

#### How does line graph B improve on line graph A?

- ✓ Line graph is a good choice for comparing trends in male vs female marital status across age groups.
- ✓ Graph is limited to two lines, making it easy to distinguish similarities and differences.
- ✓ Labels for 'men' and 'women' are on the graph, and using matching colours, instead of in a legend.
- ✓ Axes are clearly labelled.
- ✓ All elements needed to interpret the data are included (source, title, definition of marriage).
- ✓ There is sufficient spacing between the numbers on the vertical (y) axis.

## Bar graphs

When to use a bar graph:

- ✓ if ranking different values
- ✓ if comparing two sets of values
- ✓ to show the shape of a distribution of continuous data (histogram)

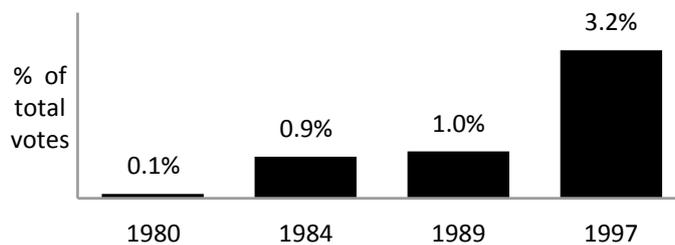
When not to use:

- ✗ if there are too many categories to display (split the graph or use a table instead)

### Simple vertical bar graph

- This is also known as a column graph.
- Bars should be about twice the width of the space in-between<sup>21</sup> (i.e. adjust gap width to 50%).
- The same colour should be used for each bar (as it is a measurement of the same thing) unless you want to highlight one bar as your message.
- As data labels are shown, labels on the y-axis are redundant.

**Votes for women are increasing**  
Percentage of total votes for women candidates, Solomon Islands



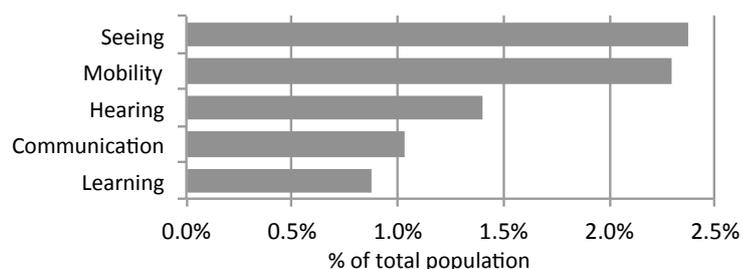
Source: Solomon Islands CEDAW Combined Initial, Second and Third Periodic Report 2012, Solomon Islands Government

### Simple horizontal bar graph

- Good option when axis labels are long.
- Bars are horizontal instead of vertical.
- As for all bar graphs, values should be sorted in a logical way.

In this example, sorting is from the most- to the least-common form of disability

**Seeing and mobility are most common forms of disability**  
Female population (all ages) with some form of disability, by type, 2009



Source: 2009 Population and Housing Census, National Statistics Office of Country A

**Clustered bar graph**

- Use to illustrate relationship up to three variables.
- Bars for each variable are touching (i.e. clustered).
- Gap width should be around 150% of the bar width to clearly distinguish between categories.

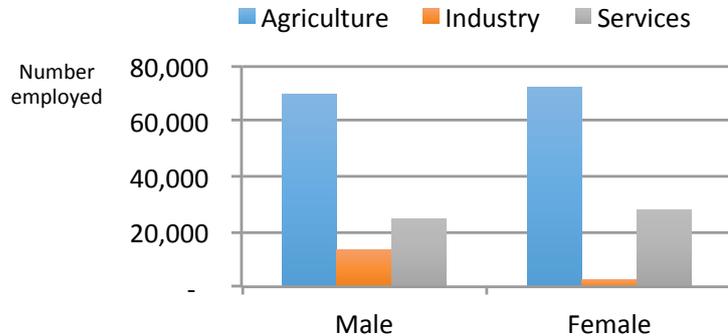
The two examples shown here use the same data, but each highlights a different message. The top graph shows how the overall distribution of employment across sectors differs between males and females.

The second graph shows the sector of employment on the x-axis and thereby provides a clearer view of the number of males versus females in each sector. The option you choose depends on the message you are trying to convey.

Note, the 'Switch Row/Column' feature in Excel is used to change between these two options.

**Most men and women work in agriculture**

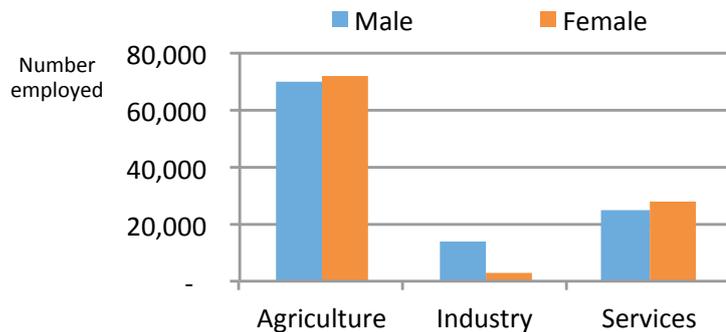
Employed population (aged 14+) by sex and sector of employment, 2009



Source: 2009 Population and Housing Census, National Statistics Office of Country A

**Gender gap biggest in industry sector**

Employed population (aged 14+) by sex and sector of employment, 2009



Source: 2009 Population and Housing Census, National Statistics Office of Country A

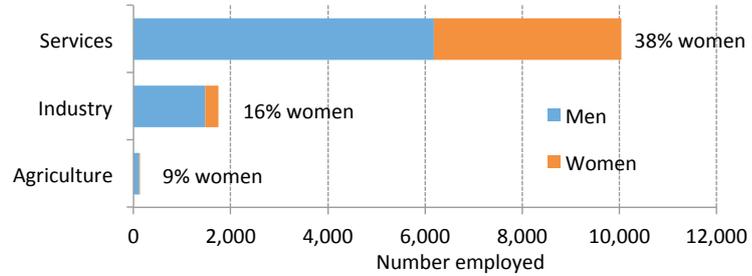
### Stacked bar graph

- Used to show how a multi-categorical variable (in this case, sector of employment) differs by another characteristic (e.g. sex).

This graph illustrates two messages: (1) the relative size of each sector; and (2) women's share compared with men's share. Note that the labels showing women's percentage share had to be calculated separately and added manually in text boxes.

**Title headlines** are a good way to draw attention to the main message. Note how it differs between the two examples.

**Most paid employment is in the services sector**  
Share of women in paid employment by sector and sex, 2011



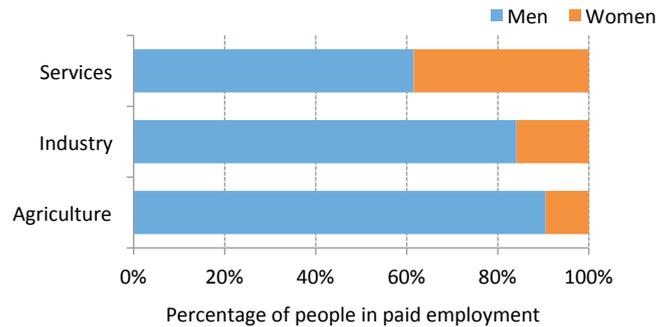
Source: 2011 Population and Housing Census, National Statistics Office of Country B

### 100% stacked bar graph

- The 100% stacked bar shows the relative share of each category.
- Bars should always add up to 100% and therefore be the same size.
- Ensure the scale goes from 0 to 100%.

