Socio-Demographic
and Economic Survey

Fertility and Nuptiality

Provinces of Kabul, Bamiyan, Daykundi, Ghor, Kapisa and Parwan

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Acknowledgments

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Credits

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Foreword

Five years ago, the Socio-Demographic and Economic Survey (SDES) began as a major collaborative effort to create a snapshot of the situation of Afghanistan's population today, down to the level of individual villages. Starting in Bamiyan province in 2011, the survey has completed this detailed mapping for six provinces, with more provinces in process. Led by the Central Statistics Organization (CSO), with technical support from the United Nations Population, and financial assistance from various development partners, it is intended that by 2019 all 34 provinces of Afghanistan will have up-to-date data to influence policymaking and planning. Robust and technically sound data underpins effective and responsive policy, yet such data is largely lacking at sub-national level in Afghanistan. The SDES process fills this critical gap.

The Thematic Report on Nuptiality and Fertility provides important insights on marriage and fertility patterns amongst Afghan women and men, and how the trends differ by age, level of education and other factors. These insights will have implications for public and maternal health, women's and youth rights, as well as many other critical areas in policy and planning.

The report shows that fertility has been very high in the past, and women faced high probabilities of having a baby throughout the reproductive periods of their lives. As a result, women, especially those in the middle of the reproductive age group, give birth every two or three years.

The data suggests that marriage was almost universal for Afghan women, but there is evidence of change in marriage for the youngest age groups, and the age difference between husbands and wives is shrinking.

The SDES emerges from a partnership extending across Afghan society and beyond. We extend our particular thanks to the donors who funded this challenging endeavor, and the provincial governments who, under the leadership of the governors, helped ensure that the SDES could be executed successfully in their areas. The Afghanistan national and local media were key supporters of the project. Finally, we thank the surveyors and supervisors in the field and the residents of these six provinces who gave their time to participate in the survey.

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Glossary

Fertility: actual reproductive performance – whether applied to an individual or group. In this report, we measure fertility considering just live births.

Live birth: the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy, which after such separation, breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached. Each product of such a birth is considered a live born.

Children ever born: information on number of children born alive (lifetime fertility) should include all children born alive (that is to say, excluding foetal deaths) during the lifetime of the woman concerned up to the census date. The number recorded should include all live-born children, whether born in or out of marriage or whether living or dead at the time of the census.

Fertility rate: often used when the denominator of the birth rate fraction is restricted to a group of individuals of the same sex in the reproductive ages. This denominator is commonly the mid-year population in the stated period, but it may also be the number of years lived by the group during the period, or the mean size of the group. Unless otherwise indicated, these rates are female fertility rates, and the rates are calculated for groups of women; the number of years lived by a given number of women in an interval is called the number of woman-years.

Age-specific fertility rates: rates based on a narrower age range (usually one-year or five-year age groups).

Total fertility for a given year: the number of children that would be born per 1,000 women if they experienced no mortality and were subject to the age-specific fertility rates observed for that year.

Completed fertility rate: the number of children born per woman to a cohort of women by the end of their childbearing years.

Age at first birth: the median age in years (which is an interpolated calculation) of women at birth of first child. Coverage includes women of all marital statuses.

Mean age at childbearing (mean age of fertility): the mean age of mothers at the birth of their children if women were subject throughout their lives to the age-specific fertility rates observed in a given year.

Marital fertility rates: the total number of births by married women to the number of currently married women.

Current marriage fertility: may be computed by summing the duration-specific rates for a given period. The results thus obtained refer to the current fertility of a hypothetical marriage cohort and not to the completed fertility of an actual marriage cohort.

Cohort fertility: the reproductive performance of particular birth or marriage cohorts.

Parity: the number of children born alive. A woman who has not borne any live children is called a zero parity woman, a one parity woman has borne one live child but no more, and so on.

Average parity: mean number of children ever born per woman.

Parity-progression ratio: the fraction whose denominator is the number of women of parity "n" in a population whose fertility is complete and whose numerator is the number of women of parity "n + 1" in the same population. These ratios reflect all prior childbearing and may also be computed for women of a specified age or cohort.

Birth order: births are also classified by birth order, e. g. first births, second births, etc. A distinction by order of births is made with multiple births, thus one twin is classified as being born before the other, no matter how close they come to being delivered simultaneously.

Birth intervals: intervals between successive births.

Contraception (birth control): measures excluding sterilization (and, in some discussions, permanent and periodic abstinence) which are taken in order to prevent sexual intercourse or coitus from resulting in conception.

Contraceptive prevalence: percentage of couples currently using a contraceptive method.

Fertility planning or family planning: the restriction of births or limitation of births, either temporarily, to achieve the desired interval between successive births, or permanently, to prevent more births than desired.

P/F BRASS: the foundation of the method rests on the observation that under conditions of constant fertility, the cumulated fertility of a cohort of women (P) up to any given age will be the same as the cumulated fertility up to that same age in any given period (F). The P/F ratio derived from women aged 20–24 at the time of survey is held to be the most reliable indicator of the quality of the fertility data collected.

Relational Gompertz Model: seeks to estimate age-specific and total fertility by determining the shape of the fertility schedule from data on recent births reported in censuses or surveys while determining its level from the reported average parities of younger women. In producing estimates of age-specific and total fertility, the method seeks to remedy the errors commonly found in fertility data associated with too few or too many births being reported in the reference period, and the under-reporting of lifetime fertility and errors of age reporting among older women.

Own-children method: an extension of reverse survival methods for estimating fertility. It also produces estimates of total fertility but, instead of using independent estimates of the age pattern of fertility to apportion births among mothers, seeks to link each child enumerated in an inquiry to his or her mother. This makes it possible to tabulate children by both their own age and the age of their mothers. These counts can then be reverse survived to calculate the number of children born each calendar year in the past, according to the age their mothers were at that moment. This method requires detailed information about intra-household familial relationships.

Nuptiality: deals with the frequency of marriages i.e., unions between persons of opposite sexes, which involve rights and obligations fixed by law and custom; it deals also with the characteristics of persons, united in marriage, and with the dissolution of such unions.

Marriage: the act, ceremony or process by which the legal relationship of husband and wife is constituted. The legality of the union may be established by civil, religious or other means as recognized by the laws of individual countries.

Ever married: women or men who have been married at least once in their lives, although their current marital status may not be "married". All persons except the single are ever married persons.

Currently married: women or men who have been married and are not either divorced, widowed or separated. Persons living in consensual unions or in visiting partnerships are also included in the currently married category.

Never married nor engaged (single): those who have never been married.

Never married but engaged: the group of unmarried women or men; distinct from the single population, which has a particularly high probability of marrying.

Widow (widower): if a marriage is dissolved by death, the surviving spouse is called a widower if male and a widow if female. Widowed persons live in a state of widowhood.

Separation, judicial: the disunion of married persons, according to the laws of a country, without conferring on the parties the right to remarry. Couples who are separated may be considered to be still married.

Divorce: a final legal dissolution of a marriage, that is, that separation of husband and wife which confers on the parties the right to remarriage under civil, religious and/or other provisions, according to the laws of each country.

Remarriage: a marriage of a higher order than first.

Child marriage: is any marriage before puberty, although, according to the Convention on the Rights of the Child, a child is "every human being below the age of eighteen years unless under the law applicable to the child, majority is attained earlier".

Early marriage: a marriage involving a person aged below 18 in countries where the age of majority is attained earlier or upon marriage. Early marriage can also refer to marriages where both spouses are 18 or older but other factors make them unready to consent to marriage, such as their level of physical, emotional, sexual and psychosocial development, or a lack of information regarding their life options.

Forced marriage: any marriage which occurs without the full and free consent of one or both of the parties and/or where one or both of the parties is/are unable to end or leave the marriage, including as a result of duress or intense social or family pressure.

Sex ratio: the ratio of the number of persons of one sex to that of the other; the ratio of the number of men to the number of women in a population or in a specific group.

Singulate mean age at marriage (SMAM): the average length of single life expressed in years among those who marry before age 50. In the absence of data on the timing of marriages, it is often possible to compute a singulate mean age at marriage from census data on the proportions single by age.

Stable population: a population with an unchanging rate of growth and an unchanging age composition as a result of age-specific birth and death rates that have remained constant over a sufficient period of time.

ADDITIONAL DEFINITIONS

Childbearing years (reproductive period): the reproductive age span of women, assumed for statistical purposes to be 15–44 or 15–49 years of age.

Cohort: a group of people sharing a common temporal demographic experience who are observed through time. For example, the birth cohort of 1900 is the people born in that year. There are also marriage cohorts, school class cohorts, and so forth.

Cohort analysis: observation of a cohort's demographic behaviour through life or through many periods; for example, examining the fertility behaviour of the cohort of people born between 1940 and 1945 through their entire childbearing years. Rates derived from such cohort analyses are cohort measures. Compare with period analysis.

Gender equality: is the state or condition that affords women and men equal enjoyment of human rights, socially valued goods, opportunities, and resources.

Natural fertility: fertility in the absence of family limitation.

Replacement-level fertility: the level of fertility at which a couple has only enough children to replace themselves, or about two children per couple.

SOURCE FOR GLOSSARY

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Demopaedia: http://www.demopaedia.org/tools/?Index-search

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Acronyms

AMS	Afghanistan Mortality Survey
APHI	Afghan Public Health Institute
ASFR	Age Specific Fertility Rates
ASMFR	Age Specific Marital Fertility Rates
CMW	Currently married women
CPW	Children per Woman
EEM	Engaged or Ever Married
GRM	Gompertz's Relational Model
ICPD	International Conference on Population and Development
MoPH	Ministry of Public Health
MMR	Maternal Mortality Ratio
NRVA	National Risk and Vulnerability Assessment 2007/08
SDES	Socio Demographic and Economic Survey
SMAM	Singulate Mean Age at Marriage
TFR	Total Fertility Rate
TMFR	Total Marital Fertility Rate
UNAMA	United Nations Assistance Mission in Afghanistan
UN DESA	United Nations Department of Economic and Social Affairs
UN ECOSC	United Nations Economic and Social Council

Executive Summary

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Fertility –the way women have children over their reproductive life – and nuptiality – the way men and women enter marriage – are the two demographic components that, in practice, define the whole reproductive process in Afghanistan. This process is the basis for getting a precise knowledge of the future population size and composition by sex and age in the short and medium term, hence the extreme importance of studying those components. These processes are analysed here on the basis of Socio-Demographic and Economic Survey (SDES) data for six provinces (Bamiyan, Daykundi, Ghor, Kabul, Kapisa and Parwan), by applying direct and/or indirect methodological procedures. The main features of the analyses are described in the following two sections.

FERTILITY

Due to the nature of the estimation method, the fertility indicators obtained here correspond to a moment in time which is located within a period of five years preceding the date of the survey. Broadly speaking this relates to the 2005–2010 period. Trends prevailing during a period of 10 to 15 years prior to the survey are studied in a separate report.

The central assumption in analyses of fertility data is that reproductive processes and social development are strongly and mutually linked. This is so regardless of the merits of theoretical debates over causes and consequences, whether social development induces fertility transition toward low levels, or whether it is fertility decline which creates the demographic conditions that open the opportunity for solid socio-economic development. This study does not aim to test these hypotheses or disentangle any possible causal relationship. The objective is to document the level and patterns of fertility and explore possible differences by social group in order to identify potential areas for policy interventions.

Fertility has been very high and at a constant level in the past, with high probabilities of having a baby at every age of the reproductive period. These extreme high values indicate that, particularly at intermediary ages, women deliver a live birth every two or three years. When translated to marital fertility, the risk or probability of having a live birth increases, thus a very young wife may have a baby every two years according to the SDES. Since marriage is universal, this implies a very high level of fertility throughout the reproductive period.

SDES data reveals evidence of change, mostly related to young people's behavioural changes with respect to marriage. The contribution that women younger than 20 years make to the total fertility is not high, with levels comparable to those seen in other countries in the region. As explained in the nuptiality section, the widespread impression that Afghan women marry and start reproduction at very early ages is not confirmed by the SDES data.

Notwithstanding recent changes, any estimation method applied to SDES data produces similar high estimates of the total fertility rate (TFR). Methodological adjustments of reported data reveal high probabilities of having a live birth, thus total children per woman (or TFR) stay above six. The age pattern obtained directly from the population (with no adjustments) replicates a shape typical of high fertility regimes and a high mean age at childbearing, which confirms the high fertility levels defined for these six provinces.

Fertility at young ages is lower than expected despite adjustments; the explanation rests in the fact that childbearing occurs only inside marriage and young cohorts are marrying at later ages. Whether avoidance of early marriage is the fruit of successful social policies, where education plays perhaps the more important role, would need to be confirmed through further research in the immediate future.

However, fertility among married women does not present relevant changes: it appears to remain close to the highest levels historically registered (around eight or nine children per woman). The shape of the age pattern – or the way they have babies throughout their reproductive years – indicates very little or no use of contraception. There are not enough cases to estimate a reliable fertility rate for girls younger than 15; in addition, the information on marriage and pregnancies among these very young

girls are widely unreliable. Yet, available data tend to indicate a very high risk of having a live birth among these very young girls once they have married.

Fertility differentials are not very strong, either due to the population composition – with a large majority concentrated mostly in more vulnerable categories, like the low educational level, poor economic environment and mostly in rural areas – or because fertility behaviour is genuinely rather homogenous across social sectors. A correlation between educational attainment and fertility shows some unexpected results which require further research. Among regions that present more unfavourable socio-economic indicators, where childbearing seems to be of great social value and only inside marriage, the results suggest that the most educated could better afford marriage and a larger number of children. This does not conform to the usual pattern of fertility by education level. Yet, would this be the explanation for some of the findings in one of the poorest provinces (Ghor)? That is, in deprived contexts, where the better-off can afford more children, do they actually have more children than other groups?

Additional research is needed to clarify these relationships by applying appropriate culturally sensitive socio-economic approaches.

NUPTIALITY

The study of nuptiality analyses the frequency and intensity of marriage, and the way the marriage process may differ between social groups. Nuptiality is a socio-demographic process that can have many extremely relevant development implications. In particular, it has an important role in the demographic process when a number of elements converge, as seems to be the case in Afghanistan. Beyond its demographic implications, nuptiality also plays an important role in gender issues, reproductive health outcomes, the rights of the child and in the human capital formation of younger generations. Most of these interactions are studied in detail in other thematic reports in this series of analyses of SDES data.

Results confirm the almost universality of marriage and produce robust evidence of change among the young population. Indicators also reveal that until recently the entrance at marriage may have occurred at very early ages. As nuptiality has been subject of social policies intending to prevent child and very early marriage, this demonstrates some successes from these initiatives, benefiting the youngest generations.

The distribution of the population by marital status is analysed and synthetic measures of marriage are calculated. A summary index of nuptiality – the singulate mean age at marriage – (SMAM) is calculated, showing an early overall nuptiality (SMAM from 17 to 21). A detailed look is given to the proportion of those married at early years, as an indicator related to the onset of exposure to reproductive life: in spite of a low SMAM, child marriage does not show the high level of prevalence that existing literature on the subject suggests. A third of Afghan women have married by age 18; although a high proportion compared to other populations, it is still far from constituting a broad majority.

Polygamy, briefly studied in the Thematic Report on Gender, also registers relative low incidence: below 5 percent of married women have a husband living with more than one wife in the household and no such events were registered in two provinces (Daykundi and Parwan). Due to the small number of cases and the need for deeper evaluations of the reliability of this data, no further detailed analyses were carried out on this subject.

Measurements of age difference among spouses reveal a changing pattern in the way how men and women marry. The data indicates that the prevalence of a wide age difference among couples (with the husband older than the woman), is changing. Among young couples, age differences of less than six years are most common. This heralds a positive change in gender relationships. The demographic impact of these changing patterns among the younger couples should be the subject of additional research, as the implications are very important and far reaching.

Using education as a proxy of socio-economic status, an effort was made to identify social determinants of nuptiality. Results suggest that while marriage and childbearing have a high social value, in contexts where socio-economic hardship is highly prevalent – as it is in most of these Afghan provinces – the better-off (those with higher educational attainment) may be able to better afford marrying; this may be why a higher proportion of ever married is observed among the most educated men.

DISCUSSION AND POLICY IMPLICATIONS

Assuming a close association between the reproductive process and social development, and that a fall in fertility can create demographic conditions that favour socio-economic development, the evidence of changes toward a definitive onset of fertility transition have important implications for social policies. The main demographic factor in this transition is the delay in getting married among girls and teenagers. Child marriage, which violates the Convention on the Rights of the Child, and is considered very detrimental to the human development of adolescents and young people, is not prevalent in these provinces, according to the findings from the SDES analyses.

Whether the delaying of marriage is a consequence of social policies – namely inclusion in the educational system of boys and also girls – it is a matter of contentment that fewer children are having children and may, instead, be staying at school. Education, which is increasing among the younger generations, is a powerful mechanism for avoiding precocious and unhealthy pregnancies. Further research into this matter is necessary because in some contexts – contrary to usual patterns – the SDES results showed correlations in unexpected directions between education and fertility and, in some cases, also with nuptiality. Additionally, due to the varied reaction of the population to the sensitive issue of marriage and procreation, a further evaluation of the accuracy of these results on nuptiality patterns and fertility differentials by education would be relevant in order to strengthen the knowledge base needed to guide policy formulation.

Results also show that delaying marriage in itself does not impact marital fertility risks. Once a girl marries, she is exposed to the childbearing experience and data indicate that it will always be so throughout her reproductive lifespan and mostly with high probabilities, because available data indicates very low or no contraception use. Therefore it is necessary to formulate social policies to influence other dimensions proximate to fertility, the approach to maternal and child health care and contraception being among the most crucial.[1]

It is important to state, as well, that consolidating positive changes in fertility and nuptiality will deeply rely on further improvements in gender equity. In this regard, another important point is the prevalent cultural attitude towards universal marriage and childbearing. Results suggest that, particularly within the most traditional contexts, the better-off groups – defined as those with most educated household heads – are those who can better afford marriage and a large family size, regardless of the wife's status or educational attainment.

This raises a complex question within a traditional setting where marriage is of high social value, while social development is scant: the most educated are usually to be emulated; hence, would social inclusion programmes – expanding access to education and well-being – actually intensify marriage, with the consequent effects on fertility? As was seen, fertility is very high among married women. Would this access actually worsen the already fragile reproductive health of women?

On the basis of empirical evidence, the demographic rationale would translate relevant social improvements into increases in general population survivorship. This would be particularly true in contexts, like Afghanistan's, where maternal mortality has devastated women's lives. Hence, if social conditions improved through more access to education, health services and economic opportunities, then women's survivorship would have also increased. This would imply an increase in the exposure to reproduction and the probability of pregnancies, since reduction of maternal mortality implies that more women will survive through their whole reproductive period. If women increase their exposure to

1 Dimensions known as intermediate variables in the conceptual frame developed by Davis and Blake (1956) and reformulated by John Bongaarts, described in Bongaarts (1982).

the probability of getting pregnant over their whole reproductive life, demands for reproductive health services and birth spacing would have to be met; otherwise the longer time exposure would translate into higher total fertility.

There is no doubt of the great need to expand education and health programmes, as well as reproductive health services. Decision makers need to develop strategies to upgrade services to the population, translating these into real life improvements for each female and male citizen. Culturally sensitive policies and programmes will be necessary to adequately address traditional values on marriage and motherhood/ parenthood, to bring about positive change on these values and fully materialize the benefits of expanding access to education.

