

Part one

COMPARATIVE ASSESSMENT OF DATA QUALITY

INTRODUCTION

The World Fertility Survey (WFS) has been for demographers a rich source of data which can be used to assess levels of and trends in fertility in selected developing countries. In the 38 countries considered in this report,^{1/} 17 surveys were conducted between 1974 and 1976, 10 between 1977 and 1978 and nine between 1979 and 1981. The countries are roughly evenly divided between the three regions, with 12 from Africa, and 13 each from Latin America and Asia. In some countries, these data provide the first reasonable estimate of recent levels and trends, whereas in others, they provide greater insight into already available estimates from past censuses and surveys and, in many cases as well, from reasonably complete vital registration data. However, despite the high degree of comparability in the initial design of the questionnaires, differences between individual countries in the design and execution of the surveys and in the socio-cultural contexts within which they were administered preclude simple cross-country comparisons. In addition, problems relating to the omission and misdating of events, which plague all retrospective fertility surveys, may appear to different degrees in each WFS, thus confounding the interpretation of fertility trends in a comparative context. Therefore, any presentation of findings on fertility levels and trends from WFS data cannot proceed without an assessment of the quality of each country's data, using a set of consistent criteria.

Fertility estimates based on WFS data from individual countries have already been published in the first country reports and in the WFS Comparative Studies series (Hananberg, 1980, and Ashurst, Balkaran and Casterline, 1984), as have detailed evaluations of the data quality of individual surveys in the WFS Scientific Reports series. In addition, as part of the final assessment of the contribution of the World Fertility Survey Programme, an overview of data quality for 41 surveys has been published (Goldman, Rutstein and Singh, 1985). However, the material from these published reports, although presented with a consistent format, does not provide the basis from which systematically comparable indices of data quality for each country can be calculated and from which data quality rankings and country groupings can be formed. The comparative evaluation of data quality presented here builds upon a common framework for the analysis of each country's data and applies consistent internal and external checks to the age, marriage and birth history data so that each country's data can be rated both with respect to alternative sources of data within the country and with respect to the WFS data from all other countries considered in this report. The conclusions drawn from this assessment provide the context within which estimates of fertility levels and trends can be interpreted.

The data for each country are ranked in one of three categories (A, B or C) according to the confidence that can be placed in the estimate, with category A being the group of estimates for which there is the most certainty and category C being the group for which there is the least. Attention will be drawn in particular to those WFS surveys which provide more recent and/or improved estimates of fertility levels and trends for particular countries. For countries with a tradition of reliable fertility data, the WFS estimates, if rated as of good quality, may not do more than confirm previous estimates but this will, none the less, be a useful conclusion, since it

provides strong support for research findings relating to many other topics which may emerge from the WFS data collected in these countries.

It must be stressed that a rating of C applied to recent fertility levels or trends usually does not indicate that the rates or trends are necessarily incorrect, but rather that the data show sufficient problems that it would be risky to accept the estimates at face value and that the estimates could not be confirmed by reference to reliable external sources. Similarly, a rating of B means that some defects were noted, but that they were not so serious as for rates labelled C, while a rating of A implies the absence of serious defects evidenced through the quality checks employed. It is possible that the accretion of evidence from future censuses, surveys and other sources may reveal that some of the estimates, which have been treated with some skepticism here, have in fact been accurate, while some of the estimates given higher ratings, primarily on the basis of internal checks, may later appear to have been deficient.

Some of the major findings with respect to fertility levels and trends are summarized in table 1. The quality of recent fertility estimates from WFS (based on the 0-4 years before the Survey) was found to be high for the large majority of countries, with only 11 countries (six from Africa and five from Asia) having estimates which were rated in the C group.

A current estimate of the total fertility rate (TFR) from a source other than the World Fertility Survey is available for all but eight of the 38 countries included here. However, the calendar year on which the other estimate is based in each case does not usually correspond to the period of time covered by the country fertility estimate presented in table 1. Below, when the quality of recent enumeration of births is assessed, WFS fertility estimates based on comparable calendar years are presented alongside other published estimates (see table 7). Because of rapid recent fertility declines in many countries, direct comparisons with the estimates presented in table 1 can be misleading. Certain conclusions based on the specific calendar year comparisons presented in table 7 can be summarized here. For Benin, the Dominican Republic, Ghana, Jamaica, Morocco, Pakistan, the Philippines and Senegal, the WFS estimate is the only estimate available for the period 0-4 years before the Survey. In the case of Colombia, Côte d'Ivoire, Fiji, Guyana and Sudan, WFS estimates show fertility to be at least 10 per cent higher than other estimates. WFS estimates are also slightly higher than other estimates in the case of Cameroon, Haiti, Mauritania, Mexico, Paraguay, Peru, Tunisia and Yemen. For most of the other countries, WFS fertility estimates are remarkably similar to other estimates. In the case of Ecuador, Indonesia, Nepal and Venezuela, the rates are slightly lower, and in Bangladesh they are about one child lower. However, in three of the five cases where WFS estimates appear low, the fertility rates used for comparison have been adjusted upwards. Thus, overall it can be said that, with only three exceptions, WFS estimates show fertility to be as high or higher than other recent estimates.