This graph uses the same data as the one above. It does a better job of showing the women's share; however, we lose information about the actual number of people employed in each sector. This is a good example of how to choose the right chart for the main message.

**Services sector most likely to employ women**  
Share of women in paid employment by sector and sex, 2011



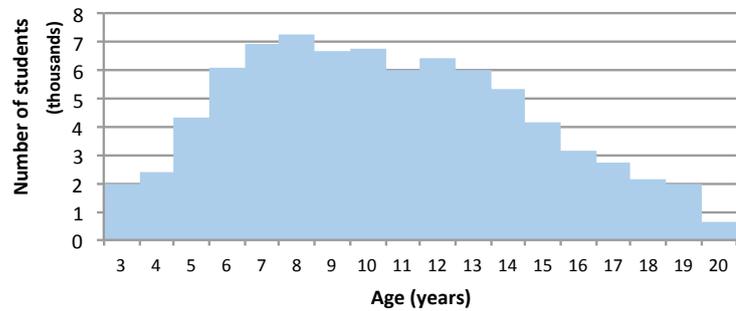
Source: 2011 Population and Housing Census, National Statistics Office of Country B

### Histogram

- Use to show distribution.
- Bars should be touching (no horizontal space between), and no borders delineating the bars, because histograms are only used for continuous data.

### Most students aged between 5 and 15 years old

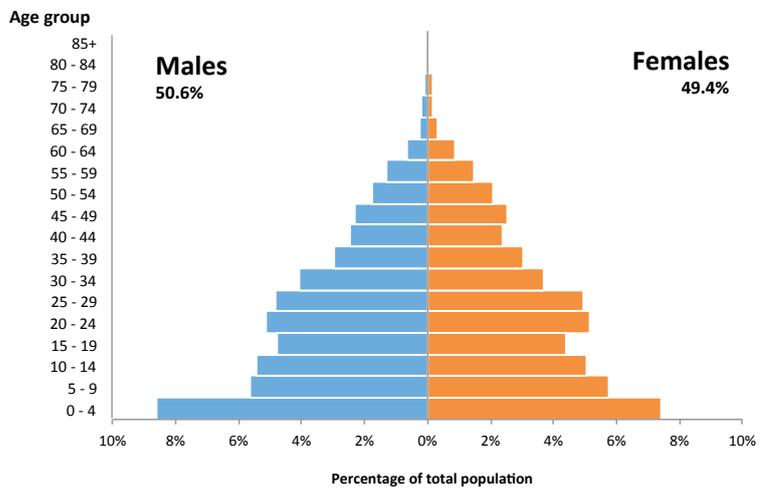
Number of males enrolled in formal education, by age, Solomon Islands, 2007



Source: Solomon Islands Education Management Information System, Ministry of Education

### Population pyramid<sup>22</sup>

- Widely used to illustrate age-sex structure of a population (e.g., total, urban, rural, employed).
- A population pyramid can be constructed using two horizontal bar charts, and representing one of the genders on a negative horizontal axis.<sup>23</sup>



Source: 2011 Population and Housing Census, Statistics Country X

<sup>22</sup> An example population pyramid and split-stacked bar is provided in the accompanying Microsoft Excel workbook.

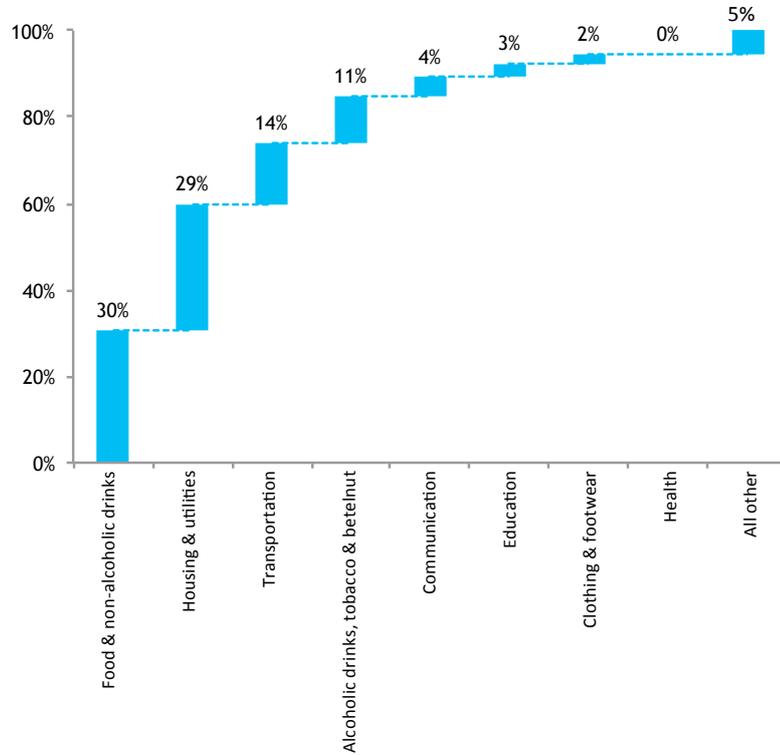
<sup>23</sup> Note that the number format has to be customised to allow negative values to be shown as positive (without the minus sign). This is done by adding format code 0%; 0% when formatting how numbers display on the x-axis.

### Split-stacked bar or, Waterfall chart

This variation of a 100% stacked bar splits the categories across the horizontal axis. This is a useful option when there are more than four categories to display in the stack (in this case there are nine). Waterfall charts are good alternatives to pie charts when there are a large number of categories.

### More than half the average household budget is spent on food, housing and utilities

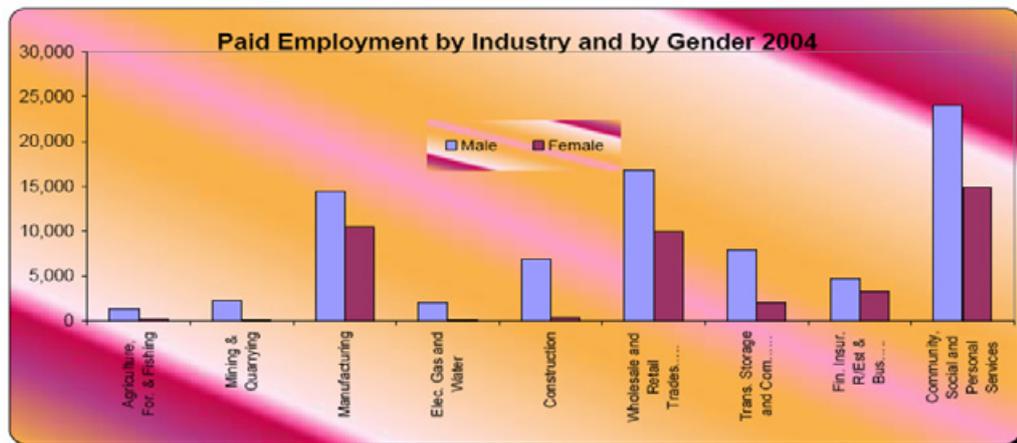
Percentage of total household expenditure on each major category of goods/services, 2012, Area C



Source: 2012 Household Income and Expenditure Survey, Area C Statistics Office.