Studies with an appropriate socio-economic and cultural approach, broader than just relying in measurements of educational attainment, should receive attention in the research agenda. Research should aim to identify potential interventions which will help consolidate the onset of fertility decline revealed by the present results, and generalize it to the rest of the country.

A simulation made in an attempt to produce more updated estimates demonstrates the important role that Education is playing. Provinces with lowest girl's education enrolment show no sign of changes in the reproductive behaviour.

Finally, it is worth mentioning that nuptiality has proved to be a powerful tool to assess situations of gender inequalities. Nuptiality can also provide indications of mortality levels, through the analysis of widowhood prevalence. These findings should be taken into account when designing policies.

1

Fertility

Introduction

Fotor

Afghanistan, fertility and the development process

The recent review and assessment process of the International Conference on Population and Development (ICPD) Programme of Action and of the 15-year implementation of the Millennium Development Goals has highlighted the importance of the framework of reproductive health and rights, the protection of women's rights, and gender equality, including sub-goals such as eliminating child marriage. The appreciation of these essential human rights and social development goals during these review processes has been such that today there is a strong consensus that these issues must be an integral part of emerging global development agendas to eliminate extreme poverty in the next few decades.

Fertility level and trends are at the centre of the agenda on gender equality and reproductive health and rights. This nucleus of social and human rights determines the features that will mark the demographic process of the next 20 years, with potentially profound changes in the age structure of the population, population growth rate, and the dynamics of economic growth and social development. In all these dynamics, access to reproductive health services is critical. In particular, the choices and opportunities that girls have during adolescence will determine whether they may begin adulthood as empowered, active citizens, capable of making significant contributions to their societies. At the global level, as well as in Afghanistan, adolescent and child pregnancy is a serious concern. Around 16 million babies are annually born to girls aged 15–19 in the world. Many of these girls suffer complications from pregnancy and childbirth. Reproductive ill health is related to the main causes of death among girls under 20 in developing countries. Adolescent pregnancy is "deeply rooted in poverty, gender inequality, violence, child and forced marriage, power imbalances between adolescent girls and their male partners and lack of education. All these reveal the failure of national systems and institutions to protect girls' rights."[2] The specific analysis of adolescents is conducted in a separate thematic report, these aspects are raised here because of the impact they have on fertility levels and patterns.

Declining fertility and development interact. There has been a long debate on whether successful development leads to fertility decline or fertility decline ushers in development. The evidence indicates that both statements have validity; the literature on the subject is fairly profuse and will not be discussed here due to the nature of this report.[3] It is enough, however to recognize that high levels of fertility, under conditions of constrained resources may exacerbate poverty and environmental deterioration. At the same time, there are important feedback mechanisms between fertility decline and development. Indications on how fertility levels are influenced by development are expressed in the approximations provided by a model relating key development indicators to fertility trends in 87 developing countries (Bryant, 2007). Certainly, fertility decline slows population growth, inducing beneficial changes in the age distribution of a population, which can generate a period when the number of potential workers grows faster than the number of dependants. These changes can boost savings, leading to a 'demographic dividend'. Countries which used those savings, by investing more in the health and education of children and generating more jobs, have obtained remarkable benefits in terms of economic growth and human development. It is estimated that the medium term effects of fertility reduction on economic growth, in both developed and developing countries, accounted for about 20 percent of per capita output growth between 1960 and 1995 (Kelley and Schmidt; 2005).

Fertility is undoubtedly one of the major components of population growth and changes in the age structure; for this reason it is important to attempt a detailed analysis of the fertility levels and patterns of the Afghan population.

Whilst the greatest fertility decline in the developing world has taken place over the past six decades, a significant number of countries are still lagging behind this global trend. Despite some ambiguity about the precise level in the few sources available for Afghanistan, there is general agreement that

2 UN-ECOSC: Fertility, Reproductive Health and Development, Report of the UN Secretary General to the Commission on Population and Development, Forty-fourth Session, 18 January 2011.

3 A seminal study discussing these relationships is: Coale, A. J., & Hoover, E. M. (1958). Population growth and economic development in low-income countries: A case study of India's prospects. Princeton, N.J: Princeton University Press.

the country is among those registering the highest fertility levels in the world: the country's TFR is over five children per woman. The evidence also points to a nascent declining trend which, if it consolidates, will bring a 'demographic dividend' in a few years. In the mean time, though, and according to recent UN estimate, Afghanistan have had a growth rate exceeding 3 percent over three decades up to 2005, declining to 2.7 in 2010-2015" (UN DESA; 2015).[4] The rate implies that the country – with a total population of around 25–30 million, and a very fragile socio-economic environment – sees the arrival of more than a million newborns yearly due to the current high fertility levels. This is a typical scenario in which fertility plays one of the most important roles. The country is currently implementing an array of social policies towards development, with achievements surrounding women empowerment, education and health (Fernandez et al., 2012).[5] Progress is less evident regarding reproductive health, particularly with access to contraception. Some studies have revealed a desire in the population for access to family planning services (Haider, et al., 2009). Strengthening this area in public policies may bring relevant results in a relatively short time.

Objectives

This report analyses the fertility situation in six provinces: Kabul, Bamiyan, Daykundi, Ghor, Kapisa and Parwan, applying a number of indirect techniques to SDES provincial data collected in 2011–2014. The levels and age pattern of fertility were estimated. Social norms in Afghanistan only accept conception within marriage; hence marital fertility is an important component in these analyses. In an effort to identify socio-economic determinants of fertility, the place of residence and education were considered. Finally, estimates of fertility patterns and expected changes in the short term were obtained using birth order information.

The SDES data is a highly valuable information source to expand knowledge on demographic dynamics and its relationships with other social dimensions for which the survey programme has collected information. Time constraints associated with project implementation deadlines prevented further analysis in this first round of studies. At this stage the analyses are mostly of a descriptive nature, though some involve methodologically complex applications. In a follow-up round, the research team aims to explore in more detail those social and economic correlates, in order to expand the interpretation of differentials and possible explanations for observed socio-demographic behaviour.

4 The Population Division of the United Nations, through its Department of Economic and Social Affairs (DESA) provides a number of demographic estimates (including future and alternative scenarios) for all member states of the United Nations System. Estimates are reviewed and released every two years. The most recent estimates can be seen in http://esa.un.org/unpd/wpp/DVD/

5 The Afghan context, as well as that of the six provinces covered in this study, will be documented in separate reports. The recent Population Situational Analysis of Afghanistan (Fernandez et. al., 2012), provides a well documented diagnosis of these achievements.

UNFPA

2

Data and Methodology

DATA AND METHODOLOGY

The demographic data collected through the SDES programme allows a study of fertility levels and trends using two different approaches: i) through the "own children" approach (or variations of this) as is done in a separate thematic report; and ii) through William Brass's P/F method or its variants, which is used in this report.

The "own children" approach relies on the enumeration of the individuals living in the same household and their relationship to the head of the household, which allows for reconstructing family structures through identifying mothers with their children. Then, birth histories are reconstructed linking the mothers and children born to them, by utilizing the age distribution and birth order. These reconstructed birth histories allow the estimation of specific age fertility rates as well as the parity distribution of fertility for a period of up to 15 years previous to the survey, which facilitates the study of recent fertility levels and trends. Results from this methodology are discussed in a separate report.

The study of fertility in this report uses William Brass's P/F approach (Brass, 1985); it relies on information registered in section H of the SDES questionnaire, where three questions were put to ever married women, enumerated in each household:

- Has ... ever had a child born alive?

If the answer was positive, then, a series of questions were posed in order to determine the total number of children ever born to the women respondent (see the questionnaire).

- Has ... had a child born alive during the past 12 months?

- How many children were born alive to ... during the last 12 months?

From the information collected through these questions, the tabulations required to apply the P/F method or some of its variations, like the Relational Gompertz Model, are generated:

- Number of women, classified by five-year age groups;

- Total number of children born alive to those women in each five-year age group;

- Children born alive to women in each five-year age group during the last year.

The nature of the data collected allows the application of demographic techniques in order to indirectly estimate a number of fertility indicators in these six provinces.[6] Brass's method compares two fertility measures:

- The recent fertility (Fi), derived from the number of live births delivered over the 12 month previous to the survey, and

- The past fertility (Pi), also called cumulated fertility, parity or mean number of children ever born.

6 Most of the techniques used in this report are explained in Moultrie et al. (2013).

The exploration of the trends reflected in both these fertility measures allows first to evaluate data quality, then to define the adequate adjustment factor to correct the level of fertility, and finally to estimate the age specific fertility rates (ASFR) and the TFR.[7] Complementary to this, the Relational Gompertz method, which relies on the same basic information, is used as a comparative reference and is applied when the age distribution of the ASFR diverges from the expected smooth shape. The Relational Gompertz method, in a general way, adjusts the ASFR using a standard fertility schedule. In this particular case – as in most studies conducted in less developed countries – the standard fertility schedule should represent a typical pattern for populations with high fertility levels (Booth, 1984; Brass; 1978).[8] Considering the evidence of a recent decline in adolescent fertility, a variant of the Brass method was applied to adjust the results from the original Brass' method, by incorporating this scenario of recent adolescent fertility decline.

7 Details of this method are explained at: http://demographicestimation.iussp.org/content/overview-fertility-estimation-methods-based-pf-ratio (accessed 12 September 2015 12:06).

8 Details of this method are explained at: http://demographicestimation.iussp.org/content/relational-gompertz-model (accessed in: 12 September 2015 12:07).

3

Fertility

Levels and patterns of fertility in six Afghan provinces

Fertility in Afghanistan – over seven children per woman at the beginning of the present century – appears to have entered into an impressive transition toward lower levels according to more recent UN estimates. Forecasts suggest a figure of 3.5 children per woman by the period 2020–2025 (UN DESA, 2015). This is a nearly 50 percent decline – almost four children fewer per woman – in a 20-year period. This forecast is determined for the so-called "intermediary" (or most probable) scenario, based on current fertility changes and social changes occurring in Afghan society.

A number of social programmes pursuing improvements in the social conditions of the population in general, and women in particular are on the way; higher school enrolment for boys and, particularly, girls, is a good example (UNESCO, 2015). Because these actions are taking place in a context where gender relations are known to be very unequal, it is reasonable to assume that better living conditions and women's empowerment may lead to a faster fertility decline; this assumption is based on the Bryant study whose evidence points to the interaction between fertility decline and development. Given the context of social improvements in a vulnerable setting like Afghanistan, data on fertility from the SDES would be expected to reflect ongoing social improvements in the population analysed, and their impact on fertility changes.

The data analysed in this report refer to the fertility levels and age patterns for all women as well as married women; it aims to estimate levels in the recent past, as well as current and short term future scenarios. Data consist on retrospective information, so the time location of estimates corresponds to a date few years in the past. Because of recent and current changes in women´s marriage patterns and education, it is important to estimate the most recent fertility level. Hence, this chapter includes an approximation of the most probable current fertility level, taking into account recent trends. Finally, considering a prospective approach, the expected final parity is estimated for today´s young women.

The total fertility rate and the fertility age pattern in the six provinces: 2005-2010 period

As indicated above, the level of fertility was estimated through indirect methods, either Brass's P/F technique or the Relational Gompertz model. The results obtained from both these methods suggest that the number of live births in the 12 months preceding the survey has been under-reported by more than 50 percent in the six provinces. Adjustments using either of these methods rendered relative high levels of fertility and consistent fertility distribution patterns by age of the women (see Table F1). The comparison of parity by age (Pi) – that is, mean number of live children ever born – with current cumulate fertility (Fi) through the quotient Pi/Fi, as illustrated in Annex (Figure A-1), indicates that the pattern of errors (that is, the underreporting of recent births) are similar by age group of the mother, and that fertility has been very high during the last decade.

In general, for most provinces the TFR is around seven children per woman. Kabul and Daykundi are exceptions, registering the lowest and highest values respectively (6.1 and 8.8 children per woman respectively).

A comparison with national estimates (last column in Table F1) reveals an adequate level of consistency with the estimates obtained for the six provinces. UN DESA registers Afghanistan 10th among countries with the highest fertility for the period 2005–2010, with a TFR of 6.3 children per woman. As mentioned, UN DESA also estimates a significant fertility decline in recent years: falling by 0.5 children between 1995–2000 and 2000–2005, and an additional reduction of 0.8 children over the following five-year period; a decline of 1.3 children in just a decade.[9] In addition, national estimates from the 2010 Afghanistan Mortality Survey (AMS) also reveal a similar national declining trend in fertility: its age specific fertility rates at the central ages of the reproductive period show that for the 10–15 years prior to the survey, rates remained markedly constant (an ASFR around 350 per 1,000 among women aged 20–24 and 25–29). Those risks – or probability of having a live birth – decreased to below 300 per 1,000 over the five years prior to the survey (APHI/MoPH; 2011). The TFR estimated in the AMS was 5.1 for the period 2007–2010.

9 Most recent sources to produce UN DESA estimates date from 2011/2012 and use live births for the previous 36 months; hence, the most updated fertility level using empirical evidence refers to the second five-year period of the 21st century (see Appendix 1).

Fertility levels in the recent past estimated by using other SDES data, such as the composition of the household, are also consistent with these results.[10] An important technical comment about the time location – or period of reference – for estimates produced using SDES data is due here: on the one hand, trends in Pi and Fi (cumulate fertility and recent fertility) indicate that fertility levels for older women were higher in the recent past, compared to those of younger women (See Figure A1 in Annex). This suggests that fertility is currently declining. On the other hand, adjustment factors obtained by comparison of cumulated fertility from young women (in most cases the parity at ages 20–24 and 25–29) to current fertility at the same ages, indicate that levels and patterns defined in Table F1 should refer approximately to a five-year period previous to the survey date. Hence, these estimates would be representative of fertility levels prevailing at the beginning of the 2005–2010 period, depending on the date of the survey.

TABLE F1

Total Fertility Rate (TFR), Age Specific Fertility Rate (per thousand), adjustment factor, fertility age distribution (percent) and mean age of fertility: Bamiyan, Daykundi, Ghor, Kabul, Kapisa and Parwan (2005–2010)

Fertility Measures and age groups	Province						Afghanistan (2005–2010
	Kabul	Bamiyan	Daykundi**	Ghor	Kapisa	Parwan	
TFR	6.1	8.3	8.8	7.3	7.2	7.1	6.3
15–19	41.5	58.6	69.8	105.4	42.9	41.5	117.5
20–24	260.7	297.4	309.9	307.6	286.8	286.1	289.7
25–29	337.7	382.2	409.3	324.3	378.3	378.1	307.0
30–34	284.1	374.0	360.0	274.7	347.0	313.6	256.7
35–39	185.9	282.1	323.7	226.0	217.2	223.5	177.2
40–44	75.9	172.5	177.2	134.2	127.6	112.6	90.6
45–49	34.5	86.9	115.7	96.4	48.7	56.5	27.9
Adjustment factor*	1.88	2.20	1.94	1.91	1.54	1.56	--
Relative contribution of selected age groups to the total fertility (percent)							
15–19	3.4	3.5	6.1	7.2	3.0	2.9	9.3
20–34	72.3	63.5	61.4	62.1	70.3	68.9	67.7
35 or more	24.3	32.6	32.4	31.3	27.3	27.6	23.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	9.3
Mean age (years)	30.3	31.6	31.1	31.1	31.1	30.7	29.5

* Estimated applying the P/F Brass method. This method presented, in general terms, more consistent results in these six provinces. Although alternative methods are available, as the Gompertz Relational Model (GRM), due to similarity in the results, the Brass method was adopted.

** Age fertility pattern was smoothed applying the GRM .

Source: CSO Afghanistan, SDES 2011–2014 and UN DESA, Population Division (2015). *World Population Prospects: The 2015 Revision*, DVD Edition.

10 See the SDES Report on Fertility Trends, which used reconstructed birth history schedules based on household data.

The consistency of the estimates for the six provinces can be evaluated by looking at some similarities; ASFR at central ages 20–34, for instance, indicates very similar high values: around 300 live births per 1,000 women; furthermore, relative variation at age 20–24 in all provinces is always below 10 percent and almost equivalent in Kapisa and Parwan. The exception is Kabul –which includes the capital city – where the ASFR at ages 20–24 is about 10 percent lower than the national average. As Kabul is the most urbanized setting, this difference is expected.

The largest differences, on the other hand, correspond to the youngest women (ages 15–19). In this case, ASFR in the provinces are always lower than the national average. This apparent contradiction merits additional analysis, since we would have expected high values in the provinces with the exception of Kabul, the capital and the most urbanized province. Values closer to the national average would also be expected for those other provinces. A plausible explanation for the differences may lie in the data sources used to estimate the national figures. The national estimate, taken from UN DESA, derives from earlier data sources than the SDES (see Appendix). Hence, these national figures derived from older data sources might not have captured more recent changes, already present in the SDES data.

A prominent feature of Afghan development efforts in the last decade has been the strategic targeting of young people. These strategies have included interventions to increase girls' school attendance and legal rules to prevent child marriages which have helped keep young women in school and out of early marriage.[11] The data collected in the SDES may have captured the effects of such policy interventions, as it has registered lower risks of having a child among young women in most of these provinces.[12] These effects did not appear in the results obtained from earlier data sources, which were used by UN DESA to calculate their indicators.

SOME CONSIDERATIONS ON THE AGE PATTERN OF FERTILITY IN THE SIX SDES PROVINCIAL SURVEYS

The relative contribution to the total fertility by age (last panel in Table F1) indicates that the share of the very young women in the TFR is rather small even in the province where the ASFR at ages 15–19 is above 100 live births per 1,000 girls, i.e. Ghor. In Ghor the relative contribution of the 15–19 age group to the total fertility is 7.2 percent. Other provinces with adolescent fertility risks around or below 50.0 per 1,000 contribute less than 5 percent. This is a comparatively small contribution relative to the national figure and is similar to other populations in the region. Fertility at ages 15–19 contributes less than 10 percent to the total fertility in Iran and Iraq and less than 5 percent in Pakistan. This pattern is different from those observed in developing countries in regions other than south-central Asia, where the contribution of adolescents to total fertility can be as high as 15 percent or even near 20 percent.[13]

Findings from the analysis of nuptiality (see Part 2 of this Report) are consistent with this small share from ages 15–19: fertility takes place exclusively among married women, and the SDES shows proportions of married adolescents lower than expected, except in Ghor, which is the only province where the probability of having a live birth in the 15–19 age group is above 100 per 1,000.

Fertility schedules by age are plotted in Figure F1 and show differences between Kabul and other provinces. Yet all follow a shape typical of populations where there is no fertility control associated with the parity level of women. In other words, any decrease or increase in fertility takes place without considering the number of children the woman already has, causing a concave shape, opposite to the convex curves typical in populations with a significant prevalence of family planning or modern contraception. Note that the risk – or probability – of having a live birth may be high and similar at either 20–24 or 35–39 as happens in Bamiyan and Daykundi.