Table 1. Recent estimates of total fertility rates and trends in total fertility rates, specific countries

Region and country	Quality of recent estimate a/ (1)	TFR (0-4 years before the Survey) (2)	Quality of 10-year trend estimates a/ (3)	Percentage decline (10-14) to (0-4) years before the Survey (4)	Percentage decline (5-9) to (0-4) years before the Survey (5)	Percentage decline (10-14) to (5-9) years before the Survey (6)
Africa						
Benin	C	7.1	C	+ 1.5	+ 1.5	0.0
Cameroon	B	6.4	C	+ 8.8	- 1.6	+10.5
Cote d'Ivoire	C	7.4	C	- 4.0	- 6.6	+ 2.7
Egypt	B	5.3	C	-20.0	- 5.4	-15.4
Ghana	C	6.5	C	-10.1	- 7.5	- 2.9
Kenya	B	8.3	C	- 9.2	- 7.1	- 2.3
Lesotho	B	5.8	B	0.0	+ 3.7	- 3.6
Mauritania	C	6.2	C	- 9.1	-14.3	+ 6.1
Morocco	B	5.9	B	-15.9	-13.4	- 2.9
Senegal	C	7.2	C	- 6.7	- 4.1	- 2.7
Sudan	C	5.9	C	-14.7	-15.9	+ 1.5
Tunisia	A	5.8	A	-18.6	- 6.6	-12.9
Asia and Oceania						
Bangladesh	C	6.1	C	-22.1	-25.9	+ 5.2
Fiji	A	4.2	A	-38.1	-23.0	-19.6
Indonesia	C	4.7	C	-19.3	-16.4	- 3.5
Jordan	B	7.6	C	-14.8	-10.7	- 4.6
Malaysia	A	4.7	A	-24.8	-14.5	-12.1
Nepal	C	6.0	C	- 4.8	- 4.8	0.0
Pakistan	C	6.3	C	-12.7	-11.4	- 1.4
Philippines	A	5.3	A	-23.2	-18.9	- 5.2
Republic of Korea	A	4.3	A	-23.0	- 9.6	-14.9
Sri Lanka	B	3.8	B	-33.2	-21.5	-14.9
Syrian Arab Republic	A	7.5	B	-12.0	- 4.0	- 8.4
Thailand	B	4.6	B	-31.1	-23.7	- 9.6
Yemen	C	8.5	C	+ 5.2	- 2.4	+ 7.8
Latin America and the Caribbean						
Colombia	A	4.7	A	-36.0	-25.4	-14.2
Costa Rica	A	3.8	A	-46.3	-30.6	-22.7
Dominican Republic	B	5.7	C	-25.3	-20.0	- 6.7
Ecuador	B	5.3	B	-23.5	-16.1	- 8.8
Guyana	A	4.9	B	-29.7	-20.4	-11.8
Haiti	B	5.5	C	-14.8	- 7.1	- 8.2
Jamaica	A	5.0	B	-24.5	-16.0	-10.1
Mexico	A	6.2	A	-16.8	-11.8	- 5.8
Panama	B	4.5	C	-25.0	-18.2	- 8.3
Paraguay	B	5.0	B	-19.7	-12.5	- 8.2
Peru	A	5.6	A	-18.4	-13.8	- 5.4
Trinidad and Tobago	A	3.4	B	-37.7	-17.5	-24.5
Venezuela	B	4.6 b/	B	-25.0	-19.6	- 6.7

Sources: Columns (1) and (3): tables 8 and 10.
Columns (2), (4), (5), and (6): World Fertility Survey standard recode tapes.

Notes: a/ A: Rates assessed as being of good quality
B: Rates assessed as being of acceptable quality
C: Rates assessed as being less reliable

b/ The fertility rate for the age group 45-49 is the same as that from the birth registration data for the period 1972-1976. Women aged 45-49 were not included in the individual questionnaire for Venezuela.

The monitoring and assessment of fertility levels and trends has been a continuing function of the Population Division for many years^{2/} and in this report that tradition complements one aspect of the research programme of the United Nations Working Group on Comparative Analysis of World Fertility Survey Data.^{3/} The approach adopted here has evolved from earlier working papers on this topic presented to the Working Group.^{4/}

The present report is divided into two major parts, with part one reporting on findings in a comparative context for all 38 countries relating to the quality of estimates of fertility levels and trends, and part two providing the country chapters on which the findings are based.^{5/} The first section of part one provides necessary background information about the alternative sources of fertility data for individual countries as well as certain characteristics of the WFS data which relate to fertility estimates. The next section discusses the criteria chosen to assess the relative quality of fertility data and then summarizes for all 38 countries the findings with respect to data quality. As part of the assessment, other estimates of recent fertility levels and trends are presented, when available. A full discussion of the actual fertility levels and trends in the light of this quality assessment is included as chapter two in the forthcoming United Nations publication, Fertility Levels, Patterns and Differentials: A Comparative Analysis Using WFS Data.

The crucial background for the conclusions presented in part one are provided in the form of country chapters. The country chapters do not provide the basis for a complete evaluation of the data or, in most cases, for adjustment of deficient estimates, but it is hoped that these chapters contain enough detail to distinguish the weaker data sets from the others. Much of the material in the country chapters has been drawn from evaluation studies published by the World Fertility Survey which provide additional evidence and lengthier discussion. Limitations of time and resources precluded a thorough evaluation of all data sources for these countries, although in a number of cases the present study was able to draw upon recent assessments which did evaluate all sources.

A standard format has been devised to assess the data from each country and all the information on which the conclusions of the report are based can be found in these individual chapters of part two. The country chapters themselves do not contain any conclusions about the relative quality of each country's data but just attempt to provide an accurate description of some of its observed characteristics. Conclusions based on these chapters are summarized in the tables and text in chapter II of part one. Each country chapter is organized into four parts:

(a) A description of the country's World Fertility Survey in the context of its other data sources;

(b) A discussion of the female age data;

(c) A discussion of the data on the timing of first unions and the current proportions ever married;

(d) A discussion of the birth history data.

In each of the three major parts, the same features of the data are discussed, thus permitting subsequent comparisons. Tables and figures are used to examine the data both for internal consistency and in comparison to external sources of information.