*Bad and better: example of a poorly presented bar graph, and how it can be improved*

**Bar graph A: Paid employment by industry and by gender, 2004**



**What is wrong with Bar graph A?**

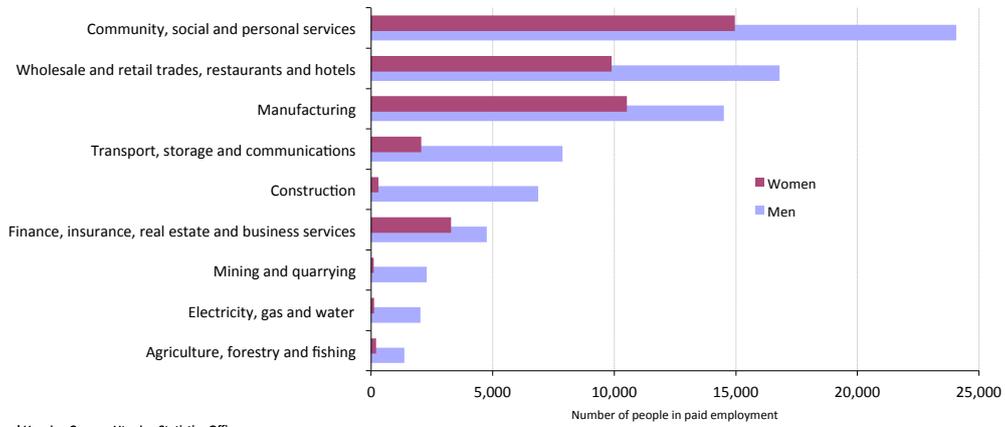
**Content**

- ✗ Bars are sorted by standard industry coding but the message would be more compelling if sorted by issues relating to gender differences (in this case, most to least participation [either male or female]).
- ✗ Geographical area and data source are not indicated.
- ✗ Age group is not specified.
- ✗ Difficult to see the low values.

**Presentation**

- ✗ Use of bright colours and backgrounds overwhelm the eye and disguise the data.
- ✗ Labels along the horizontal (x) axis have been cut off due to a lack of space.
- ✗ Vertical (y) axis is not labelled.

Bar graph B: **Employment for women concentrated in three industries**  
Employed population aged 15-64 by industry and sex, Utopia, 2012



Source: 2012 Population and Housing Census, Utopian Statistics Office

### How does bar graph B improve on bar graph A?

- ✓ Simple and contrasting colours used.
- ✓ Bars presented horizontally instead of vertically to improve readability of labels.
- ✓ Sorted from industry, with the highest-paid male employees to the least-highest paid.
- ✓ Axes are clearly labelled.
- ✓ Data source is indicated.
- ✓ Scale has been changed.

## Pie graphs

Pie graphs are a great way to show the relative parts of a whole, such as the percentage of men compared to women in a particular population. However, they are only capable of presenting very small amounts of data, and should be used sparingly.

### When to use a pie graph:

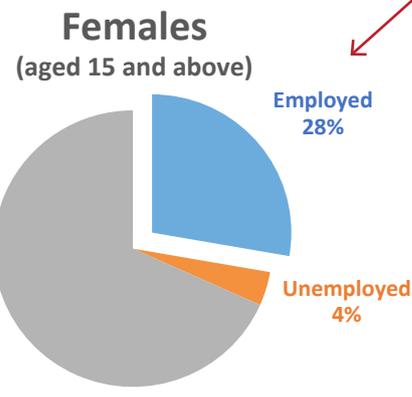
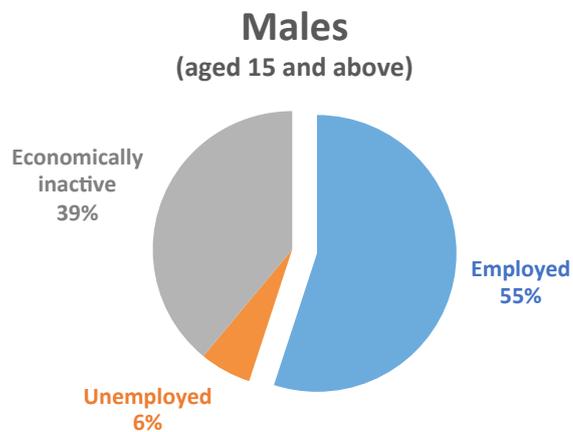
- ✓ to show relative parts of a whole
- ✓ if there are single, mutually exclusive variables (response can only ever be in one category)

### When not to use:

- ✗ if there are five or more segments
- ✗ if there is little difference in the number or proportion of segments
- ✗ if the combination of values being displayed do not add up to 100%

### Simple pie graph

- Ideal for showing 2-3 mutually exclusive categories, such as employment, unemployment and outside the labour force.
- Introducing a second variable (sex) is not possible with a pie chart. Two placed side-by-side are useful for comparing between male and female, as shown here.



**Draw attention** by exploding parts of the pie (click and drag them outwards) and using larger labels.

**Labels instead of legends**  
make the graph look neater and easier to read.



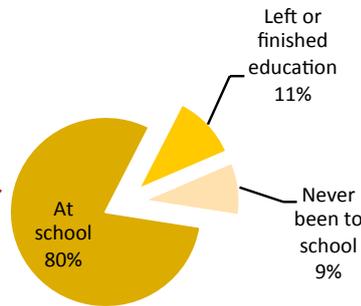
**Another simple pie graph**

- Leader lines clarify what each pie segment represents.

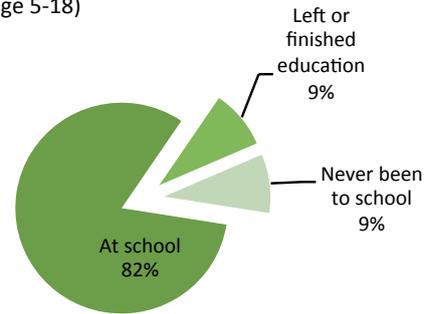
**Use colour** to emphasise data that are for different populations.

Varying shades of the same colour is easy on the eye.

**Male education status, 2011**  
(age 5-18)

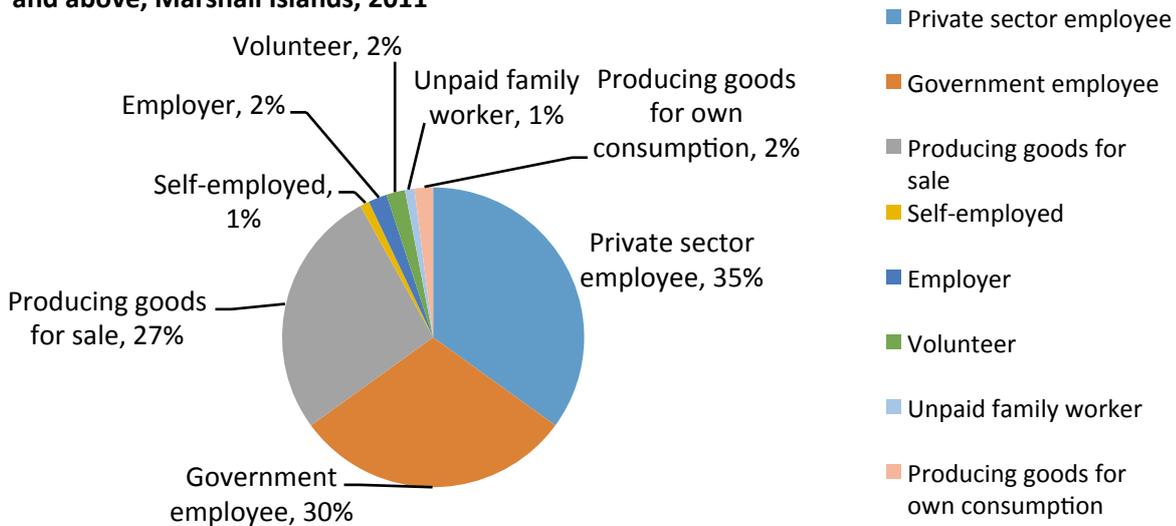


**Female education status, 2011**  
(age 5-18)



*Bad and better: example of a poorly presented pie graph, and how it can be improved*