11 See Fernandez et al., 2012 as well as the SDES Thematic Report on Education.

12 It is worth noting that the denominator for estimating the ASFR includes married and unmarried women.

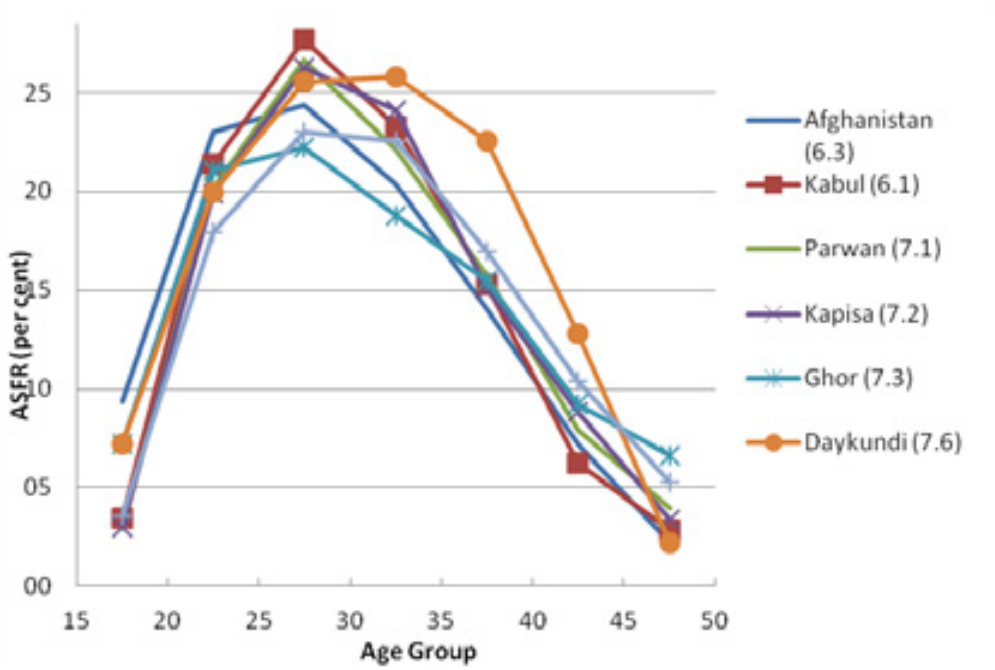
13 Specifically, in Latin America and some African countries. The basic data is from DESA/UN (2015).

In addition, the AMS 2010 revealed that 78 percent of married women do not practice contraception; Kabul had the highest prevalence with about one-third of married women practicing contraception, most using modern contraceptives (APHI/MoPH; 2011).

Compared to the national distribution, those of the provinces show a slight shift toward later ages, which means that proportionally more women at later ages are still bearing children; an indication that fertility change among married women may have occurred with scarce correlation with the number of children already born, and that these women still have a high probability of another live birth.

FIGURE F1

Total Fertility Rate (TFR) and relative distribution of the Age Specific Fertility Rates (per cent): Bamiyan, Daykundi, Ghor, Kabul, Kapisa and Parwan (2005–2010)



Source: CSO Afghanistan, SDES 2011–2014 and UN DESA, Population Division (2015). World Population Prospects: The 2015 Revision, DVD Edition.

As already mentioned, in Afghan society children are born only inside marriage and contraceptive practices are scarce. Hence, the recent fertility changes are probably mostly associated with changes in nuptiality – particularly reduction in the proportion of ever-married women at young ages. In this case, the fertility decline may not affect the age pattern, except at the very young ages where delays in marriage occur. Neighbouring countries with lower fertility levels than Afghanistan present a quite similar shape: a small share of the young population and the highest share at ages 25–29 (see Figure A2 in the Annex). This may be also the reason for a similar age fertility pattern in the six provinces despite diversity in TFRs.

Finally, the mean age of the fertility distribution is consistent with a high TFR. Mean ages in the six provinces are about 30–31 years, a relatively high mean age for the fertility pattern, and which is usually associated with a high TFR. Historic values of the mean age of fertility and TFR are presented in Figure A3. This figure illustrates that the fertility indicators estimated for the six provinces are consistent: high TFRs coincide with high mean ages of fertility. It is worth emphasizing that the probability of having

a live birth at the central ages of the reproductive period is well above 300 per 1,000 women. This means that about a third of all women in the central ages of the reproductive period have a child every year.

In summary, fertility levels are similar among all provinces except Kabul, which has the lowest TFR, yet even in Kabul women have more than six children on average. Age patterns are also similar, and their shape indicate scarce use of contraceptives.

Marital fertility levels

As stated earlier, changes in the fertility level may be occurring due to changes in the proportion of ever married women, and reproduction and exposure to having a live birth occur only inside marriage. Consequently, the fertility of married women is analysed in this section. A brief reference to the age pattern of currently married women is given first. Since fertility is estimated using information on the number of live births occurring in the year prior to the survey, we refer to currently married women (CMW) rather than ever married. That is, we refer to the women actually at risk of having a live birth. The proportion of CMW at a given age and the median age at marriage are presented in Table F2. The age pattern of CMW is plotted in Figure F2.

TABLE F2

Proportion of currently married women at selected ages and median age at marriage: Bamiyan, Daykundi, Ghor, Kabul, Kapisa and Parwan (2011–2014)

Marriage indicator		Province					
		Kabul	Bamiyan	Daykundi	Ghor	Kapisa	Parwan
Proportion of currently married women at age:	15	1.1	3.9	3.4	16.1	0.9	0.7
	20	39.4	52.5	52.9	79.6	40.9	42.4
	50	79.1	78.3	81.1	80.2	76.9	80.2
Median age at marriage		21.3	19.6	19.6	17.0	21.2	21.1

Source: CSO Afghanistan, SDES 2011–2014 and UN DESA, Population Division (2015). World Population Prospects: The 2015 Revision, DVD Edition.

The traditional practice of getting married at very young ages is not apparent in the data from these surveys. Ghor is the only exception, with 16 percent of girls married by age 15. The median age, however, indicates that marriage accelerates quickly with age: after age 20 half of all women are already married.[14] Besides Ghor, which has a median age of 17 and 80 percent of all women married by age 20, other provinces with relative early marriage are Daykundi and Bamiyan. These figures do not vary much whether currently married women or ever married women are considered. It is only at the end of the reproductive period that there are differences: although nearly 100 percent of all women have ever married, only around 80 percent remain inside marriage by age 50 (this will be discussed further in the second part of this report, dealing with nuptiality).

Figure F2 displays the proportion of currently married women up to age 24. As described in the second part of this report, the speed of entrance into marriage by age is either quite rapid, if we

14 Assuming that this cross-sectional data is representative of a cohort, i.e., no changes have occurred in the recent past.

assume a constant behaviour or social changes intending to postpone this entrance are taking place, thus younger women remain single until relatively later ages.

The set of provinces analysed depict three different age patterns:

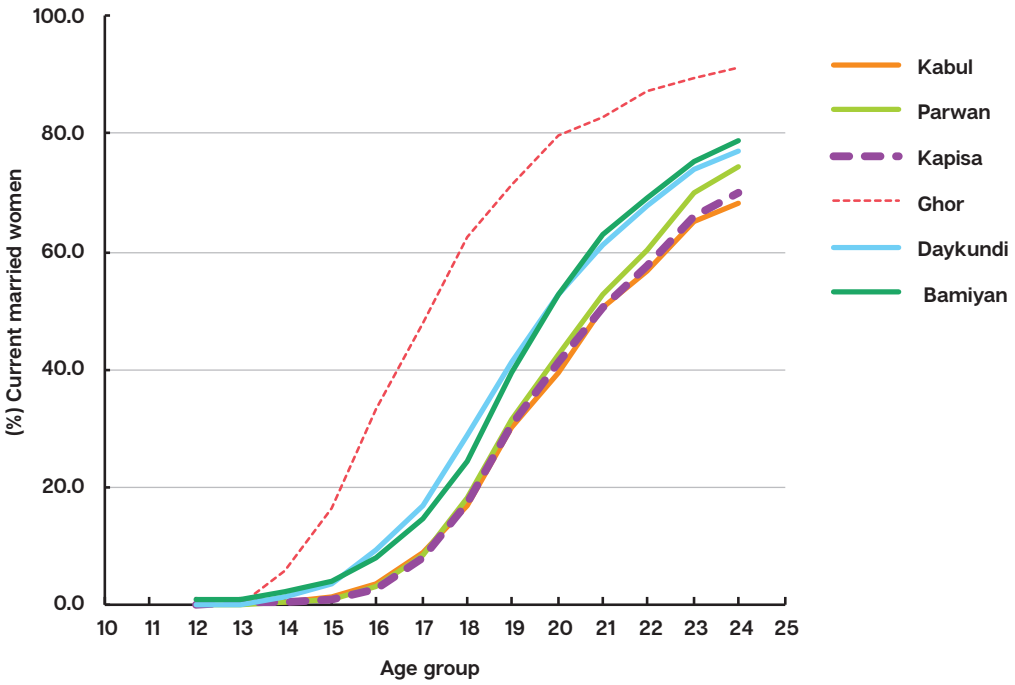
a Kabul, Parwan and Kapisa with a later entrance into marriage;

b Bamiyan and Daykundi at an intermediary phase;

c Ghor, with the earliest and fastest entrance into marriage as age increases.

FIGURE F2

Proportion of currently married women at 24 and by single ages up to age 24 (percent): Bamiyan, Daykundi, Ghor, Kabul, Kapisa and Parwan (2011–2014)



Source: CSO Afghanistan, SDES 2011–2014

Related to the fertility levels among CMW, it is important to remember that the data was adjusted using the same factor estimated for the total population, since the information on live births was collected from ever married women only. Since the event (or numerator) is the same for both total fertility and marital fertility, the adjustment factor should be the same. Table F3 presents the age specific marital fertility rates (ASMFR) and the total marital fertility rate (TMFR). Remember also that in this case, TMFR assumes that women enter marriage at age 15 and remain married up to the end of the reproductive period.

TABLE F3

Total marital fertility rate (TMFR) and age specific marital fertility rates (x1000): Bamiyan, Daykundi, Ghor, Kabul, Kapisa and Parwan (2005–2010)

Fertility Measures and age groups	Province					
	Kabul*	Bamiyan	Daykundi	Ghor	Kapisa	Parwan
TMFR	**9.5**	**10.9**	**11.5**	**8.4**	**10.8**	**10.1**
15-19	405.2	366.2	484.9	226.0	420.2	403.7
20-24	474.6	446.5	450.0	365.4	515.8	485.0
25-29	399.1	411.7	379.2	335.4	435.9	419.7
30-34	310.5	381.6	331.2	279.9	373.7	325.7
35-39	197.2	287.9	187.6	231.3	229.2	224.0
40-44	83.2	183.8	116.4	139.8	139.0	112.8
45-49	39.6	95.7	356.1	101.5	55.3	53.3
Relative contribution of selected age groups to the total fertility (percent)						
15 - 19	21.2	16.8	21.0	13.5	19.4	19.9
20 - 34	62.0	57.0	50.3	58.4	61.1	60.8
35 or more	16.8	26.1	28.6	28.1	19.5	19.3
Total	100.0	100.0	100.0	100.0	100.0	100.0

***** An ASFR of 105.8 estimated for the age group 10-14 in Kabul was not considered in the summary measures.

Marital fertility is very high; CMW in most of these provinces have a TMFR of 10–11 children. The exception is Ghor, with a TMFR of 8.4; still very high but lower than that of other provinces. Considering the age specific risk, particularly at young ages, almost half of the CMW are giving birth every year. This is the case, for instance, of women aged 20–24; in Kapisa the ASMFR in the group 20–24 is above 500.

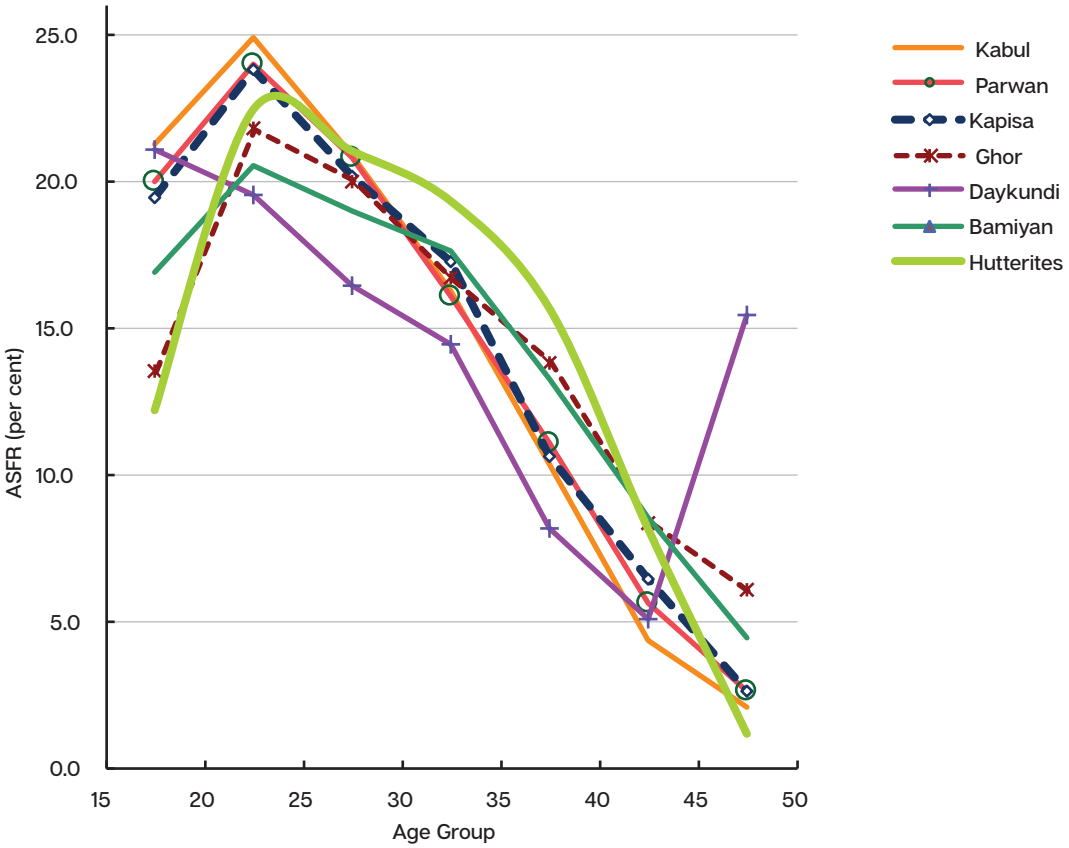
The age pattern defined by the ASMFRs is consistent with those high levels: differently from the TFR, the contribution of every age group to the TMFR is very high, particularly at ages younger than 35 (ASMFRs over 300 and closer to 400 per 1,000). The shape of these age patterns, plotted in Figure F3, appears very similar to the iconic shape of the Hutterites[15] who adhered to a natural fertility regime at the beginning of the twentieth century (Coale and Trussell, 1978) (see Figure F3).

The Hutterites' TMFR was around 10 children, similar to the figures recorded in these six provincial surveys. The main difference between these Afghan provinces and the Hutterites – with the exception of Ghor – is the larger relative participation of young women already mentioned, which indicates that the reproduction process starts as soon a girl enters into marriage.

15 The Hutterites were a religious community located in western Canada and the northwest of the United States, whose fertility level and pattern has been adopted in demographic studies as a model for natural fertility.

FIGURE F3

Relative distribution of Age Specific Marital Fertility Rates (percent): Bamiyan, Daykundi, Ghor, Kabul, Kapisa and Parwan (2005–2010), and Hutterites (1921–1930)



Source: CSO Afghanistan, SDES 2011–2014 and Coale & Trussell (1978).

The similarity with the Hutterites' pattern indicates the absence of fertility control among CMW, which is indirectly measured comparing ASMFRs at central ages of the reproductive period (primarily ages 20–29). The Hutterites' ASFR was around 400 per 1,000, which is very similar to the values found for the six provincial surveys (in Table F3). In general, marital fertility is at extremely high levels. This translates into high fertility in the total population, because marriage is almost universal and in general occurs at young ages. Since young women are delaying marriage, fertility in the total population appears to be relatively low in the youngest group. Yet, as soon as women marry, childbearing starts, with little spacing, reaching a very high TFR. Therefore, from a policy perspective, any efforts to reduce the total fertility rate must address the issue of increasing contraceptive acceptance and utilization among married women.

In summary, marital fertility is very high, with relatively small differences between the provinces. Further research is needed to get a better understanding of this extremely high fertility, and will require additional data of a different type than that obtained by the SDES.

DIFFERENTIALS IN FERTILITY LEVELS

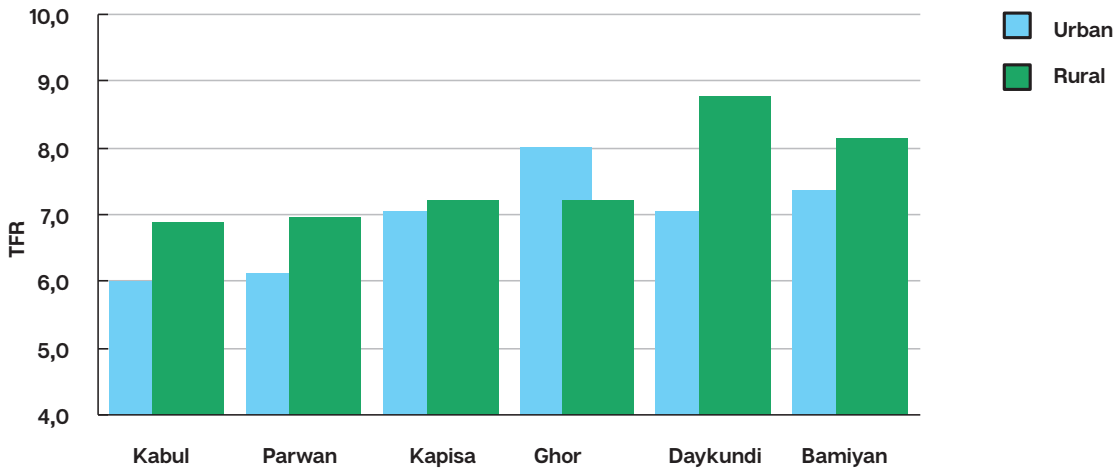
Fertility, as with most demographic phenomena, is strongly associated with sociocultural and economic contexts, where the more traditional the population, the more common it is to bear children. At the same time, the harder the life conditions the scarcer the access to family planning or reproductive health services in general. Both statements signal the admitted associations between development, modernization and health care, which determine the prevailing levels of fertility in a society. Knowledge of the way these social correlates and access to services may operate in influencing fertility levels is essential for decision makers to develop the best strategies to address population needs relative to fertility, family size and welfare.

Two dimensions are considered in a first approach to identify the differentials in fertility and their correlates: place of residence (urban/rural) and education. Results included in this report point to scarce differentials in fertility level by socio-cultural and economic categories. Therefore more complex characterizations of fertility differentials, by considering diverse socio-economic indexes, shall be the subject of further research.

Analyses in previous sections revealed that observed TFR are by no means at low or intermediary levels. This is true even for women living in urban areas, which are usually associated with lower fertility. Indeed, whatever the place of residence the TFR is in most cases above five children per woman (Figure F4).

FIGURE F4

Total Fertility Rate (TFR) according to place of residence: Bamiyan, Daykundi, Ghor, Kabul, Kapisa and Parwan (2005–2010)



(*) Data was adjusted using the same adjustment factor estimated for the total population. It was assumed that coverage of live births is the same in each province, regardless of any individual condition.

Source: CSO Afghanistan, SDES 2011–2014 and data in Table A1 in Annex.