**Pie graph A: Type of employment of economically active women aged 15 and above, Marshall Islands, 2011**



**What is wrong with Pie graph A?**

**Content**

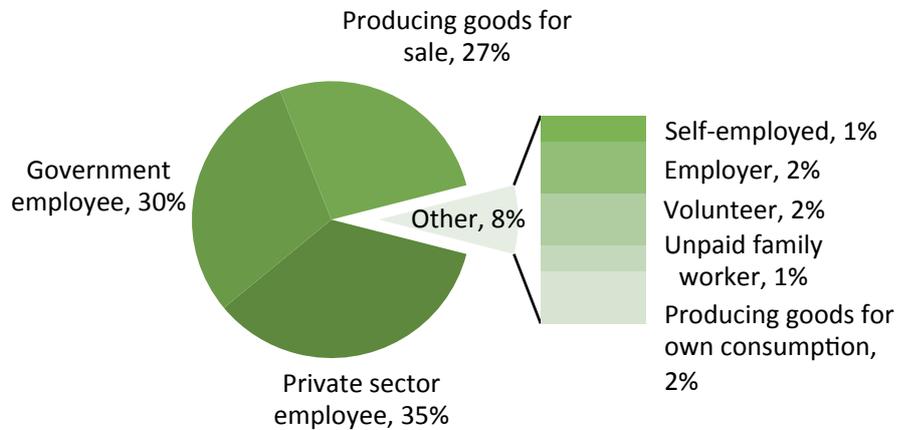
- ✗ There are too many categories for a pie graph (recommended maximum is five segments).
- ✗ Concepts such as unpaid family worker are not defined.
- ✗ Source is not indicated.

**Presentation**

- ✗ There are too many colours.
- ✗ Both legend and labels are not necessary (one or the other).
- ✗ Some of the labels have been truncated.

**Pie graph B: Most employed women are paid employees**

Type of employment of economically active women aged 15 and above, Marshall Islands, 2011



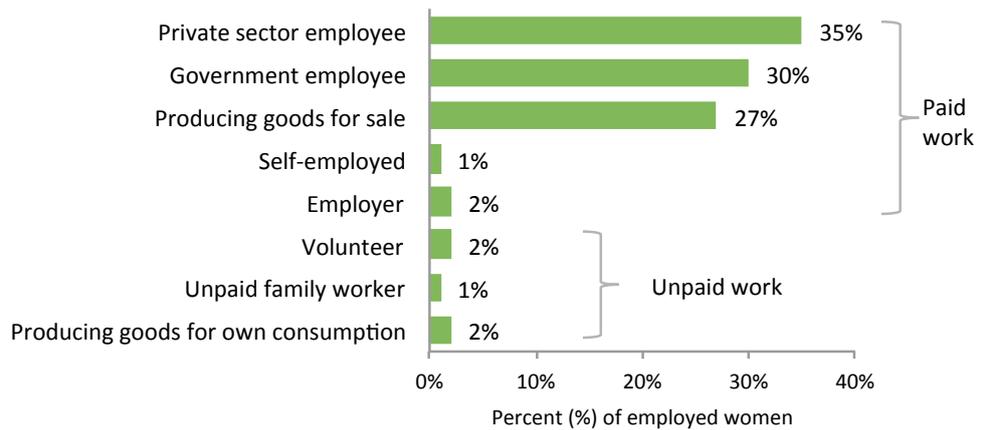
**How does pie graph B improve on pie Graph A?**

- ✓ Pie segments reduced to four, with smaller categories collapsed into 'other' and shown in a separate bar graph (chart type bar of pie).
- ✓ Simple colours used.
- ✓ Clear labelling.
- ✓ Legend removed.
- ✓ Reference to definitions and source added.

**Further improvement:** the graph is improved further by using a bar instead of a pie:

**Most employed women are paid employees**

Type of employment of economically active women aged 15 and above, Marshall Islands, 2011



Note: definitions for each type of employment are available at [glossary.stats.org](http://glossary.stats.org)

Source: 2011 Population and Housing Census, Economic Policy, Planning and Statistics Office.

## Things to avoid

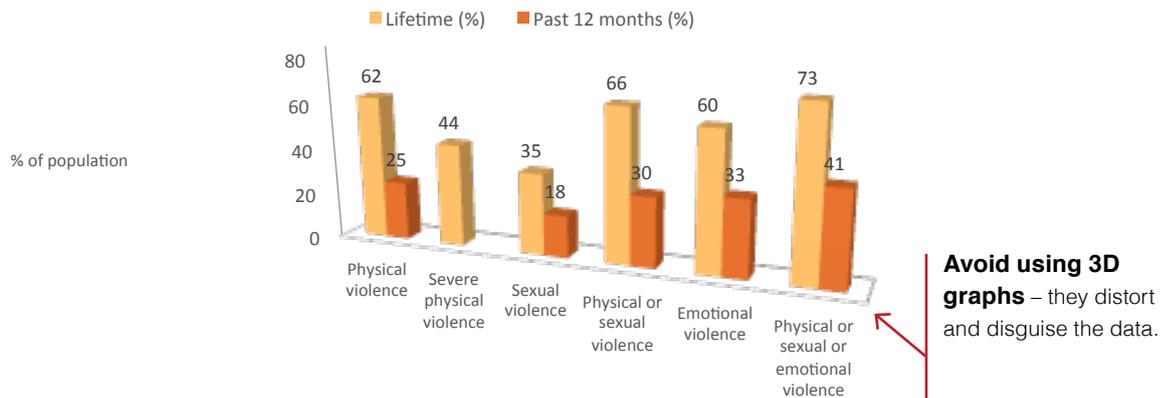
Some presentation methods are less effective at getting the required message across, and should be avoided. These include three-dimensional (3D) graphs and many of the less conventional graphics, such as donut and radar graphs, as illustrated below. These forms of presentation are often confusing, and the data are typically better presented using another method.

### Never use 3D graphs

Graphs that use 3D presentation effects should be avoided at all costs. Adding the third dimension distorts the relative size of data, making it look closer or further away and seem larger or smaller than it actually is. 3D graphs are generally considered poor practice, and using them will make your presentations look amateur.