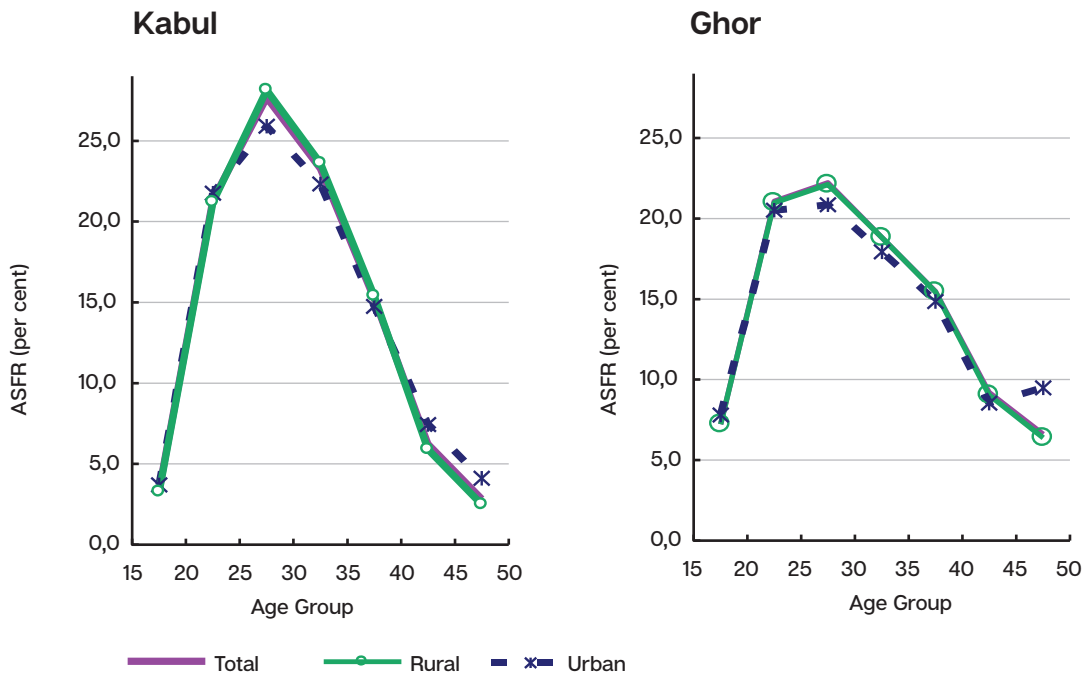
Except in the case of Ghor, the TFRs reproduce the expected differential of fewer children per woman in urban areas. As stated, TFRs are well above five in all cases, and urban and rural differences are rather small (around 10–12 percent), with two outlier situations: Daykundi has a difference of about 20 percent and Kapisa shows almost no difference. The inverse relation registered in Ghor (urban TFR higher than rural) may be caused by statistical fluctuations associated with the small urban population, which represents less than 3 percent of the province´s total population, or the fact that perhaps no

relevant differences in living conditions in rural and urban areas may be observed in Ghor, which is one of the most vulnerable provinces in Afghanistan.[16]

The scarce difference in fertility levels by place of residence is also observed with respect to the age pattern. Because of the composition of the population by area of residence in these provinces, with the vast majority of the population residing in rural areas, the overall fertility pattern is determined by the fertility behaviour in rural areas. As an example of this, Figure F5 shows the relative distribution of the ASFR in Kabul and Ghor, the former – still having a relevant percentage of the population residing in rural areas – also holds an important share of the urban population, as opposed to Ghor, which is predominantly rural.

FIGURE F5

Age Specific Fertility Rate (ASFR) according to place of residence (percent): Kabul and Ghor (2005–2010)



Source: CSO Afghanistan, Kabul SDES 2013, Ghor SDES 2012

Fertility in Kabul is relatively more concentrated at the central ages of the reproductive period than in Ghor. In both provinces the urban and rural populations present a very similar fertility pattern by age. The peculiarity in Kabul is that at older ages (40–44 and 45–49) the urban ASFR is slightly higher than those in rural areas. In most societies the pattern is different: urban women tend to finish childbearing earlier than rural women. In Ghor also urban fertility is higher than rural fertility in the group 45–49. This unexpected pattern at older ages may be associated with differential errors in the survey reports, or may be an oddity associated with the very high fertility regime prevailing in Afghanistan; in the case of Ghor small urban numbers may also cause random variations. In general, however, no strong differences are observed in the fertility of urban and rural populations. The other four provinces show a similar pattern, with small differences in fertility by urban or rural residence (see Table A2 in Annex).

16 With reference to the social vulnerability prevalent in Ghor, the World Bank – using NRVA data (2007–2008) – reports that more than 60 percent of the total population has inadequate dietary diversity. In terms of reproductive health, only 3 percent of births are attended by skilled personnel and less than 10 percent of pregnant women have access to skilled antenatal care during pregnancy.

Fertility by level of education

Evidence on the fertility transition in developing countries shows that gender equality and female education tend to depress fertility in most cases. There is a copious literature documenting how education, and above all women´s education, facilitates transition to more equalitarian gender relationships as well as the onset of the fertility transition, cited for instance in Basu (2002). Following the established assumption in the demographic literature that the educational characteristics of the population are associated with fertility levels, the effects of education have been explored in these analyses. Three different approaches were adopted to analyse the relationships of fertility with educational characteristics:

a The woman's education: it is well documented that women's education, by expanding life options (for instance entering labour market), triggers a fertility transition toward lower levels.

b The head of the household's education: this was analysed on the assumption that the household head may have an active role in deciding the family's fertility behaviour, particularly in a context of limited women's empowerment.

c The highest educational attainment in the household: it is assumed that high educational attainment of any member in the household expands opportunities for the whole family, including women; and hence can influence fertility behaviour. This would be true, particularly in settings (like Afghanistan) where education has recently improved, reaching young people but not necessarily changing the educational level of older cohorts; yet having accessed education through a member of the household, all members have expanded options.

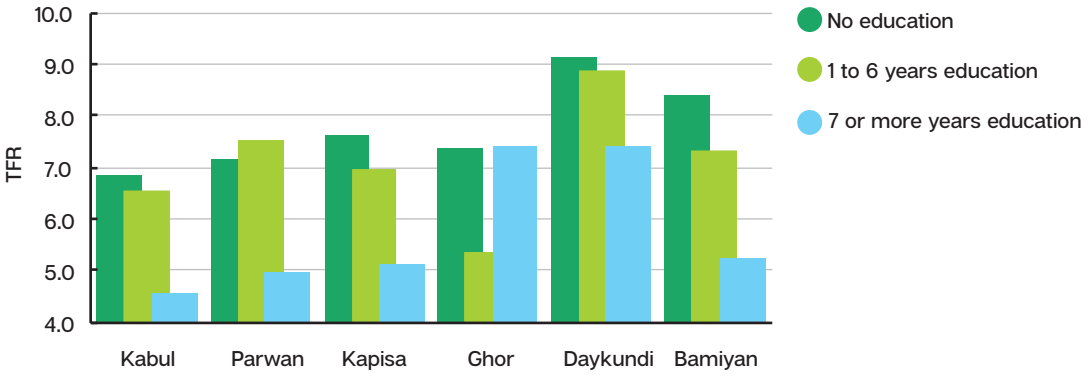
FERTILITY AND WOMEN'S EDUCATION

The educational level is known to be low in Afghanistan. The SDES reveals that in the six provinces a large proportion of the population has no schooling (see report on Education). Women – particularly those out of the age interval for attending school – hold a precarious situation; more than half of them have never attended school.

Considering three large intervals for women's years of schooling (no schooling, 1–6 years of education and seven or more years), fertility levels are estimated and plotted in Figure F6. Education, as opposed to place of residence, does present fertility levels below five children per woman, though in only one group. In Kabul women with seven or more years of schooling have a TFR of 4.6 children per woman. Association between fertility and educational groups bears an inverse relationship in four out of the six provinces. The two cases where the differential follows unexpected trends are Parwan and Ghor (see Table A1 in Annex). In these two provinces more than 80 percent of women in reproductive ages are in the no schooling category, thus TFRs estimated for the other categories are affected by random fluctuations. To minimize this, TFRs were calculated for the whole group of women having at least one year of education. The results in these two provinces – where the vast majority of women have no education – show relevant differences even for such broad educational categories. Those with no schooling have one child more than those with at least one year of schooling.

FIGURE F6

Total Fertility Rate (TFR) by women's educational level: Bamiyan, Daykundi, Ghor, Kabul, Kapisa and Parwan (2005–2010)



Source: CSO Afghanistan, SDES 2011–2014 and data in Table A1 in Annex.

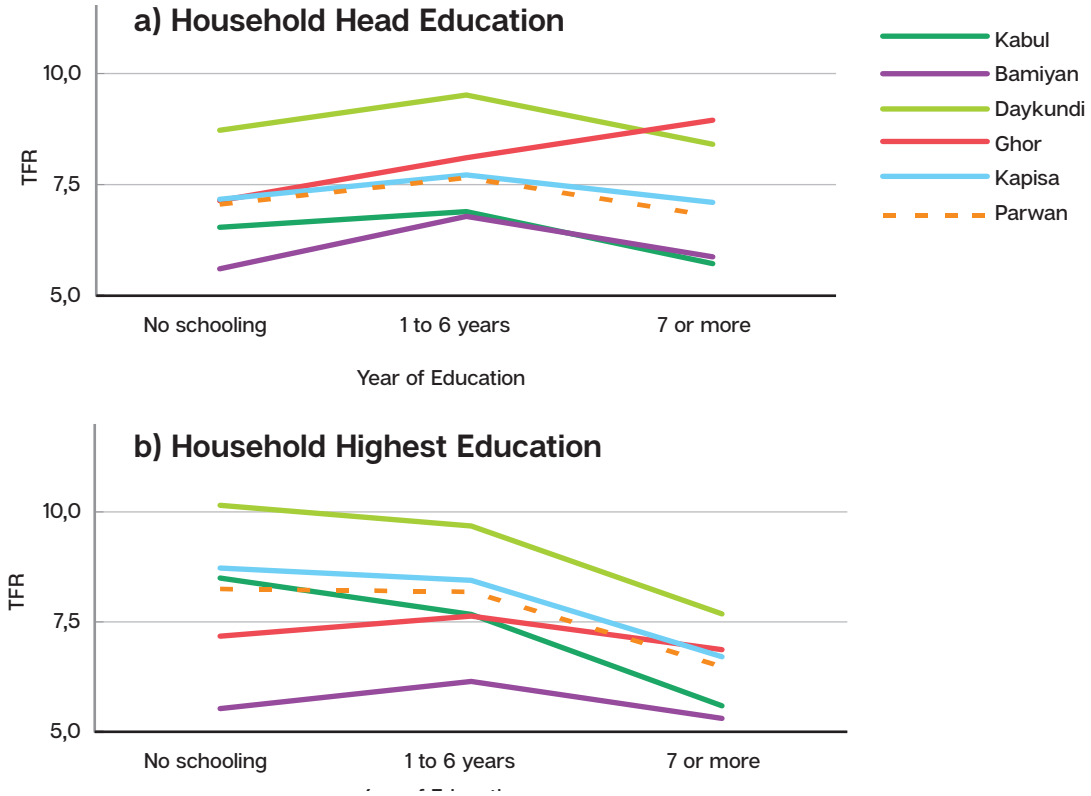
FERTILITY AND EDUCATION IN THE HOUSEHOLD (HOUSEHOLD HEAD AND HIGHER ATTAINMENT)

Fertility differentials by women's education do present the expected inverse association between education and level of fertility. However, the low educational level prevalent in Afghan society hinders the possibility of deeper analyses of the effects of education on fertility levels. The education of the household head and the highest education attained in the household were considered as possible alternatives to using women's education, considering they may offer better perspectives of capturing educational effects. The distribution of population by education level of the household head is different from the distribution by women's education; the head of the family is most often a man, and on average they have higher education than women (see Thematic Report on Education). Similarly, the distribution of the population by level of education of the household member with the highest education attainment is expected to spread more evenly by categories, mostly due to recent improvements in education where the youngest people have benefited. Fertility differentials according to both categories are presented in Figure F7, where TFRs for the six provinces are plotted according to a) household head's education, and b) highest education attainment in the household.

The association is not clear in the first case, where women living in a household whose head has no schooling have on average fewer children than those living in a household whose head has an intermediary educational level. This is the case for Kabul, where the TFR is similar in the two lowest educational groups (TFR 6.5 and 6.9 respectively among those with no schooling and those with 1–6 years of education). Ghor, one of the provinces with lowest educational attainment, is the only exceptional case which clearly reproduces a trend opposite to what is expected regarding education and fertility: the higher the education of the head, the greater the number of children the woman has (Figure 7a). If education is assumed to be a proxy for wealth, this unexpected trend allows the hypothesis that in very poor settlements TFR tends to rise with education; i.e., any important improvement in life conditions (reflected in a higher education, for instance) facilitates more marriages and larger family sizes if these events have a high social value as it may be the case in these provinces and in Afghan society in general.

FIGURE F7

Total Fertility Rate according to education in the household: the household head and the highest level: Bamiyan, Daykundi, Ghor, Kabul, Kapisa and Parwan (2005–2010)



Source: CSO Afghanistan, SDES 2011–2014

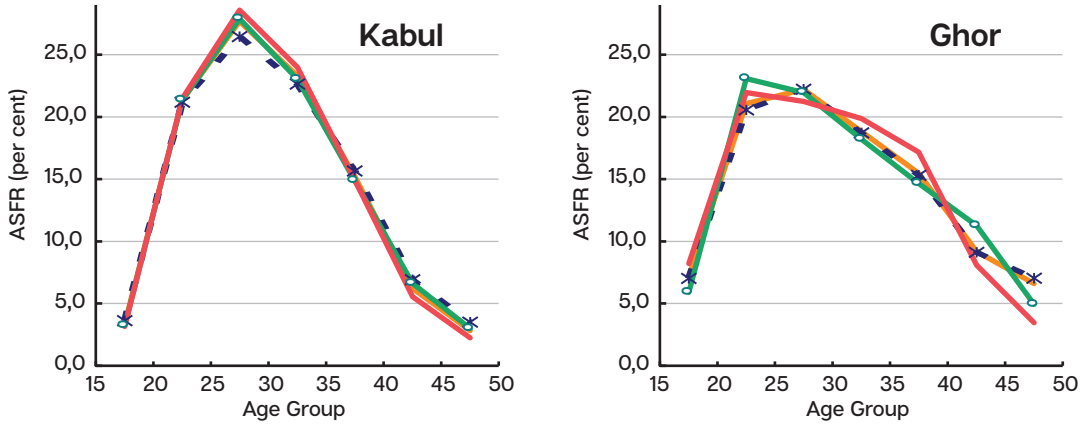
In contrast, the fertility level according to highest education attainment in the household shows a more consistent pattern: fertility is lower in the highest education category. The fertility level decreases consistently as education increases in all provinces, except for Bamiyan and Ghor. In these two provinces fertility in the no schooling group is a bit lower than in the intermediate group (1–6 years), and then falls again in the group with seven or more years of education. These results suggest that values associated with pursuing education are also underlying changes in reproductive behaviour. The recent improvements in the educational system, allowing access to education for a broader segment of the society, may have brought out this association, making it visible in the statistical classifications: as Figure F7 (b) shows, the higher the educational attainment of a member of the family (any member), the lower the fertility of women in that family. As mentioned earlier, this trend is clearest in the highest education level, and less evident in the transition from the group with no schooling to that with an intermediate education level.

Finally, the analysis of the age pattern of fertility reinforces these findings: education has no strong influence in the reproductive behaviour by age when the education of the household head is considered; on the other hand, the role of the household highest education attainment appears to be important. Figure F8, portraying these patterns for Kabul and Ghor, illustrates this association: the shape of the age fertility schedules by household head's education are similar for all educational groups: Figure F8 (a). In the case of Ghor, the shape corresponding to the more educated household heads is consistent with the higher TFR mentioned earlier: the ASFR remain high even at older women's ages. The fertility distributions by age in all other educational groups are similar to each other.

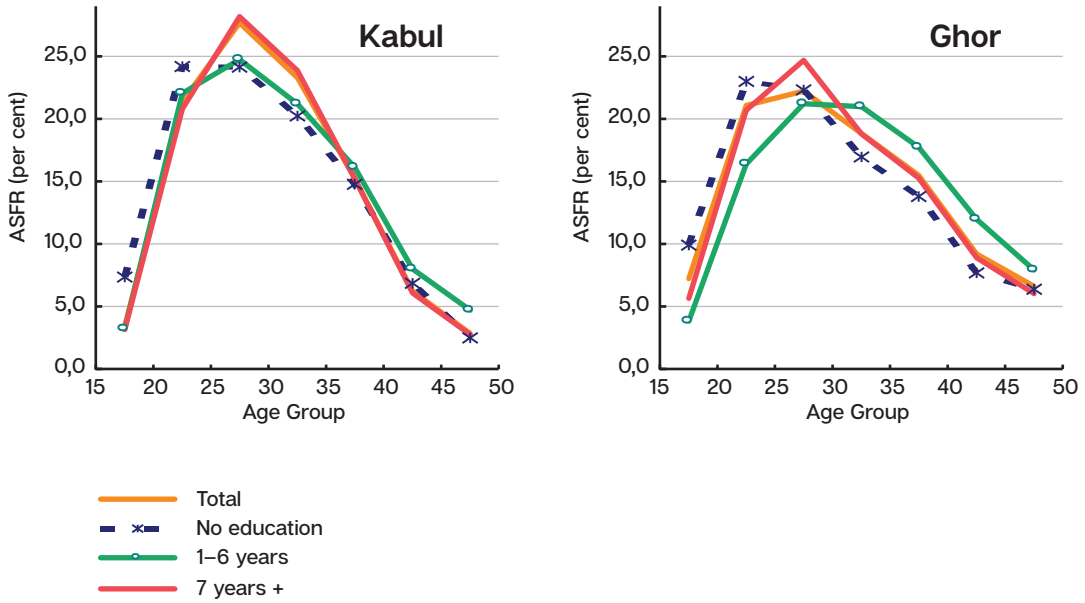
FIGURE F8

Age Specific Fertility Rate (percent) according to specific educational levels (household head's and highest educational attainment): Kabul and Ghor (2005–2010)

a) Household head education



b) Household highest educational attainment



Source: CSO Afghanistan, Kabul SDES 2013, Ghor SDES 2012

Instead, when the highest education level in the household is considered, fertility shows a different behaviour by age; see Figure F8 (b).

Households where a member has achieved seven or more years of schooling present a fertility schedule more concentrated at the central ages of the reproductive period compared to other educational levels. The same pattern is apparent in Ghor. Consistently, households where no member has achieved any education – the no schooling group – present the highest probabilities of a live birth at the youngest ages. Higher education correlates with more fertility concentrating in the central

ages. These shapes are quite different from those in the previous situation which portrayed fertility distribution by education of the head of the household. This finding is very important from a public health and reproductive health perspective, as the central ages of the reproductive period present the lowest reproductive health risks. Although further and deeper research is needed to validate this finding, data from Ghor suggests that in households where at least one member of the family has any schooling, women tend to delay pregnancy. Furthermore, among those with the highest attainment education there is a pattern with a double characteristic: the delaying of pregnancy at young ages and the avoiding at later ages; hence, in this population group, because they tend to have fewer children at ages where obstetric risks are very often very high (at earlier and later ages of the reproductive period), maternal mortality and morbidity may also tend to be quite low.

Thus, of the two variables known to be influential in reproductive behaviour, the area of residence did not show relevant differences in fertility behaviour. On the other hand, educational level does appear as an influential determinant for women to have fewer children. This association stands out in a clearer way when education level in the household is considered. Classifications by women's or the household head's education do not clearly discriminate those differences in fertility behaviour. In the past, the general pattern in Afghanistan was of very little access to education for most of the population. Hence, low educational levels in the adult population was a characteristic shared by most people in the country, regardless of their aspirations, access to information, or integration into more modern lifestyles. In this way the education level of any adult, as a variable, would not be sensitive in capturing differences in fertility behaviour. When the highest educational level attained in the household is considered, which is an attribute that has been changing towards higher education levels among the young population, the role of education in reproductive behaviour appears clear in both: the level, as well as the age pattern of fertility.

The fertility level: approximate estimation for recent dates (2011-2014)

The estimates presented in previous pages refer to dates in the recent past, due to the nature of data and the assumptions of Brass's estimation method. One of the main assumptions refers to stability in the reproductive behaviour in recent years, inherent in the adjustment factor used to determine the level (see adjustment factor values in table F1, last row of the first panel). Nevertheless, evidence from the SDES data provide strong indications that main determinants of the reproductive behaviour, like marriage and education have registered significant changes among young women: delayed entrance at marriage and impressive growth in girls´ school enrolment (see reports on Nuptiality and Education). It is known that in Afghanistan pregnancy only occurs within marriage, and that school attendance stops with marriage. Hence, the recent fertility decline among young women is most probably associated to these determinants. There is no direct way of obtaining rates of change in marriage and education, because available SDES data refers to only one point in time. The evidence is analyzed in the next paragraphs, assessing a procedure to estimate a more updated fertility level. It is also a preliminary attempt to measure the impact of recent educational changes on the fertility decline.

The first assumption is that female school attendance and net enrolment ratio (AER and NER, respectively) have inverse correlation with fertility at young ages. Second, the parity level reported by women aged 20-24, whose children were born over a period of about ten year preceding the survey (i.e. a women aged 24, could have her first child at age of 15 or younger), does not represent the current fertility of the 20-24 age group for the exact year preceding the survey. Since fertility at young ages has been declining, the reported parity incorporates higher fertility pertaining past years; hence the Brass´s correction factor needs to be deflated. This adjustment is done following the rational explained by Carvalho and others (2016)[17] . The Brass' method was adapted to incorporate adolescent fertility decline, as it is currently observed in Afghanistan.

17 Carvalho, JA., Quaresma G.,G; Castro e Silva L.,G. (2016) - "Aplicação da técnica P/F de Brass em um contexto de rápida queda da fecundidade adolescente: o caso brasileiro na primeira década do século" (in Portuguese) – "Application of P/F Brass' technique in a context of rapid decline in adolescent fertility: the Brazilian case in the first decade of the century)" - In Anais - XX Encontro Nacional de Estudos de População/Foz de Iguaçu – Brasil, 2016.

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The AER and NER at ages 16-18 –as a proxy to not married young girls– are the indicators used to deflate the reported number of children ever born (CEB). The educational indicators differ greatly among the six provinces, with the highest NER in Kabul and lowest in Ghor. The values are presented below:

SDES provinces - Females Attendance (AER) and Net Enrolment Ratios (NER) (%) in age group 16 to 18 (2011-2014)

Province:	Kabul	Bamiyan	Daykundi	Ghor	Kapisa	Parwan
AER	43.5	36.8	49.1	15.9	35.2	25.2
NER	27.3	14.1	17.2	5.2	21.3	15.3

Source: CSO and UNFPA- Afghanistan: Socio-Demographic and Economic Survey. Education, Provinces of Kabul, Bamiyan, Daykundi, Ghor, Kapisa, Parwan. Kabul, 2016.

In age group 15-19, we assume that the deflator factor follows an asymptotic trend. For instance, if AER is below two thirds (66%), the factor equals that ratio; above two thirds the deflator departs from the AER, assuming lower values. This implies that an AER of 100% does not deflate the number of CEB by 100%. In the current exercise, no province registers an AER higher than 50%. In age group 20-24, we assume that a proportion (two thirds) of the NER at age 16-18 would act as the deflator of the number of CEB. Indeed, it is a subjective definition; yet, the net ratio (indicating enrolment in the adequate level for the given age), is a proxy of the girl's permanence in school and commitment towards education. However, it is not realistic to assume a perfect correlation between net enrolment ratios and number of CEB. Estimates obtained by applying this procedure, for adjusting the estimation levels that would correspond to more recent dates, are presented in Table F4.

Table- F4 - Fertility Estimates: Total Fertility Rate for the total population, place of residence and education (women, household head and highest household attainment) in the Provinces of Bamiyan, Daykundi, Ghor, Kabul, Kapisa and Parwan (Dates around 2011-2014) and adjustment factor (deflated)

Total Fertility Rates (per women) and date of reference		Provinces					
		Kabul	Bamiyan	Daykundi	Ghor	Kapisa	Parwan
		2013	2011	2012	2012	2014	2014
Total Fertility Rate		5.5	7.7	8.0	7.1	6.6	6.6
Decrease relative to five years previous to the survey data collection (%)		10.4%	7.0%	8.7%	3.1%	7.8%	6.8%
Total Marital Fertility Rate		8.5	10.1	10.5	8.1	10.0	9.4
Place of Residence	Urban	5.4	7.1	6.5	7.8	5.6	6.6
	Rural	6.2	7.7	8.0	7.0	6.5	6.7
Years of education of women, household head, and household highest attainment							

a) Women	No Education	6.1	7.8	8.4	7.2	6.6	7.1
	1 to 6 years	5.9	6.8	8.0	5.1	6.9	6.5
	7 or more	4.1	4.8	6.8	7.2	4.6	4.8
	At least 1	--	--	--	6.3	5.3	--
b) Household head	No schooling	5.9	5.2	8.0	6.9	6.6	6.6
	1 to 6 years	6.2	6.3	8.7	7.9	7.1	7.1
	7 or more	5.1	5.5	7.7	8.7	6.5	6.3
c) Household highest attainment	No schooling	7.6	5.1	9.3	7.0	8.0	7.7
	1 to 6 years	6.9	5.7	8.8	7.4	7.8	7.6
	7 or more	5.0	4.9	7.0	6.7	6.2	6.0
Adjustment factor (Deflated)		1.7	2.0	1.8	1.9	1.4	1.5

Source: SDES (2011–2014) UNFPA-Afghanistan and Afghanistan CSO (micro data).

Fertility rates estimated using this deflating adjustment factor do have an uncertain share of subjectivity. Still, in line with the rationale supporting the adjustment procedure, we trust that adjusted levels do represent more reliable fertility estimates for the recent period, compared to the levels given in the previous section. Kabul would have had more pronounced fertility declines since girl's participation in school is highest. In the same way, provinces with the worst performance regarding girl's school attendance do not signal relevant declines in their fertility levels.

Fertility in the short and medium term

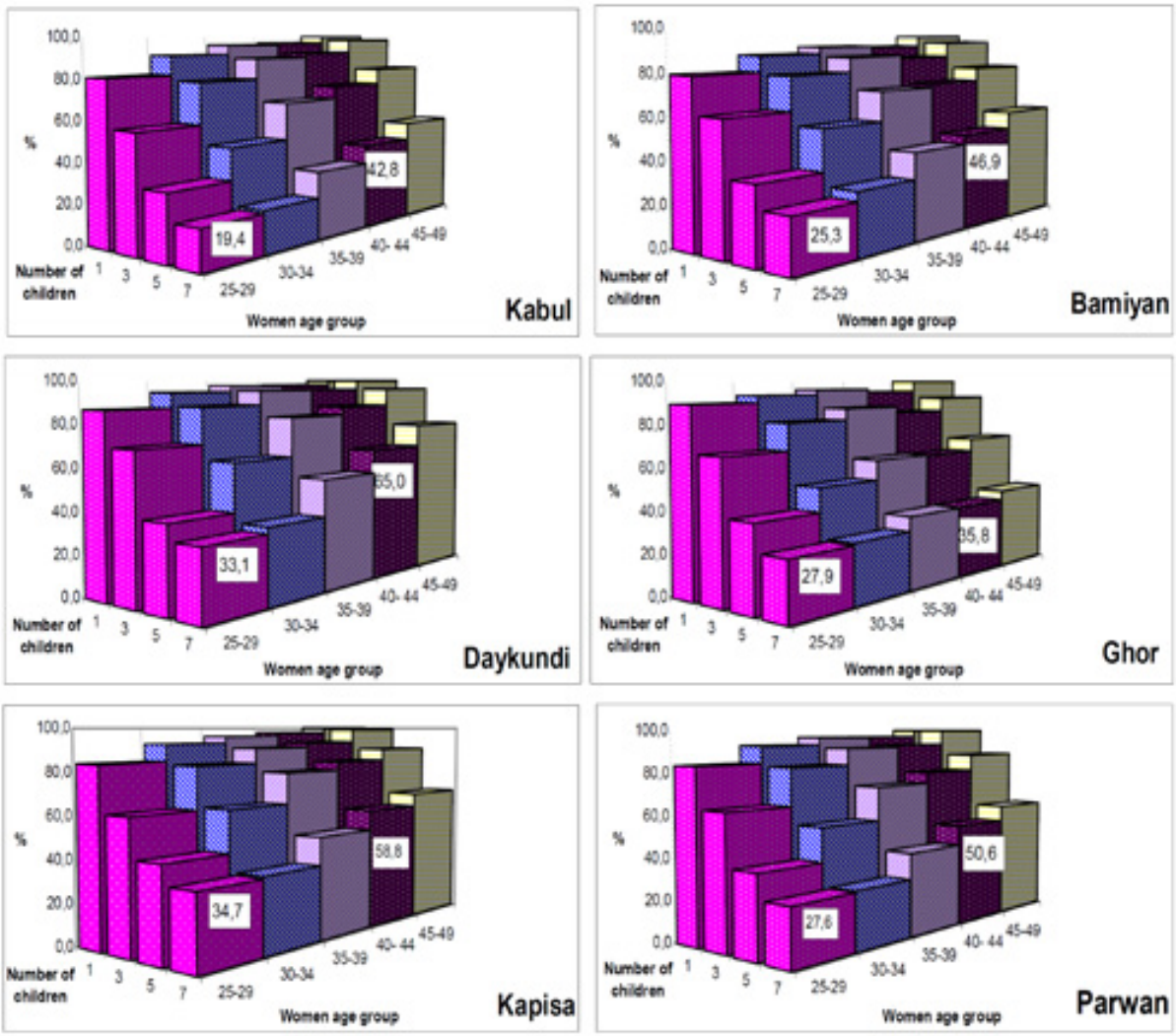
Overall, fertility levels and marital fertility patterns indicate that very high fertility levels have predominated in these provinces because marital fertility is high, while at the same time – up to recently – most young women entered into marriage at very early ages. As the younger generations are delaying marriage, the immediate effect would be a reduction of total fertility because – on average – women would remain single for a longer period of time, and would hence be at lower or no risk of having a live birth.

Whilst fertility in the general population has started a declining trend, we can assume that for young women, the cumulated number of born live children (P) and the cumulate current fertility (F) do not differ greatly: due to the young age, both measures would be similar. For instance, for an 18-year-old woman who has not had many children yet, particularly if nuptiality is shifting to a later age; the current probability of having a live birth is relatively low. The situation is not exactly the same in the six provinces, but these conditions hold in most cases. Under these assumptions, it is possible to forecast complete cohort fertility for those young women, as plotted in Figure F9. The basic idea is that recent (or current) fertility will determine the future pattern (Brass, 1985). Following Brass's idea and terminology, we can estimate F(Pi)=Pi+(F-Fi) where F(Pi) is written as the estimated total fertility on the projection for the cohort of women in the i'th age group at the time of the survey (Brass, 1985).

This procedure is most useful when the reporting of births that occurred in the last year among young women is reasonably reliable – we believe this is the case for the six provinces – and fertility is changing rather fast. This is probably the case for Afghanistan because proportionally more young women are not entering marriage at very early ages as was the case in the recent past.

FIGURE F9

Women aged 25 to 49 by age group: Cohort fertility by parity: Bamiyan, Daykundi, Ghor, Kabul, Kapisa and Parwan (2011–2014)



Source: CSO Afghanistan, SDES 2011–2014 and Table A4 in Annex.

The strength of this procedure is that without any corrections, the P and F results can be synthesized in order to measure possible falls in fertility. "The power of the procedure comes, however, when it is extended to birth order and hence parity progression ratios. If $F_i^{(n)}$ is written for the cumulated age specific fertility rates for births of n'th order and the $P_i^{(n)}$ are the proportion of women in the I'th age group having given birth to n or more children, the relations between the $P_i^{(n)}$ and $F_i^{(n)}$ are similar to those between the P_i and F_i, that is, between cohort and synthetic current cumulated fertility" (Brass, 1985).

Basic data are:

$P_i^{(n)}$ by age group and total births per woman;

The age specific fertility rates of $F_i^{(n)}$ and total births per mother.

Then $F^{(n)}(P_i) = P_i^{(n)}+(F^{(n)} - F_i^{(n)})$.

In the case of these six provinces with high fertility, the most robust results are probably from the middle birth orders, say 3–5, obtained from rather young women whose memory errors are irrelevant. Trends in the middle of the reproductive period on parity progression ratios – most indicative of the adoption of family limitation on a relevant scale – can then be measured according to William Brass: "This is of particular value where there are other changes in fertility confusing the interpretation, for example, increasing age at marriage, leading to reduction in childbearing at younger ages or shortening birth intervals because of less intensive breast feeding" (Brass, 1985).

Results are detailed in Table A4 in the Annex; this indicates the proportion of women by current age (age at the time of the survey) according to the number of children they would have achieved by the end of their reproductive period, if current fertility holds in the future. Using a tri-dimensional layout, as shown in Figure F9, it can be seen that women currently aged 25–29,[18] who are expected to achieve a relatively high parity (say seven or more children) by the time they end their reproductive period. These currently young women will represent a lower proportion than women who are currently 40–45 and will achieve similar order parity (7+ children) by the end of their reproductive period.

Take for example Kabul, whose sample size is the largest among the SDES surveys. Indicators in Figure F9 reveal that the proportion of women currently aged 25–29, who would end their reproductive life with at least seven children, is 19.4 percent. Nowadays the proportion with at least seven children is 42.8 percent among women aged 40–44. Still, more than half of these women currently aged 40–44 are expected to have more than seven children by the time they reach age 50 (see Table A3 in Annex).

Let us take Parwan which also has a significant sample size: at the time of the survey more than half of the women aged 40 years or more (that is, nearing the end of the reproductive period) have seven or more children. If lower fertility among young women holds in the near future, only 27.6 percent of women who are in the age group 25–29 today will end up having seven or more children.

Whilst this is the profile in Kabul and Parwan, elsewhere in the country fertility is expected to remain high among young women: in other provinces 30 percent of women currently in group 25–29 are expected to end up bearing seven or more children. Although figures are subject to random fluctuations, it is worth noting that results show that even older women have a very high probability of having at least one more child: at ages 30–34, in general, around 90 percent will have more children.

In general, given current fertility behaviour as captured by reports on the numbers of live births that occurred during the 12 months prior to the surveys, younger women may end their reproductive period having halved the parity level of women who are today at the end of their reproductive life. This would be a very significant change in the country's fertility behaviour.

18 Current age in this case means the age of the woman at the time of interview (i.e., in 2012, approximately the date of the survey).

4

Fertility

Discussion of results and policy implications

Earlier, this report mentioned the strong inverse association between development and fertility level due to the influence of one on the other, or because of mutual interactions. It was said as well that fertility decline certainly decelerates population growth, inducing beneficial changes in the age distribution of a population, which favour economic and social development. Results from the SDES data indicate that fertility has been very high in the recent past, exceeding 7–8 children per woman, and a declining trend has started due to changes in behaviour among young women, mostly changes related to nuptiality, as reflected on SDES information about marital status

The probability of having a child among married women appeared high at any age in the reproductive period, thus resembling a pattern observed among the Hutterites, a paradigmatic sociocultural group who did not practice fertility control depending on the number of children the women already had. This pattern has been adopted by the rather precarious Afghan environment characterized by a fragile economy, political conflicts, lack of adequate health care and constrained access to the educational system. Although none of these characteristics were the subject of this report, these associations are apparent where women from provinces like Bamiyan and Daykundi have extremely high probabilities of having a live birth at any age during their reproductive life.

The SDES data clearly signals fertility decline among young women, associated with delays in the age at marriage. The country has implemented social policies oriented to reducing/ eliminating gender imbalances. The prevention of child marriage and early marriage is appearing to make progress. This in itself is good news and a strong indicator of progress in the gender equality agenda. Regarding fertility, the risk of a child bearing a child is decreasing because child/ early marriages are less frequent. Still, the data reveals no significant changes in marital fertility. In other words, once married, the number of children women have is very high. Data on married girls' fertility below age 15 has not been presented in this report due to scarce numbers and unreliable data quality. However, the fact that married girls may register ASMFR around 300 at ages 15–19 should be a matter of high concern. As girl's marriages have not completely disappeared, these rates reveal extremely high reproductive risks. Adolescent fertility continues to be an urgent research agenda, in order to provide a solid evidence base for social policies.

The age pattern of marital fertility shows constant high probabilities of childbearing at any given age of the reproductive period, which indicates scarce use of contraceptives. Previous studies have revealed increases in contraception prevalence among married women (Afghan Public Health Institute (APHI/MoPH), Central Statistics Organization (CSO), ICF Macro, Indian Institute of Health Management Research (IIHMR) [India], and World Health Organization Regional Office for the Eastern Mediterranean, 2011). In spite of recent increases in contraceptive utilization, these practices still correspond to a small minority, almost uniquely located in urban areas and mostly in Kabul. Some studies also revealed that information about family planning has expanded considerably (Haider, et al., 2009), as well as interest in using contraception. Hence conditions may be conducive for expanding access to contraception and its effective use. Perhaps this process may be facilitated with additional and precise information on the cultural context and the factors that may motivate couples to adopt family planning. A significant increase in contraception can bring about important benefits to the health of women and children, with relevant impacts on public health, gender equality and social development.

The analyses reveal that specific conditions such as urbanization and/or education, which usually appear as powerful determinants of fertility trends, also play a role in the fertility levels in these provinces. Yet, their impact is not large; in all classifications the TFR is persistently high. In part, this may reflect some compositional effects: the vast majority of the population lives in rural areas and a large proportion of the adult and female population have no schooling.

Some findings on the relationship between educational attainment and fertility should be a point of reflection and further research:

There is no clear trend in fertility levels as the household head's education improves. Indeed in most precarious contexts, such as Ghor, the household head with the highest educational attainment has the highest level of fertility. Is it because of the high social value attributed to children? Is it because the most educated can better afford marriage and raise more children?

There is clearer association – and in the expected direction – between education and fertility when highest educational attainment in the household is considered. If it is assumed that young people have benefited most from current educational reforms, is this a signal that relatively low fertility levels are to a large extent a result of educational improvements?

Fertility changes, towards lower levels, are certainly happening. Recent improvements in the educational system may have had an important role: fertility is lower in those households where a member has higher educational attainment, and there is consistency with regards to the age patterns of fertility distribution. This finding is a robust indicator that education for both girls and boys may become a strong mechanism for accelerating the fertility transition in Afghanistan.

Marital fertility does not show relevant changes. Hence, in addition to educational improvement, policies to facilitate access to reproductive health care and contraception use need to be strategically implemented. In this sense, women's participation in expanding information, access and actual utilization should be part of the strategy.