#### High rates of domestic violence

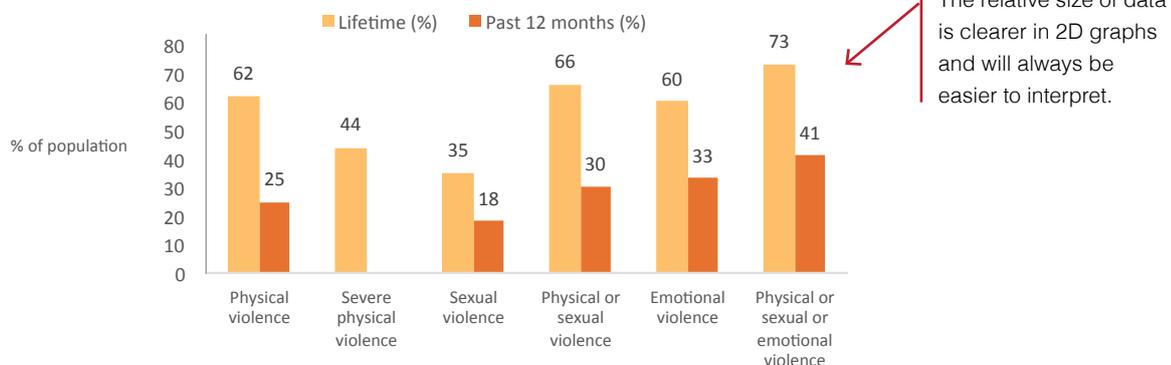
Women who have experienced violence by intimate partner  
(ever-partnered women aged 18-49), Location D, 2010



Source: 2010 Family Health and Safety Study, National Government.

#### High rates of domestic violence

Women who have experienced violence by intimate partner  
(ever-partnered women aged 18-49), Location D, 2010



Source: 2010 Family Health and Safety Study, National Government.

## Pictograms and infographics

Presentations that use symbols and images are becoming increasingly popular. Pictograms use simple icons or symbols to present data in place of a bar, line or pie graph. An infographic goes further, and can be defined as a self-contained visual story that presents information and data clearly, and provides a compelling and engaging message.<sup>24</sup>

### When to use:

- ✓ if presenting few and simple data
- ✓ to be more visually engaging

### When not to use:

- ✗ if displaying a large quantity of data

Figure 6 – Example of a pictogram

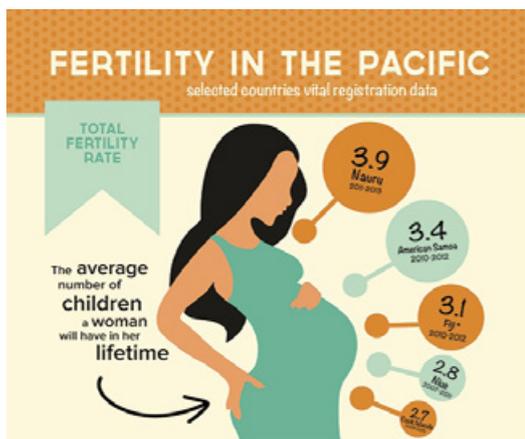


Tips for designing a pictogram.<sup>25</sup>

- ✓ Use labels so readers don't have to count.
- ✓ Use simple and symmetrical icons.
- ✓ Good icons:   
- ✓ Bad icons:   
- ✗ Don't stretch, shrink or resize icons to illustrate comparisons; the human eye cannot easily identify relative size of irregular shapes. Use another form of graph instead (e.g. bar).

i.e. Avoid this:  

Figure 7 – Example of an infographic



Source: Based on vital registration system data, Pacific Health Information Network and SPC.

Tips for designing an infographic.<sup>26</sup>

- ✓ Decide on the story first.
- ✓ Use the latest and most accurate data.
- ✓ Use good visual design principles.
- ✓ Use more white space; minimal text.
- ✓ Use consistent proportions.
- ✓ Use subtle and attractive colours.
- ✓ Read further tips in the UK Office for National Statistics guidelines (<http://bit.ly/1MJz3hB>).
- ✗ Don't work alone – infographics are invariably better when people with different skills contribute to their design.

24 United Kingdom Office for National Statistics (n.d.).

25 Wong, Dona M. 2010.

26 United Kingdom Office for National Statistics (n.d.).

Figure 8 – Tips for creating good infographics available in the ONS Infographic Guidelines

DEVELOPING THE STORY

## Tell the best possible story

Here are five examples of common infographics. All follow ONS' infographic style. Use them as starting points to help structure story flow and hierarchy of information.

EXAMPLE ONE

### Capturing the state of industry or trend

Story flow tips

## More older people divorcing

### DIVORCE RATE 1950 TO 2011

### RISE IN DIVORCE RATE AMONG OLDER MEN

Per 1,000 married men

Year	All Men	Men 60+ YRS
1991	13.6	1.6
2011	10.8	2.3

**73% Increase**

### LENGTH OF MARRIAGE IN 2011 FOR MEN 60+ YRS

Length	Percentage
0-9 YRS	14%
10-19 YRS	20%
20-29 YRS	21%
30-39 YRS	26%
40-49 YRS	17%
50+ YRS	2%

**27.4 YRS**  
Average marriage length

www.ons.gov.uk

General tips

Use title to set up the story

Give viewer background context about the subject to set up rest of story

Use subtitles to help with the flow of the story

Illustrate key messages and information using simple charts to visualise the data

Footer and logo (used on all infographics)

Call out boxes used to give context and identify key information

*A call out is a term for a label used to identify a part of an illustration or chart*

Use white (or negative) space to balance the composition of the graphic and aid accessibility

Consider different approaches for visualising the data

Strike a balance between visual appeal and comprehension

Source: United Kingdom Office for National Statistics (n.d.), Infographic Guidelines, Version 1.0.

*Making it better: example of a pictogram, and how it can be improved*

**Pictogram A: Members of parliament, by sex, 1993–2014**



**What is wrong with Pictogram A?**

This pictogram does a good job of illustrating simple data in a compelling way. But can it be improved? Two things that we might focus on are:

- ✗ The graphic takes up a lot of space for a simple message.
- ✗ The relationship to changes over time is not easily noticed.

**Pictogram B: Women occupy no more than one parliamentary seat since 1993**

Members of parliament, by sex, 1993–2014

Election year      Number of parliamentarians (40)



Source: Electoral Commission, Country A

**How does pictogram B improve on pictogram A?**

- ✓ It has a simplified presentation by removing colours.
- ✓ Labels are added for number of seats.
- ✓ Placing the female icon (focal point) next to the year draws attention to the date.

## 8. Presenting data in maps

Maps – or data maps in the context of presenting statistics – are an excellent medium for presenting statistical information about the environment, infrastructure, access to services, and so on. Maps create an easy-to-interpret but striking visualisation, and are the most efficient way of showing spatial patterns. They are usually created with special geographic information system (GIS) software that links features on the map to the associated data (e.g. PopGIS 2 produced by SPC).

### When to use maps:

- ✓ to show differences and similarities between geographical areas
- ✓ to highlight variations across small areas using population and housing census data
- ✓ if you have the software and expertise to create a data map
- ✓ if using multiple maps to show how indicators vary across the same geographical area (e.g. like an Atlas)

### When not to use maps:

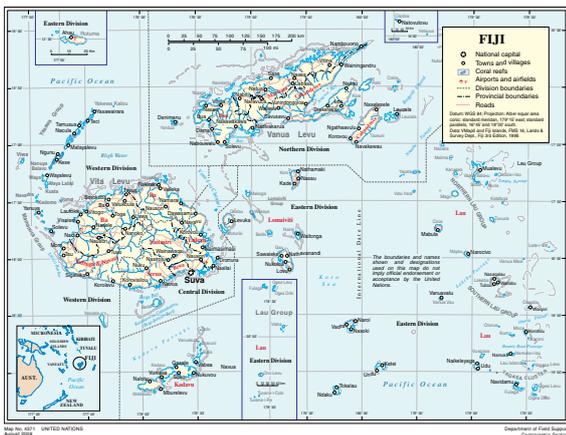
- ✗ if geography is not an important factor
- ✗ if there is no significant variation in the data between areas
- ✗ If you have a lot of missing values for particular areas (unless you want to illustrate data gaps)

### Types of maps

There are generally two types of maps: general reference (topographic) maps that are used for spatial orientation, such as navigating roads, paths, coastlines, etc.; and thematic (data) maps that show how one or more statistical attributes are distributed across an area.<sup>27</sup> Examples of both types of map are shown below.

#### Topographic map

##### Map of Fiji

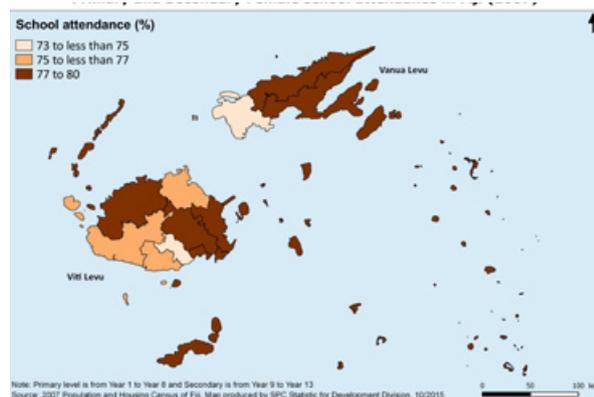


Source: United Nations Cartographic Section (2009).

#### Data or thematic map

##### Primary and secondary school attendance by girls in Fiji

Percentage (%) of primary and secondary school aged females attending school, Fiji, 2007



Source: 2007 Population and Housing Census of Fiji and SPC.

**Choropleth maps** – the most common form of data maps are choropleth maps, as shown above in the example of primary and secondary school attendance by girls in Fiji. These maps use shading to show relative distribution of ratios, proportions, percentages and densities that are aggregated within boundaries. They should not be used to show absolute values, such as population size.<sup>28</sup> The selection of boundary is also important. As real-world patterns rarely comply with administrative divisions, it is important to ensure the phenomena are evenly distributed within spatial areas, so as not to provide misleading information.

<sup>27</sup> UNECE 2009b.

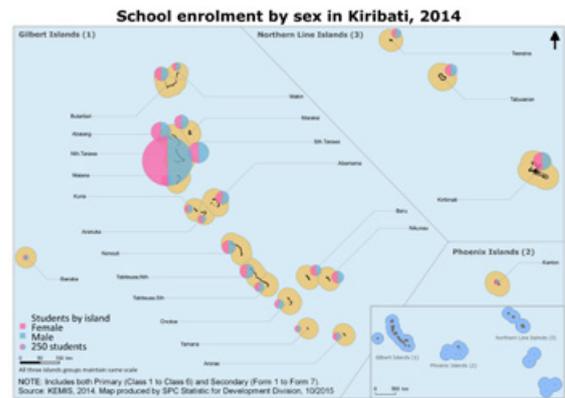
<sup>28</sup> UNECE 2009b.

**Dot (point) maps** – use the same size dots or points to show a comparative density of features over a map, such as location of households, schools, or other points of interest.



Source: Vanuatu Education Management Information System (VEMIS), Ministry of Education and SPC.

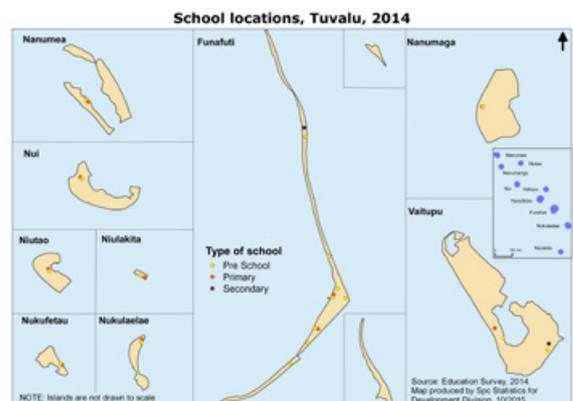
**Graduated symbol** – use symbols to display absolute values; but unlike dot maps, the symbol size varies based on quantity or magnitude. Graduated pie-charts can also be used to show several variables on the same map, such as a male/female breakdown.



Source: Kiribati Education Management Information System (KEMIS), Ministry of Education and SPC.

### Other considerations

**Scale** – the relationship between distances on the map (or screen) and corresponding distances in the real world. It is a major factor in determining which features are selected and which are omitted. The chosen scale affects not only the selection of features, but also the degree of their generalisation. In ‘small island, large ocean’ PICTs, scale is a challenge, and sometimes geographies are ‘rearranged’ to compare data across the country. The location of schools in Tuvalu is an example of such a map.



Source: Ministry of Education, Tuvalu and SPC.

**Design the legend carefully** – there are a few rules to follow when designing choropleth and symbol maps. Ranges should not overlap (e.g. avoid ranges such as 100-200; 200-300 – instead use 100-199; 200-299, etc.), and there should be no gaps between the values (e.g. avoid 100-150; 200-250). Areas that do not have data available should be identified as such by using a particular shade (the standard is light grey).<sup>29</sup>

**Colour** – should be selected carefully, keeping in mind the guidance provided in Chapter 5. For data maps presenting a continuous variable with relatively few categories, such as in the choropleth example above, it is best to use varying shades of the same colour, as this makes it easier for the reader to identify and compare differences.

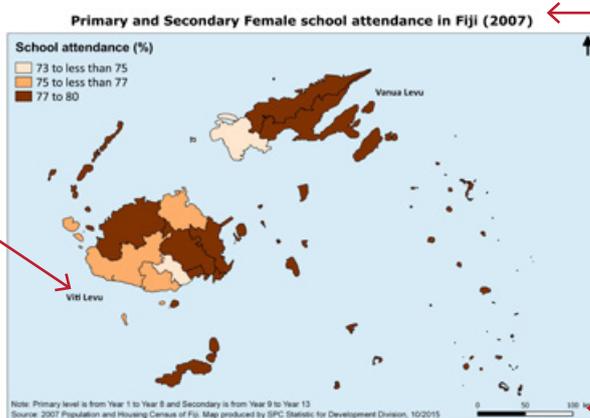
## Elements of good map design

Much like good table and graph design, maps have similar elements that should be included to ensure they can be easily understood and interpreted correctly.

**Legend** to identify symbols, patterns and colours used to show data on the map.

**Text labels** to identify places or other things.

**Notes** can be provided if additional information is needed to understand the data.



**Title** that gives the headline message of the map, e.g. the gender gap or non-gap, highest or lowest values, or other value of interest. **A subtitle** can also be used to add more detail.

**Scale**, to show the relative size and distance between areas.

**Source** of the data and map, which includes the **collection method** and the **organisation** that produced or published the map.

## 9. Writing about numbers

There is an art to writing about numbers in an interesting and engaging way. It is important for statisticians to develop these skills, and there are many resources available to help. A good example is Part 1 of the *Making Data Meaningful* series, published by the United Nations Economic Commission for Europe (UNECE).<sup>30</sup> Produced by experts from NSOs, it contains practical tips that are most relevant to data producers for writing about numbers effectively. Suggestions include the following:

- **Avoid using numbers in the title and first sentence** – practising writing about statistics without quoting the numbers is a good way to develop communication skills. It is important to explain what the numbers mean first, and then to give the figures.
- **Use plain language** – describe what the data are saying by using everyday language. Technical terms and jargon are likely to confuse readers, and will lead to losing otherwise interested readers.