The finding of higher fertility level in higher social status groups raises a complex question within traditional settings where marriage is of high social value, while social development is rather scant: the most educated are usually meant to be emulated; hence, would social inclusion programmes – expanding access to education and well-being – intensify marriage with the consequent effects on fertility? As it has been seen, fertility is very high among married women. In such case, would this reaction worsen the already fragile reproductive health of women?

On the basis of empirical evidence, the demographic rationale would translate relevant social improvements into increases in the general population survivorship. This would be particularly true in vulnerable contexts where maternal mortality has a devastating impact on women's lives, as in Afghanistan. Hence, if social conditions improved through more access to education, health services and economic opportunities, then women's survivorship would have also increased. This would imply an increase in the exposure to reproduction and the probability of pregnancies, since reduction of maternal mortality implies that more women will survive through their whole reproductive period. If women increase their exposure to the probability of getting pregnant over their whole reproductive life, the end result would be higher fertility in vulnerable settings where, furthermore, maternity, marriage and children are highly valuable. This may be the case in Ghor, where higher fertility is associated with higher social status groups and where, health care and particularly reproductive health care are known to be inadequate. Wherever these situations exist, the demands for reproductive health services and birth spacing would have to be met; otherwise the total fertility would increase, perhaps even associated with unwanted pregnancies.

There is no doubt of the great need to expand education and health programmes, as well as reproductive health services. Decision makers need to develop strategies to upgrades services to the population and social development, translating these into real life improvements for each female and male citizen. Culturally sensitive policies and programmes will be necessary to adequately address traditional values on marriage and motherhood/ parenthood, to bring about positive change.

5

Nuptiality

General considerations

Lorenzo Tugnoli

Nuptiality is a socio-demographic process that can have many highly relevant development implications. In particular, it can play an important role in demographic dynamics when a number of elements converge (as appears to be the case in Afghanistan): the use of contraception is limited; exposure to pregnancies is only within marriage; marital fertility occurs as a natural process related to the level of fecundity of couples (biological capacity to conceive); and there is no strong prevalence of social norms geared to protect women's and children's health by preventing too close and too many pregnancies and thus regulate fertility within marriage (for example a significant practice of abstinence in the port-partum period). Under these conditions, from the moment women start to marry, the probability of marriage by age, and the final proportion of ever married persons, largely determine the reproductive process: the level as well as the age pattern of fertility.

Beyond its demographic implications, nuptiality also plays an important role in gender issues, reproductive health outcomes, the rights of the child, and in human capital formation of the younger generations. Child marriages and early marriages, as well as the spousal age difference, are correlated with gender equality and the status of girls and women in society. When girls enter and remain in the education system for a longer time, they not only access knowledge and skills that better prepare them for life, they also enter marriage on a more equitable basis in relation to their husbands. They would have acquired skills which may open opportunities for jobs and the possibility of generating their own income, thus reducing their economic dependence. They would enter marriage physically and emotionally more mature, better prepared to have children and provide them with adequate care, reducing infant and child morbidity and mortality. All these elements are powerful factors in social and economic development, and in different ways they feature in several of the targets adopted to monitor progress towards achieving the MDGs. Hence, the analysis of nuptiality occupies and important place in the study of the SDES survey data.

As stated elsewhere, in most countries in south-central Asia, fertility takes place only within marriage; hence, nuptiality is an important component of the reproductive process. This is particularly true in Afghanistan, a country characterized by an early age at first birth, short birth intervals and the continuation of childbirth up to advanced ages (UNFPA Afghanistan, 2012). Early age at marriage, in turn, is associated with an early age at first birth and thus it is an important dimension of women's reproductive behaviour with far-reaching consequences, particularly for their reproductive health and social status (Singh and Samara, 1996).

This thematic report on nuptiality, which refers to the frequency and intensity[19] of marriage, explores the distribution of the population by marital status and develops synthetic measures of marriage. In first place, behaviour patterns of entering into marriage and evidences of the beginning of exposure to a reproductive life are presented; some assessments of the incidence of early marriage are included. Since childbearing only takes place inside marriage, the ever married population is also analysed.

The age difference between husband and wife is analysed because of its demographic role and because it is an indicator of gender relationships. Finally, an approximation to the potential determinants of the nuptiality pattern is made by using education as a proxy of the socio-economic levels in the population.

Polygamy has been briefly analysed in the Thematic Report on Gender. The SDES registers, in general, low percentages of women in polygamous marriages: below 5 percent of married women have a husband living with more than one wife in the household, while no such events were registered in two provinces (Daykundi and Parwan). Due to scarce number of observations and the need of further research regarding reliability of data, no in-depth analyses of polygamy have been carried out.

The beginning of exposure to reproductive life

The beginning of exposure to a reproductive life is here depicted: firstly, by using the singulate mean age at marriage (SMAM) a well known measure of nuptiality; and secondly, through the proportion of

19 Intensity in the study of nuptiality relates to the speed of the increase in the proportion of ever married population by age.

those married at very young ages. Table N1 shows SMAM for men and women and the corresponding differences between sexes. It is worth to remember that the estimation of SMAM assumes stable populations, i.e., without demographic changes, which is not the case in Afghanistan.[20] As nuptiality has been subject of social policies intending to delay the entrance at marriage, the age composition of marital status is changing, hence, these results are representative of the youngest generations.

TABLE N1

Singulate mean age at marriage by sex: Bamiyan, Daykundi, Ghor, Kabul, Kapisa and Parwan (2011–2014)

Marriage indicator	Province					
	Kabul	Parwan	Kapisa	Ghor	Daykundi	Bamiyan
a) SMAM for married plus engaged population						
Male	24.9	23.9	24.3	19.9	23.6	24.1
Female	21.9	21.2	21.8	16.7	20.7	20.6
Difference between sexes	3.0	2.7	2.5	3.2	3.0	3.6
b) SMAM for married population (excludes engaged population)						
Male	25.9	25.2	25.6	22.7	24.4	25.1
Female	22.6	22.2	22.6	18.7	21.3	21.2
Difference between sexes	3.3	3.0	3.0	4.0	3.1	3.8
c) SMAM difference between married plus engaged and just married (excluding engaged) populations						
Male	1.0	1.3	1.2	2.8	0.8	1.0
Female	0.7	1.0	0.7	1.9	0.7	0.7

Source: CSO Afghanistan, SDES 2011–2014

Among those never married nor engaged the female SMAM value varies from 20.6 to nearly 22 years. The province of Ghor is an outlier, with a female SMAM of 16.7. The male SMAM is around three years higher than the female in all provinces. The national SMAM, according to the AMS 2010, is 21.5 while neighbouring countries have slightly higher values.[21]

The SDES also provides information about those never married but engaged. This marital status needs to be considered as an analytical category distinct from the single population. While it demands no exposure to the risk of sexual intercourse – particularly among Afghan women – similar to the case of those never married nor engaged, it also means that engaged women have a quite high probability of ending up marrying. The high probability that the girl will be married is based on the tradition that if a woman and her family are honourable, an engagement will not be broken. Even if her fiancé has married another woman, an engaged woman is required to marry him (Smith 2009).

The relevance of the never married but engaged category is based on gender equity and girl's rights. It is still frequent that engagement involving children, particularly girls, precedes forced marriages (Smith,

20 The original idea, from Hajnal (1953), is based on the concept of number of years lived by a cohort or generation in the state of celibacy; when applied to cross-sectional data (referring to a population at a given date, as in this the case) we assume no changes in cohorts relative to the way they married.

21 Data from DHS surveys, for instance, indicate the following SMAM values: Egypt (2014): 22.6, Indonesia (2012): 22.1, Pakistan (2012–2013):23.3, Iraq (2006–2007): 23.5

2009) which, in turn, expose young women to unknown situations.[22] Even after the end of Taliban rule in Afghanistan, some traditional customs related to marriage remain, particularly in rural areas. "Parents in Afghanistan are likely to marry their daughters at young ages in order to secure their future" (www.unicef.org; access at 7-10-2015). Thus, it is common for young girls to be betrothed, while they wait to reach a suitable age to marry their future husbands. Although there are no reliable statistics, LANDINFO (2011) quoting UNAMA (2010), reports that "Occasionally, marriage agreements are negotiated for children as young as one year old."

While engaged, girls are considered neither married nor single, but they are classified as out of the marriage market. As far as fertility is concerned, the difference between single and engaged status is irrelevant; neither is associated with pregnancy exposure in the absence of sexual life which is supposed to start with marriage. However, from a gender perspective this is relevant. The engaged status in general is associated with family decisions made on behalf of young girls. The prevalence of this practice is a concern among decision makers. Therefore the study of this situation is relevant to policy decision-making, and for this reason a question about this status was included in the SDES.

For the female population, if the engaged are not included in the single population, i.e., considered outside the marriage market, the SMAM oscillates around age 21 in three provinces, and near 22 in Kabul and its neighbour Parwan. The exception is Ghor, where SMAM is below 17; since the SMAM is an average value, the situation in Ghor is rather disturbing. If only strictly married people are considered, the SMAM increases by around a year, again with the exception of Ghor, where actual entrance at marriage occurs two years later on average, indicating a significant prevalence of the practice of engagement.

In the case of men, when just the married status is considered, the SMAM increases to near 25 years of age, which means that age difference of entrance at marriage between sexes slightly increases – a difference of approximately three to four years – in these six provinces. These results are coherent, since it is expected that on average men marry older than women.

An overview of Table N1 reveals two patterns: one, with a very early entrance at marriage in Ghor, Daykundi and Bamiyan, with a mean age of 20 years or less for women, where the earliest age is in Ghor. The second pattern includes Kabul, Parwan and Kapisa, with a mean age at marriage just below 23; this latter group includes the capital city and have a higher level of urbanization, which is associated with older ages at marriage. If these six provinces are a representative sample of the Afghan population as a whole and answers are reliable, it might be said that Afghanistan has a nuptiality pattern with age of entrance into marriage similar to that found in the region as a whole, contrary to available literature, which suggests that the age at marriage is significantly earlier Afghanistan.[23]

As mentioned before, the SMAM is a useful measure in the presence of a stable population. This is not necessarily the case in Afghanistan, where marriage patterns have evolved during the 10 years preceding data collection for these six surveys.[24] The implementation of national policies promoting girls' school attendance are known to have had impact during this time, and initiatives aimed to abolish child marriages and early marriage were in place; the estimated SMAMs may be capturing some of the impact of these policy initiatives, which is why they are higher than expected. Misreporting of married young man and women is, notwithstanding, an issue to be considered in further analyses.

22 The detailed sociological implications of "engaged" status, is not the subject of this report, which is concerned with a data analysis of SDES, not the specifics of such arrangements. However, for the purposes of these analyses, and for policy decisions, the central issue relates to the human rights of young girls.

23 See, for instance, Afghanistan Independent Human Rights Commission Economic and Social Rights Report in Afghanistan-III (2008).

24 The UNAMA/ OHCHR report mentions the enacting of the Law on the Elimination of Violence against Women (EVAW law) in August 2009, that criminalizes, for the first time in Afghanistan, child marriage, and forced marriage among other actions to protect women. (UNAMA/OHCHR, 2011).

Early marriage

Early marriage – understood as any marriage carried out before the girl is physically and psychologically ready to shoulder the responsibilities of marriage and childbearing[25] – is, above all, a human rights violation.[26] This phenomenon is known to be a reality for many young women in Afghanistan. A number of publications mention the prevalence of child/early marriage as an issue of high concern, reckoning that roughly half of females in Afghanistan marry before their 16th birthday.[27] The UNFPA website states: "Although getting reliable data is difficult, the most recent surveys estimate some 46 percent of Afghani women are married by age 18, 15 percent of them before age 15."[28]

Table N2 shows the proportion of currently married women, as well as the proportion of women who are engaged plus those who ever married (EEM). It also shows, for comparative purposes, the proportion of EEM for boys. Currently married status is strongly associated to the probability of becoming pregnant; in the EEM group those engaged are not exposed to pregnancy, but the category is relevant from a gender perspective, because the girl (or boy) have already commitment to another person. Table N2 also shows the sex ratio, indicating how many girls are in this category relatively to the number of boys. The actual number of persons (N) for whom this information is available in the SDES is also presented, to illustrate the number of observations these indicators are based on. It must be stated that no children whatever the sex should be married or engaged by the age of 15.[29] Although five out of the six SDES surveys indicate that marriage before puberty does exist, it does not appear to be a frequent practice, except in Ghor.

The proportion of currently married girls at age 15 is below 4 percent in all cases, with the exception of Ghor, where 17 percent of girls have married before age 15. If the data is reliable, when compared with standard models of age nuptiality patterns (Coale and Trussell, 1974), early female marriage is statistically significant at ages 12–14 in Daykundi and Bamiyan and slightly before age 15 in Parwan and Kapisa. In the particular case of Ghor, again when compared with standard nuptiality schedules, the number of currently married girls is statistically significant before age 12; that is before puberty, which reveals the presence of child marriage. Related to the engaged and ever married status (EEM), in all cases, the proportion of EEM women is higher than the currently married, but never reaches a two-digit value (but in Ghor). In Ghor the group EEM represents one third of all girls around age 15. Comparing the proportions of EEM by sex, in four provinces the frequency of EEM girls is threefold that of boys. The extreme situation occurs in Kapisa, likely this may be due to age misreporting among very young women, or misleading answers.

Marriage before age 18 is considered early marriage. As observed in the previous age groups, early marriage does happen, but the prevalence is below or near the two-digit benchmark. Again, the only exception is Ghor, where the proportion of currently married girls at ages 16–17 is near 40 percent and those EEM girls are more than half of the total girls at these ages. The analysis of sex ratios, as in the previous age group, reveals that this condition affects girls more severely than boys. The engagement or even formal wedding of girls may very often be a way to strength family status or even a strategy to escape from poverty (WCLRF, 2008).[30] It is also known that parents in Afghanistan are likely to marry their daughters at young ages in order to secure their future.[31]

Marriage at ages 18 or older shows proportions of EEM which are much higher than at earliest ages. At age 18–19, this proportion is about between 20-30 percent among women. The exception, again, is Ghor with the largest proportion: 75.9 percent of all women (see panel (c)). EEM young men are

25 An early marriage is any marriage below the age of 18. Child marriage is any marriage before puberty (12 years old) (UNFPA, 2012).

26 UNICEF: http://data.unicef.org/child-protection/child-marriage. Accessed 11 July 2015 15:58:24

27 See for instance: Afghanistan Independent Human Rights Commission Economic and Social Rights Report in Afghanistan-III (2008); APHI/MoPH (2011); UNFPA (2012b).

28 UNFPA: http://www.unfpa.org/news/escaping-child-marriage-afghanistan, and http://www.unfpa.org/news/escaping-child-marriage-afghanistan#sthash.Kvsn9WM3.dpuf. Accessed 10 July 2015.

29 Information about marital status among the population below 15 years of age was disregarded due to the small number of cases and different procedures relating data collection and processing among the six surveys.

30 Girls Not Brides: http://www.girlsnotbrides.org. Accessed 7 September 2015.

31 UNICEF: http://www.unicef.org; access at 7 September 2015.

still few, representing around 10 percent (but above 40 percent in Ghor). Again in this age group the prevalence is far higher for females: two to three young females are EEM for every male.

TABLE N2

Table N2. Percentage of women and men currently married and ever engaged or married (EEM)*, sex ratios, total population by sex, for selected young-age groups, for the provinces of Kabul, Bamiyan, Daykundi, Ghor, Kapisa and Parwan (2011-2014)

Province	Currently Married women (Percent)	EEM by sex (Per cent)		Sex Ratio of EEM**	Total registered population - in thousands (Absolute)	
		Women	**Men**		**Men**	**Women**
a) Age: 15**						
Kabul	1.1	3.2	1.0	3.2	166.7	163.4
Bamiyan	3.8	7.5	2.3	3.1	15.9	15.3
Daykundi	3.3	6.3	1.9	3.1	27.7	26.0
Ghor	16.9	37.3	16.1	2.1	32.0	28.9
Kapisa	0.9	4.0	0.8	5.2	12.4	13.2
Parwan	0.8	4.7	1.4	3.2	27.5	27.1
b) Ages 16 to 17						
Kabul	4.2	8.0	1.8	4.1	105.8	100.4
Bamiyan	8.9	14.0	3.0	4.2	9.0	8.2
Daykundi	10.6	15.3	3.7	3.9	14.8	14.0
Ghor	38.5	56.1	22.2	2.7	16.0	16.9
Kapisa	3.5	9.1	1.9	5.1	7.9	8.3
Parwan	3.7	10.5	2.6	4.0	16.5	16.2
c) Ages 18 to 19						
Kabul	20.3	26.6	6.5	3.6	122.9	107.2
Bamiyan	20.5	31.8	9.1	3.2	18.8	17.4
Daykundi	20.4	28.8	6.5	4.4	9.0	8.9
Ghor	64.0	75.9	42.7	1.9	20.9	22.7
Kapisa	31.5	38.1	11.9	2.9	16.8	15.0
Parwan	27.1	34.3	9.5	3.3	10.0	9.1
b) Ages 20 to 24						
Kabul	55.5	61.3	30.5	1.8	222.2	200.9
Bamiyan	58.0	66.4	37.4	1.6	35.7	31.8
Daykundi	55.4	61.4	31.7	1.8	17.5	15.9
Ghor	83.2	90.5	73.3	1.1	40.5	37.4
Kapisa	63.2	70.5	42.6	1.5	25.6	22.9
Parwan	65.3	71.8	37.6	1.7	17.0	15.4

***** Number of girls engaged plus ever married at the corresponding ages, divided by the number of boys engaged plus ever married at the same ages. It is the inverse of a traditional sex ratio, but it is used in this way because it expresses the sex imbalance more clearly regarding this issue.

****** Uses age groups 14, 15 and 16 to avoid fluctuations of small numbers among ever married population.

Source: SDES- 2011-2014, UNFPA-Afghanistan and CSO of Afghanistan (Micro data)

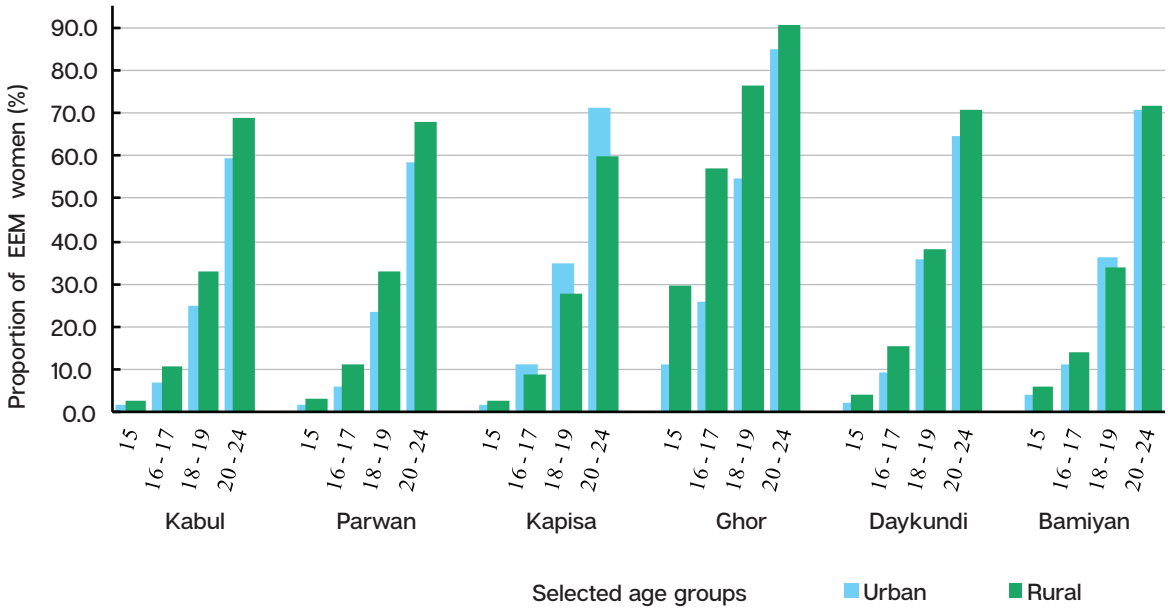
The proportion of EEM at age group 20–24 increases notably and in most cases represents around two-thirds of all women. In Ghor most females are EEM before reaching age 25. Males represent about a third and the sex ratio indicates the start of an equilibrium trend, where the number of men and women ever married are about the same.

It is well known that marriage is strongly associated with certain patterns of the socio-cultural contexts; populations with more traditional values in general have nearly universal marriage. It is important to assess the prevalence of early marriage according to a proxy of differentials in life conditions and/or secularism. The proxy we consider here is residence in either urban or rural areas. The urban population, in general, has better life conditions (higher education and income) than the rural, and tends to be more exposed to innovations and foreign ideas typical of secularism.[32] [33]

Figure N1 shows significant differences among urban/rural proportions.[34] While for the total population the proportion EEM was well below 10 percent in the age group 16–17, in rural areas the proportion is above this percentage. The presence of early marriage in the rural areas of Ghor reaches disturbing levels: about 30 percent of girls below 15 are ever married or engaged, and around 40 percent are ever married before the age of 18, and 17 percent are already engaged. This proportion explains the sort of news and pictures spread by the media (Appendix 2) and by international aid agencies. At ages 20–24, the proportions of EEM in urban and rural areas are similar, although the lower values correspond regularly to the former. Furthermore, in Bamiyan there is no difference in practice, and Kapisa has a higher proportion of EEM in urban areas.

FIGURE N1

Proportion (percent) of engaged and ever married (EEM) females at selected ages: Bamiyan, Daykundi, Ghor, Kabul, Kapisa and Parwan (2011–2014)



Source: CSO Afghanistan, SDES 2011–2014

32 Attitudinal dimensions on modernization that are usually a better proxy for secularism were not collected in SDES.

33 The association between secularism and marital status is widely discussed in the literature. Beresford (2011), in a research that includes Muslim populations provides a number of related studies.

34 Considering that urban population represents about 10 percent of the total population, with the exception of Kabul, it is worth remembering that figures may be affected by random fluctuations.

To summarize, with the exception of Ghor, the SDES data reveals that proportions of young married women are well below the very high levels frequently referred to in the literature for previous decades. The SDES registers a relatively low prevalence of early marriage, and shows indirect evidence of child marriage only in Ghor. Indeed, according to SDES data, early marriage proportions are far from reaching 20 or 30 percent, again with the exception of Ghor. In any case, entrance at marriage accelerates immediately after the girl passes the age at which marriage is a fundamental violation of human rights. EEM proportions appears to increase tenfold or more between ages 16–17 and 18–19 as shown in panel (b) and (c) of Table N2. The huge increase implies that either society waits for girls to reach legal age to marriage or some of the data – given the sensitivity of the issue – is unreliable, overstating age at marriage.

Exploring the SDES nuptiality data in relation to Coale-Trussell nuptiality patterns, there is evidence that the experience reflected in the reports of cohorts above 25 years of age differ from that of younger cohorts. Patterns for ages older than 25 reflect ages at the start of nuptiality lower than those associated with the reports of the younger cohorts. Most probably this is evidence of recent positive change toward later marriage, but could also relate to age misreporting. Further analyses are needed to better understand this issue. However, at this stage the authors trust the evidence that young people are marrying at later ages. Differences by urban-rural residence are unclear. Whether modern attitudes (or secularism) are influencing marital status calls for further research. Future research should include, on the one hand, whether social changes are operating in Afghan society by collecting data to measure its association with changes in marital status. On the other hand, data validation/ evaluation is needed regarding the age at marriage for boys and girls, as well as on the prevalence of child and early marriages among older cohorts or generations.

Marital status and the ever married age pattern

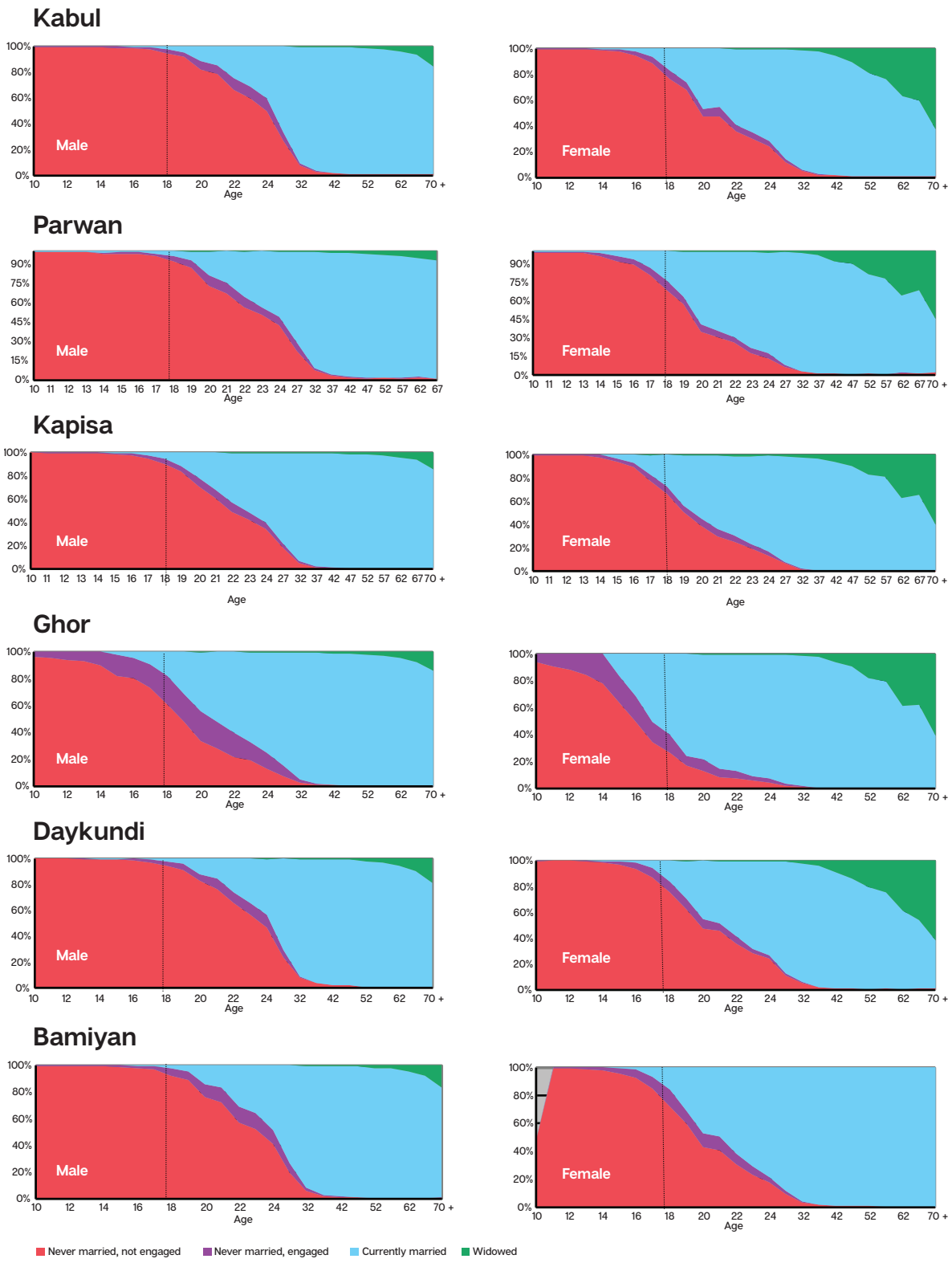
To establish the overall situation of the marital status in these provinces, this section incorporates, first, an overview of the total marital composition, and then explores the patterns of the ever married population, with an emphasis on the currently married population. The marital composition of the population in the six provinces is shown in Figure N2, by age, for males and females.

The single and currently married nuptiality statuses are the most prevalent in the population. The single population covers a higher proportion of men than of women, mainly at ages higher than 18, which highlights the practice of men marrying older than women. The single status is virtually non-existent shortly after age 30. The highest proportion of non-married but engaged population occurs in Ghor where the engaged status is significantly prevalent well before age 14 for both males and females.

At the age of 70 and over, female widowhood (around 60 percent) is significantly higher than male widowhood (less than 20 percent). The ratio of widowers to widows is about 4.0, which is high compared to selected countries from other continents and/or countries at a higher level of development, where this ratio is usually below 3. However, the ratio in Iran (above 5) is even higher than in these six provinces, which may indicate a pattern of relatively high female mortality in the region, or a cultural feature where widows do not remarry (see Table A3 in Annex).

FIGURE N2

Marital status by age and sex (percent): Bamiyan, Daykundi, Ghor, Kabul, Kapisa and Parwan (2011-2014)

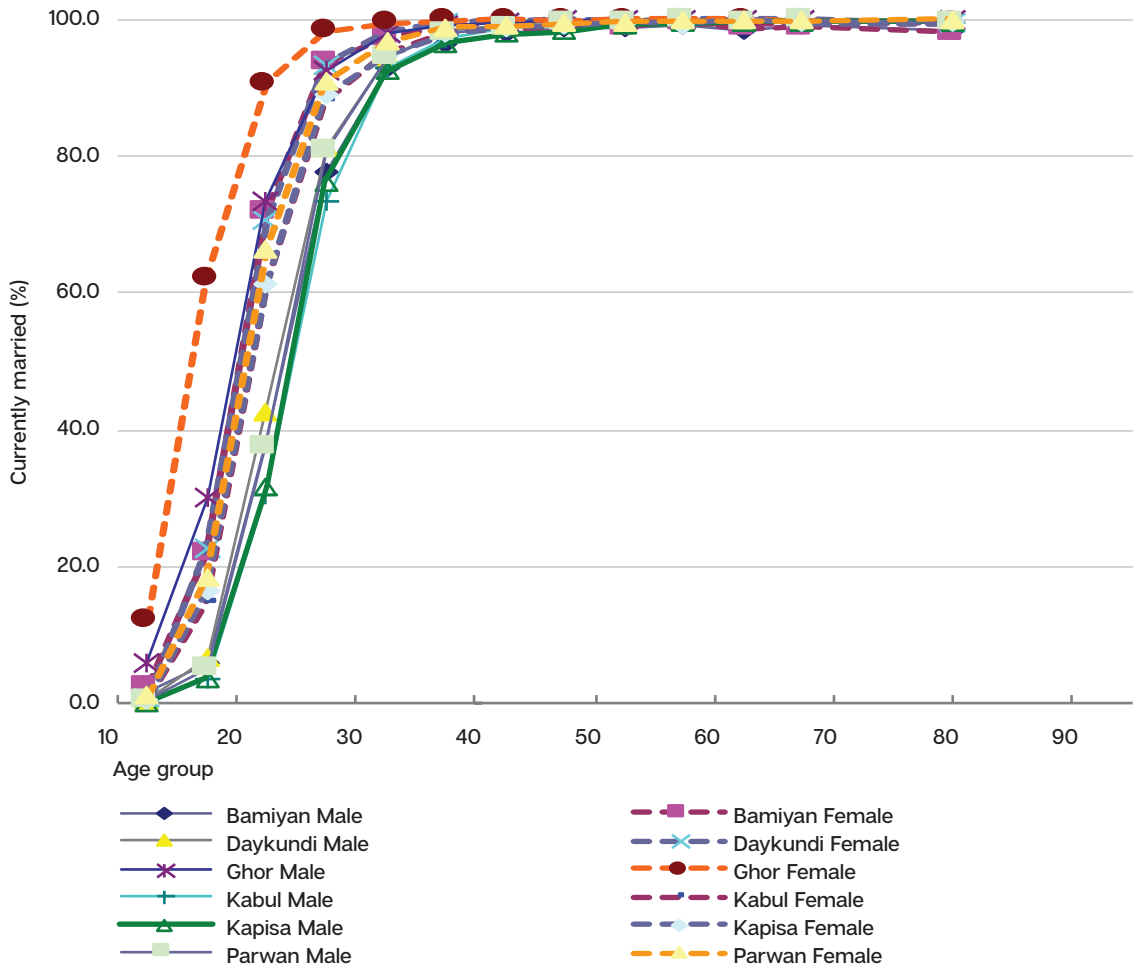


Source: CSO Afghanistan, SDES 2011–2014

Figure N3 presents an integrated picture of the marital status through the evolution of the ever married proportion by sex and age. Setting aside the youngest age groups, which show lower proportions of EEM than earlier studies indicate; and assuming also that no changes in the nuptiality patterns have occurred among women 25 or older. Under these assumptions the proportion of EEM, presented in Figure N3, represents the cohort behaviour by age and sex for the six provinces; dot lines are always for women. The values in Figure N3 indicate that the entrance at marriage occurs during a rather brief age span: proportions are virtually 100 percent by age 30, which indicates that marriage is almost universal for men and women. Men's entrance at marriage is delayed relative to women.[35]

FIGURE N3

Proportion of engaged and ever married by age and sex (percent): Bamiyan, Daykundi, Ghor, Kabul, Kapisa and Parwan (2011-2014)



(*) At ages 60 or more, proportions are estimated as the average of three age groups.

Source: CSO Afghanistan, SDES 2011–2014

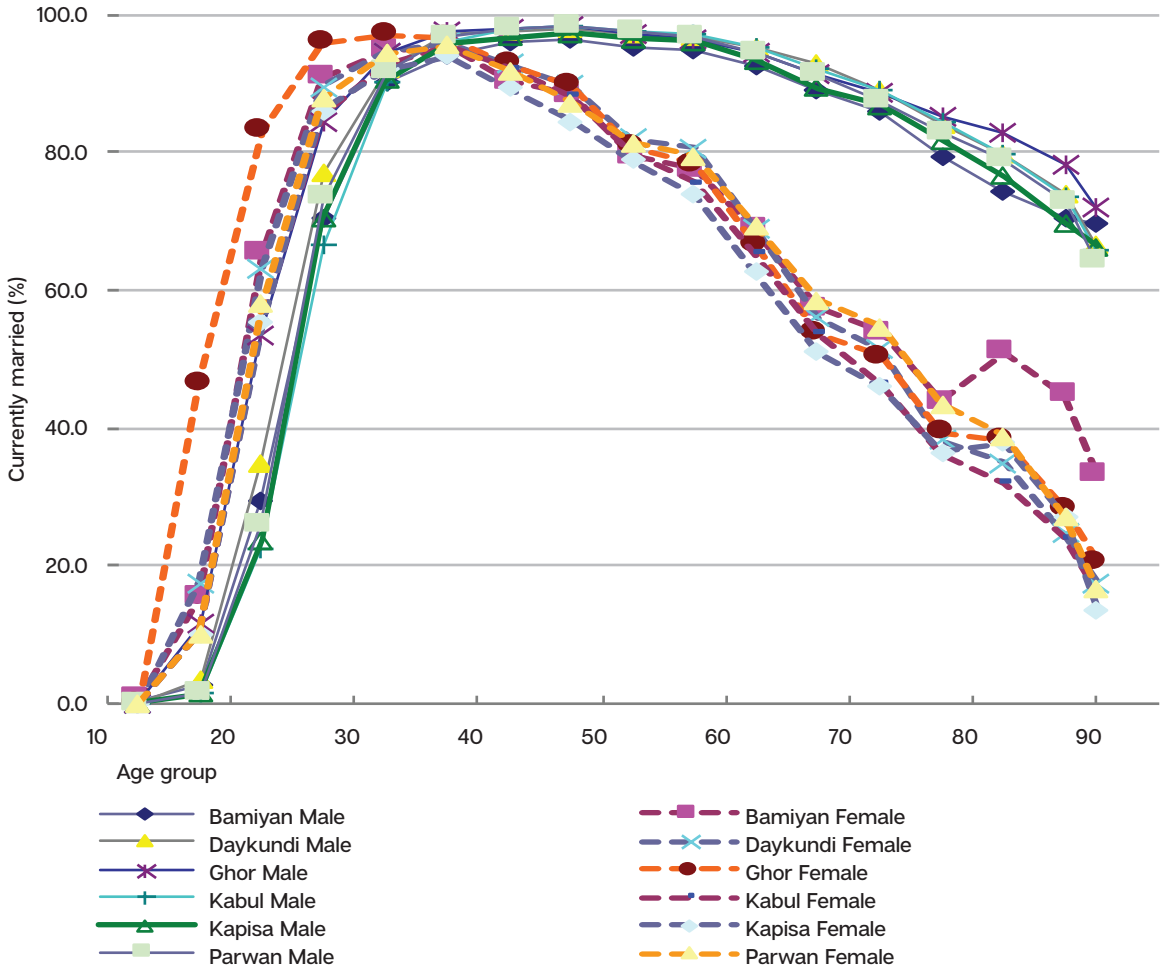
As fertility is only associated with currently married couples, it is important to consider the evolution of the currently married status, which is portrayed in Figure N4, showing the evolution of the currently

35 A more detailed study of age at marriage of women from older generations will consider inferences of when women in cohorts 25–29 and 30–34 entered into marriage by using Coale and Trussell models; a first estimate was obtained, which indicates that child and early marriages were prevalent in these cohorts.

married group by age and sex. As Figure N3 showed, these proportions increase very quickly as age increases. However, different from the case of the EEM category, the proportion of those currently married reaches the highest point at ages 35–39; in Ghor currently married women reach their peak at ages 30–35. Then some women start to leave the married status, thereby this proportion declines with age. Among men the decline is slower and at later ages. A faster decrease is observed at advanced ages; despite inconsistent variations, the proportion of currently married women reaches values of 20 percent or less (see Figure N4).

FIGURE N4

Proportions of currently married by age and sex (percent): Bamiyan, Daykundi, Ghor, Kabul, Kapisa and Parwan (2011-2014)



(*) At ages 60 or more, proportions are estimated as the average of three age groups.