Figure 4 – A list of non-preferred words (left column) and their suggested alternatives

Bureaucratic or clichéd	Simple and specific
accordingly	so
afford an opportunity	allow, let
a great number of	many
a number of	many, several, a few
additionally	also, in addition
approximately	about
as to whether	whether
at the present time; at this point in time	now
at the time that	when
burgeoning	growing, increasing
by means of	with, in, by
capability	ability, can
close proximity	nearby, near
come to an agreement on	agree
completely destroyed	destroyed
commence	start, begin
consequently	so
currently	now
demonstrate a preference for	prefer
due to the fact that	because
during the course of	during
endeavour to	try to
equally as	equally
equivalent	equal
facilitate	help
finalise	finish
* Avoid gender-blind categories, such as: people, communities, families, households, leaders, clients, youth, beneficiaries, sexually active population, general population, etc.	* Use gender-specific categories wherever possible, such as: women, men, girls and boys, men and women leaders, male and female beneficiaries, men and women in communities, family members of both sexes, young women and men, etc.
* Vary the language: Inclusive, men and women, of both sexes, males and females, targeted, sex-specific (gender-specific), effectiveness/quality, increased reach/depth, engender, gender integration, gender mainstreaming, gender equality considerations, gender dimensions, empowerment, gender disparities, gender inequalities, disadvantaged, human rights, women's human rights, rights-based, gender sensitive, gender responsive	

Source: United States Energy Information Administration (EIA), EIA Writing Style Guide. \* from Christine Bradley, Personal Communication

30 UNECE 2009a.

- **Write like a journalist** – borrow ideas from the communication experts. Journalists are highly skilled at presenting factual information in a way that engages a broad audience. Read their articles to get ideas on how to report statistical information. Some of the methods they use follow:
  - Start with the main findings and conclusions first.
  - Use catchy headlines to encourage people to read on.
  - Explain how the statistics are relevant to current affairs. For example:
 

... women and men are getting married later in life. The average age a woman first marries has jumped from age 21 in 2005 to age 26 in 2014, latest figures show. For men, the average age increased from 23 years to 27 during the same period. If this trend continues it should reduce our relatively high birth rate, as couples wait longer before starting a family...
- **Use headings, sub-headings and bullet points for easy scanning** – dense blocks of text are extremely off-putting. Break up your writing into sections, with headings that guide your reader to the points that interest them.
- **Avoid elevator statistics** ('this went up, this went down ...')
- Use **short sentences** and **short paragraphs**. It makes your writing much easier to read.

## Always keep your audience in mind

From the time you first start planning your policy brief, cabinet submission or report, right through until you are making final revisions and editing, you must keep your audience in mind, and constantly check to ensure you have thought about your audience in terms of:

- What do they know?
- What do you need to tell them?
- What do they expect?
- What will be interesting to them?
- What can you teach them?
- What will keep them focused?

## Good example of writing about gender statistics

Sweden was one of the first countries to have a gender statistics programme (Statistics Sweden), and was integral in promoting the development of the field at the international level. Given Statistics Sweden's early start, what do their products look like today? On the next page we examine an excerpt from their article on the release of their 2014 version of *Women and Men in Sweden*, and look at how it stands up to the above suggestions.

Figure 10 – Example of writing about gender statistics from Statistics Sweden

**Sub-headings** make it easy to see the key messages at a glance.

**Many mothers work part-time even when their children are in their teens**

Thirty years ago many of today's pensioners were parents with small children and a large percentage of the women worked part-time. The more children they had and the younger the youngest child was, the greater the percentage of them worked part-time. Among women who had 2 children or more and where the youngest child was aged 11-16, more than half worked part-time.

Today women with children still work part-time but to a somewhat lesser degree. Among fathers, part-time work is 10 percent or lower both today and thirty years ago.

**Plain language** explains complex concepts using everyday language.

**More temporary employees in the private sector than in the public sector**

Besides insecure employment, a temporary position means that a person may not have been gainfully employed throughout the year, something that affects income and pensions negatively. More women than men have these kinds of positions.

Temporary employment has increased both for women and men since 1987, and primarily in the private sector where most temporary positions exist.

**Short sentences** – 'More women than men have these kinds of positions.'

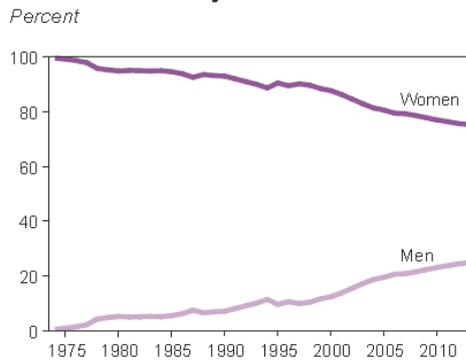
**No numbers** are mentioned in the heading or first paragraph.

Only later in the text are the data quoted.

**Parental benefit days not used equally**

After 40 years of parental insurance where both the mothers and the fathers have the possibility to take parental benefit days to be with their children, the mothers still use most of the parental benefit days. Women use 75 percent of the days while men use 25 percent of them. In 1985 women used 94 percent and men 6 percent.

**Parental benefit days 1974–2013**



Source: Swedish Social Insurance Agency

**Simple** graph with a clear message.

It is possible to understand the graph without reading the surrounding text.

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## Annex 1. Main data sources for gender statistics in Pacific Island countries and territories

<b>Data source:</b>	<b>Usually good for data on:</b>	<b>Pros and Cons:</b>	<b>How often?</b>	
<b>Census of Population and Housing</b>	<i>Labour force participation</i>	✓	Every person and dwelling completes the census	Some PICTs every 5 years, others every 10 years
	<i>Type of work</i>	✓		
	Sector of work	✓	Source of demographic indicators, such as teenage fertility rates and life expectancy	
	Unemployment	✗	High costs of adding questions	
	Hours worked*	✗	This format must ask questions simplistically. But this can produce simplistic responses and therefore inaccurate statistics: e.g. 'Can you read and write?' Most responses will be a simple 'Yes', rather than indicating their reading standard, e.g. 'Excellent', 'Good', etc.	
	Internet use*	✗		
	Mobile telephone use*	✗		
	Access to mass media*	✗	People do not always give honest answers; for example many will not want to say that they regularly use tobacco, some will exaggerate their position (e.g. that they are a teacher rather than a teacher's aid or assistant), and so on	
	<i>Literacy</i>	✗		
	School enrolment	✗		
	<i>Educational attainment</i>	✗		
	Occupation			
	Mortality rates			
	Life expectancy			
	Smoking prevalence*			
	Teenage fertility			
	<i>Disability</i>			
Could ask questions about <b>unpaid domestic work activities, child labour, field of education, informal employment, cultural activities and traditional knowledge, land ownership, household decision-making, disaster risk management.</b>				

Data source:	Usually good for data on:	Pros and Cons:	How often?
<b>Demographic and Health Survey (DHS)</b>	Contraceptive prevalence	✓	Only survey data source for sexual and reproductive health indicators
	Fertility preferences	✓	
	Maternal mortality	✓	Analysis shows relationships between gender indicators and other information, such as wealth, education, location, health risk factors
	Pregnancy and postnatal care		
	Skilled birth attendance		
	Mortality rates	✗	Sample survey subject to error, especially in small populations (less than 15,000)
	Health issues		
	Nutritional status	✗	Some questions are only asked of specific groups, such as 'married women aged 15-49', so the statistics represent only that age group rather than the entire population
	Teenage fertility		
	Child marriage		
	Marriage and sexual activity	✗	Very long and complicated survey for respondents
	Current partner violence*		
	Lifetime partner violence*	✗	If collected, partner violence statistics are not comparable with rates from surveys using WHO method
	Disability		
	Household hardship*		
	Decision-making		
	Literacy		
	School enrolment		
Educational attainment			
Could ask questions about <b>hours spent in unpaid domestic work activities, lifelong education and learning, cultural activities and traditional knowledge, land ownership and sovereignty, climate change adaptation, food security, wellbeing.</b>			
<b>Household Income and Expenditure Survey (Living Standards Measurement Survey)</b>	Gender wage gap	✓	The only survey data source for income and expenditure of households and source of statistics for national poverty lines
	Labour force participation		
	Type of work	✗	Sample survey subject to error
	Sector of work		
	Unemployment	✗	Very long and complicated survey for respondents
	Hours worked		
	Mobile telephone use	✗	Gender wage gap does not include household enterprise income or drawings
	Internet use		
	Access to mass media	✗	We do not know who makes the expenditure in each household so we cannot understand economic empowerment differences between household members
	Literacy		
	School enrolment		
	Educational attainment		
	Occupation		
Could ask questions about <b>hours spent in unpaid domestic work activities, informal employment, access to credit, child care, food security, wellbeing, financial stress, cultural activities and industries, sustainable livelihoods, poverty self-assessment.</b>			

Data source:	Usually good for data on:	Pros and Cons:	How often?
<b>Household Labour Force Survey</b>	Gender wage gap	✓ The only survey data source for work history, potential supply of labour, underemployment	Some PICTs ad hoc and when funds available; other PICTs every 5 years (e.g. Tonga)
	Labour force participation	✗ Sample survey subject to error	
	Type of work	✗ Seasonal and irregular economic activity in agriculture, and the informal economy can be missed	
	Sector of work	✗	
	Unemployment	✗ According to the official definition, to be classified as unemployed a person must be looking for work ('seeking work'), which is difficult to do in small labour markets in PICTs	
	Hours worked	✗	
	Mobile telephone use		
	Internet use		
	Access to mass media		
	Literacy		
	School enrolment		
	Educational attainment		
	Occupation		
	Could ask questions about <b>lifelong education and learning, child care, land ownership and sovereignty, cultural activities and industries, sustainable livelihoods, labour supply, skills supply.</b>		
<b>Business Activity Survey</b>	Gender wage gap*	✓ Rich source of data for analysing formal sector employment, remuneration	Usually annually in the PICTs that have them
	Sector of work	✗ Some NSOs do this as a sample survey, subject to error	
	Hours worked	✗ Can have high relative standard errors from low response rates	
Could ask questions about <b>demand for labour, gender gaps in sectors, gender gaps in management, access to credit, child care, food security, wellbeing, cultural industries, skills shortfalls.</b>			
<b>Family Health and Safety / Gender-based violence Survey</b>	Current partner violence	✓ The only way to determine the extent of this form of violence, which often goes unreported to authorities	Once; possibly repeated 5-10 years later
	Lifetime partner violence	✓	
	Non-intimate partner violence	✓ Mix of quantitative (survey) and qualitative (focus groups) data collection instruments	
	Frequency of violence	✓ Sheds light on a topic that is extremely important to gender relations and concerns	
	Severity of violence	✗ Sensitivity of this topic makes it a difficult, and therefore costly, survey to conduct	
	Costs and consequences	✗	
	Coping mechanisms	✗ It can be a challenge to conduct these surveys in small communities with ethical standards involved in protecting the safety of respondents	
Could ask questions about <b>access to services, perceptions of services.</b>			

\* Not collected in all PICTs. Italics: how the question is asked differs across PICTs.

## Annex 2. Gender statistics dissemination and communication strategy

Organisation name

Month, Year

### Context / background

- Explain how the dissemination and communication of gender statistics fits into the context of overall statistical production and relates to the national strategy for development of statistics (NSDS) or equivalent strategy
- Benefits of good data dissemination and communication for the organisation
- Benefits for users – e.g. evidence-based policy-making
- Any relevant background information

### Objectives and purpose of the strategy

- What is the purpose of this strategy?
- What do you expect it to achieve?

### Target groups and their data needs

Outline the target groups / audiences to whom data is being disseminated. Include as much information as you can about their likely data needs and level of statistical literacy.

For example:

Audience:	Level of statistical literacy:	Data needs:
Parliamentarians		
President/PM Office		
National planners		
Line ministries		
NGOs		
Researchers		
International organisations		
Media		
Students and educators		

### Methods of dissemination

Identify the methods of data dissemination currently available or under development, and explain how these fit in with your overall data dissemination strategy. For example:

- Factsheets
- Infographics
- Brochures
- Press releases
- Television/radio interviews
- Interactive database / Excel spreadsheets
- Analytical reports
- Website
- Other printed publications such as statistical tabulation reports, annual statistical reports, yearbooks etc.

### Methods of communication

Describe the methods communicating data planned as part of this strategy. For example:

- User consultation groups and meetings
- Seminars / workshops
- Press conferences
- Launch events such as panels, debates, 'unveiling' etc.

### Aligning methods to reach target audiences

Outline how the various communications and dissemination methods identified above will be used to reach your priority target audiences. This could be in the form of a matrix, such as the one below.

	Government officials and international organisations	NGOs	Researchers	Parliamentarians	Media
Dissemination					
Factsheets	*	*			
Infographics	*	*		*	*
Database	*		*		
Press releases	*		*		*
Communication					
Launch event	*	*			*
Workshop	*	*			
Briefing				*	
Email / letter			*		

### **Pricing of statistical products**

Outline the policy for pricing for the statistical products that will be released. What will be free? What will users have to pay for (if anything)?

### **Developing statistical literacy**

Outline the strategy for building an understanding of statistics in your country. This might include training for particular user groups, developing guides or presentations to explain statistical methods, or preparing education materials to be used by tertiary, secondary or primary educators in teaching their students about statistics.

### **Metadata**

Outline how the concepts, definitions, standards and methodologies associated with the data being disseminated will be made available to users. For example, if a central database is used for storing metadata (e.g. national data archival system, NADA) how will this be linked to each statistical product?

### **Dealing with errors, revisions and misuse of data**

Outline how the organisation will deal with revisions, errors and any misuse of data that may emerge. This should include :

- the process for reporting errors and misuse of released data when they are noticed (who to report them to and how); and
- how errors and misuse will be dealt with (i.e. the process for making corrections, and in which circumstances users should be notified, and how).

### **Expected results / outcomes**

Outline the outcomes and results that are expected from implementing this strategy.

### **Action plan**

Action to be taken:	Person(s) responsible:	Deadline:

### **Monitoring and evaluation**

Outline how the implementation of this strategy will be monitored and its effectiveness evaluated. This should include:

- the expected indicators of success;
- how feedback will be gathered from users; and
- who will monitor the progress, how often reports will be prepared, and for whom.



*Sustainable Pacific development through science,  
knowledge and innovation*