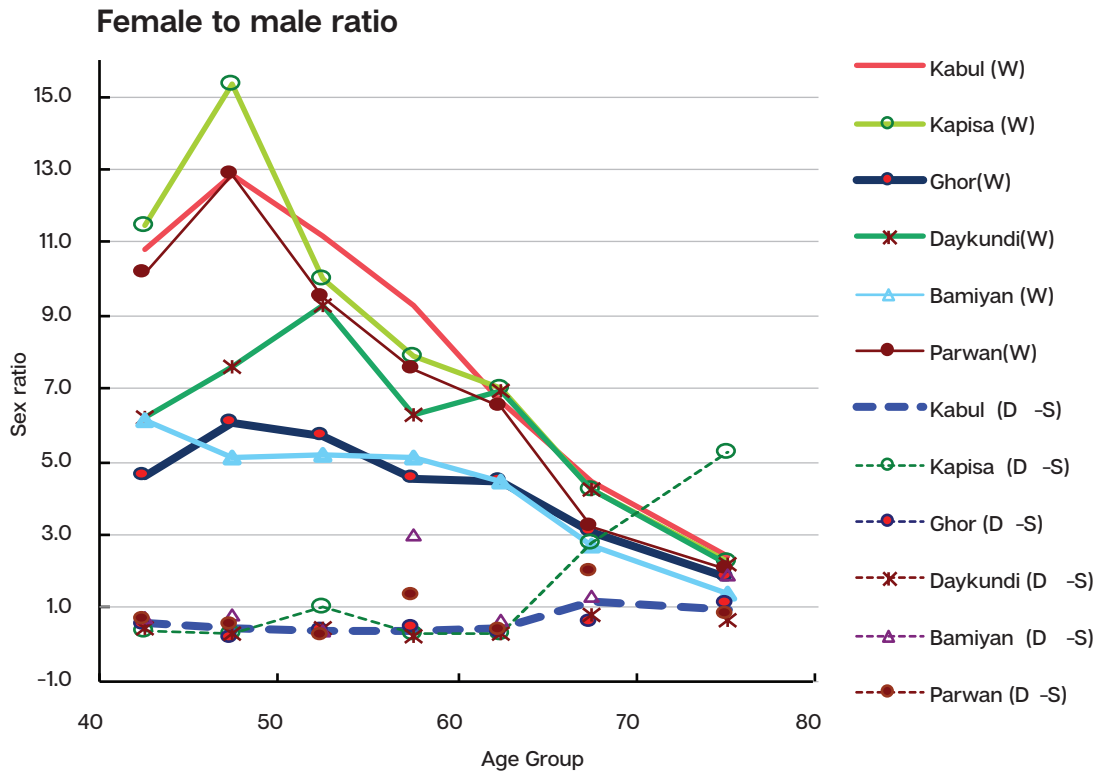
Source: CSO Afghanistan, SDES 2011–2014

Most of the elderly population are predominantly in the widowhood status without much difference by sex. At younger ages widowhood status differs by sex. Among the population aged 40 or above, around 95 percent of women who are out of marriage are widows. The equivalent proportions for widowers are about 92–93 percent. The sex ratio, is, however, suggestive of a very specific context. Figure N5 presents sex ratios for both widowed and divorced/ separated population for ages 40 or more.[36] Continued/ straight lines always refer to widowhood; dotted lines correspond to the divorced/ separated category.

36 The ratio of widows to widowers by age. Idem for the separated/divorced population by sex.

FIGURE N5

Female to male widowhood and divorced/ separated ratios: Bamiyan, Daykundi, Ghor, Kabul, Kapisa and Parwan (2011-2014)



Source: CSO Afghanistan, SDES 2011–2014

A ratio above 1 means there are more women than men, and Figure N5 indicates a very high ratio already before the end of the reproductive period. It then tends to decrease with age. By age 40 in all provinces there are more than five widows for every widower. The set of curves suggest three types of shapes: firstly, an extreme situation corresponding to Kabul, Kapisa and Parwan (the last two are Kabul's neighbours): there are more than 10 widows for every widower below age 50. Secondly, at an intermediary position is Daykundi and finally, the lowest widowhood sex ratio corresponds to Ghor and Bamiyan.

In general, this sex ratio among the elderly presents a strong association with the mortality level: the lower the life expectancy, the more balanced the sex ratio. One common explanation may be that at very low life expectancy levels, certain causes of death – predominantly exogenous – like famine, drought, flooding affect elderly men and women equally, levelling off mortality differentials, which then become apparent in the sex ratio. At relatively younger ages, another factor that would tend to reduce the number of men relative to women in the status of widowhood is more frequent remarriage among widowers than among widows (thus reducing proportionally the number of men who remain in widowhood status). Thus, if anything, the different values from the sex ratio for widowhood may indicate different mortality levels (or distribution of deaths by causes) in these six provinces as well as differences in the remarriage rates by sex among the population in widowhood.

Lastly, the sex ratio among the separated/divorced population (dotted lines) is most often less than one, indicating fewer women than men in this category. With the information available at this stage it is not possible to discern whether this may be due to misreporting (some women may not be reported as divorced when they are) or to a higher remarriage rate among divorced women than men, which

is unlikely. Apart from Kapisa and some individual values from other provinces, which are probably associated with random variations due to small numbers, the ratio is less than one, so separated/ divorced women are most frequently fewer than men.

The sex ratio trends presented here are symptomatic of significant gender inequality in these categories.

Age difference among spouses

As has been seen, the mean age at marriage indicates that men, on average, marry at older ages than their fiancée/ spouse. This age differential is very important from a demographic perspective as well as from a gender equity point of view. Hence, a more detailed analysis of the age difference among partners is presented in this section. From the demographic point of view this age difference matters because it affects the time span of exposure to reproduction. On the one hand, this is related to the risk of marriage disruption due to widowhood: the older the man, the higher the risk of women to become widows.[37] Since maternity takes place only inside marriage, the fertility level is affected if a woman is widowed before the end of her reproductive life. On the other, it is recognized that marked age differences – the man older than the woman – is an indicator of unequal gender relationships, mainly in traditional societies.[38] Age differences within couples are plotted in Figure N6.

Three spousal age difference groups, related to women's age, are considered:

- Negative difference (the woman older than the man): this age difference is not a usual practice in traditional societies where men are supposed to be the sole breadwinners and the household head and women have secondary social roles; the common pattern is for men to have younger partners unless other specific social rules apply.

- 0.0–5.0 difference: couples with a "reasonable social balanced" age difference among partners, i.e. up to 5 years older than her; for the reasons mentioned earlier and also due to a natural tendency in marriages, this range would be the most common in Afghan settings.

- 6.0 or more difference: couples where a wide age gap exists, with the husband much older than his wife, which may be an indicator of an unbalanced gender relationship.

The age difference pattern that emerges is similar in the six provinces, with a few specific differences in Ghor (see Figure N6).

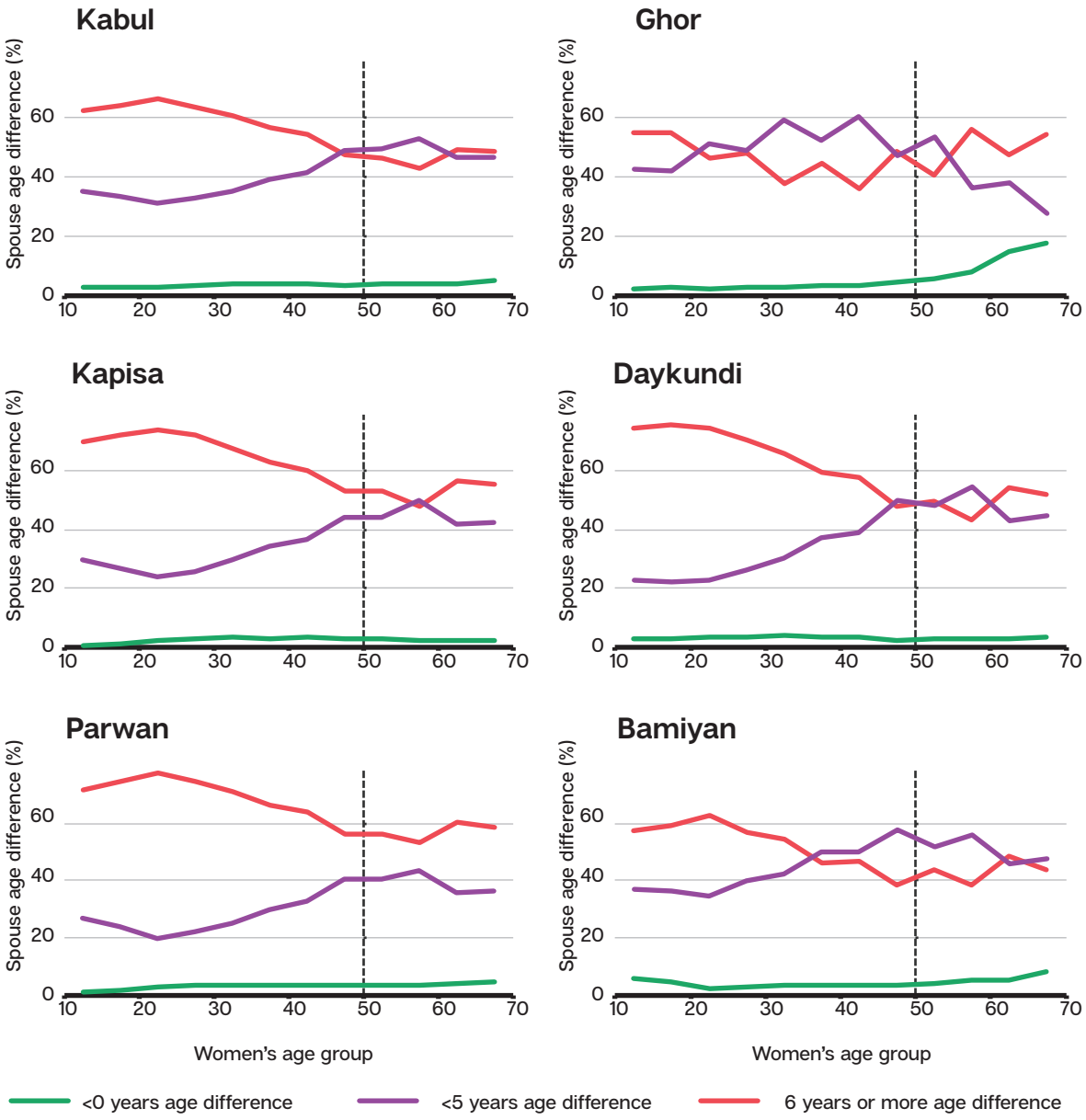
Firstly, at any given women's age, the proportion married to younger men is always below 5 percent, at least up to age 50. After age 50 the proportion seems to signal an increasing trend, which is most evident in Ghor, but is also clear in Bamiyan. Whether the upward trend after age 50 in these provinces indicates remarriage of older widows with relatives of the deceased mate is a matter of further research; these two provinces are more rural and traditional, contexts where such practices are associated with elder women's autonomy and welfare (Smith, 2009). The prevailing patterns of large age differentials which appear in the profiles presented in Figure N6 may also have some association with polygamy, though in the SDES data polygamy does not show a high prevalence. In any case, those profiles suggest an association with unequal gender relationships, which also calls for further research.

37 Mortality risks by age are expected to be always higher for men than for women.

38 This issue is further developed in the Thematic Report on Gender.

FIGURE N6

Age difference among spouses by women's age*: Bamiyan, Daykundi, Ghor, Kabul, Kapisa and Parwan (2011-2014)



* Calculated as the move average of three adjacent age groups to avoid oscillations

Source: CSO Afghanistan, SDES 2011–2014

It is important to note that at younger ages the most frequent situation is that of a "reasonable balanced" age difference (0–5 years) between partners. At older women's ages this proportion tends to decline, a probable result of couples dissolving due to higher male mortality levels than female. This hypothesis finds support when we consider the case of Ghor where the mortality level is highest among the six provinces (see Thematic Report on Mortality). Despite some fluctuations in these proportions, an increasing trend by age is noted, most likely associated with couples dissolving faster when women were married to the oldest men who then died.

At the same time, the proportion of couples where the husband is six or more years older, which is less frequent among young women, becomes more prevalent among older women. This pattern is clearer up to age 50, after which some random oscillations in the proportions in this category are observed. After approximately age 60, the proportion of women whose partner is six or more years older tends to decrease, probably due to the widowhood effect.

The patterns described in this section indicate certain changes in nuptiality are occurring. Married women in younger age groups at the time of the survey present a higher probability of holding a "reasonable balanced" age difference with their partners. This is not the case for women currently aged 40 or more. In almost 50 percent of these cases, they had married a man six or more years older. Most probably these women married before they were 20 or 25 years old (see figures N3 and N4); this means they were married about two decades before the survey date. From the patterns of the proportions by age for this category and those in the other categories, it is possible to infer that the practice of marriages with age differences of six or more years between spouses is less common nowadays. The demographic impact of this change may be very important and will need to be properly assessed.

Although not presented here due to the low numbers, the SDES captured information on married girl children whose husbands were more than five or even ten years older than them.

The engaged and unmarried population is not included in this analysis since no data is available. Whether an engaged girl child has a high probability of getting married to her fiancé, it is important to gather further data to assess the prevalence of this practice, the age differences and the social and demographic impacts of this practice.

Socio-economic differentials in the nuptiality age pattern: The role of female education

The previous sections showed that marriage is virtually universal as early as 30 or 35. Lifestyle – associated with rural or urban areas of residence – has little impact on age patterns of marriage. This section explores the evidence for an association between nuptiality and education in the six provinces.

Figure N7 shows the proportion of ever married by sex and three educational levels: no education, 1–6 years of education, and seven or more years of education. In all provinces, women enter into marriage at younger ages than men; this is true whatever the educational level. On the other hand, more educated young men and women have the lowest proportions of ever married, at the same ages and in all provinces.

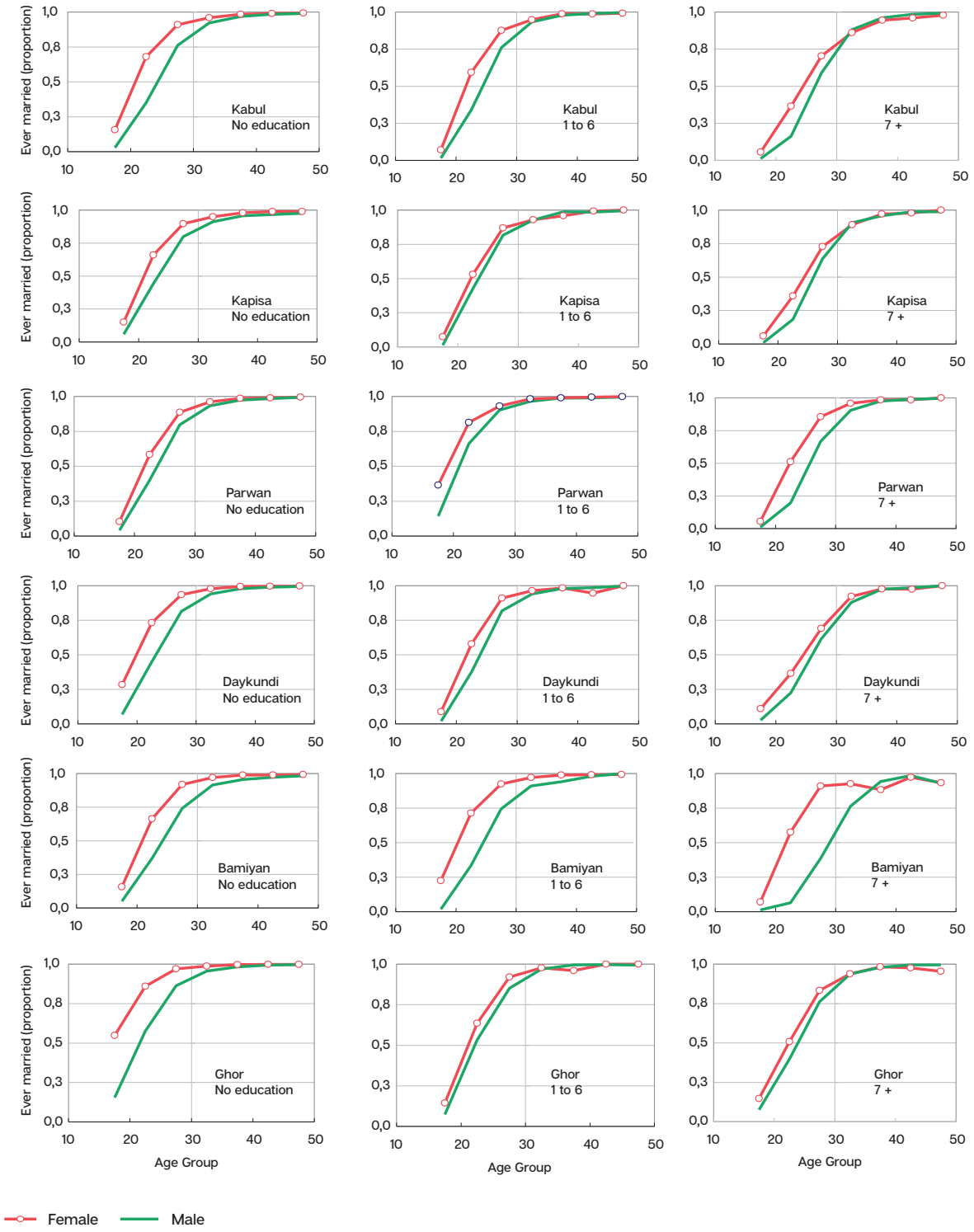
Table N3 measures the influence of education on nuptiality patterns for two age groups: 20–24, when most of the population is no longer in the educational system, and 30–34, when entrance into marriage is almost finished and factors such as widowhood or separation that may affect declaration are not yet significant.

The proportion of ever married among young people (aged 20–24) with 1–6 years of education decreases in all provinces compared to those without schooling. The impact of access to education is more accentuated among young women (first column in Table N3). The lowest proportion is noted in Kabul, where marriage among very young women is less frequent relative to other provinces, where the proportion of ever married decreases by more than 20 percent among women with some schooling. This is strong evidence of association between delaying marriage and education among women.

The impact of education on boys' entrance to marriage is also present, although less accentuated. There are minor differences according to educational level in Kabul and neighbouring provinces Parwan and Kapisa, where boys' early entrance at marriage is not more the norm.

FIGURE N7

Proportion of ever married population by sex and age according to educational attainment: Ghor, Daykundi, Bamiyan, Kabul, Kapisa and Parwan (2011-2014)



Source: CSO Afghanistan, SDES 2011–2014

TABLE N3

No schooling and 1–6 years of education and no schooling by sex, in age groups 20–24 and 35–39*: Kabul, Ghor, Daykundi, Bamiyan, Kapisa and Parwan (2011-2014)

Provinces	Age group 20-24		Age group 35-39	
	Female	Male	Female	Male
Kabul	-12,7	-2,8	-1,2	1,2
Bamiyan	-9,5	-8,8	-6,2	-0,6
Daykundi	-20,9	-16,5	-1,3	0,1
Ghor	-26,1	-7,5	-1,1	1,5
Kapisa	-35,2	-3,3	-2,4	1,7
Parwan	-25,2	-8,8	-2,2	-0,3

(*) Estimated as: [(Proportion of ever married Population with 1-6 years of Education Proportion)-(Proportion of Ever married Population with no-schooling)] / (Proportion of Ever married Population with no-schooling) *100

Source: CSO Afghanistan, SDES 2011–2014

The impact of education at older ages is less evident mainly because marriage is still highly valued in Afghan society. It is important, however, to consider a peculiar reverse noted for the male population: in most cases, the variation is positive. Although the variation is relatively small, it means that the proportion of married men increases with education level. Given the social context, where the man is the exclusive breadwinner, this may indicate that more educated men – meaning in better socio-economic positions – can better afford to get married, which translates to higher proportions of ever married men when they achieve, at least, basic education.

In short, there are differences in the age pattern of marriage by educational levels. Educational achievements are clearly associated with lower proportions of married population at young ages – particularly girls. As improvement in school attendance is still ongoing, it may be expected that universal inclusion in the educational system will contribute to delaying entrance into marriage at early ages – particularly among women. The impact of education is less evident among the adult population. Yet without disregarding the possibility of faulty data quality or random variations due to the small proportion of the population with some schooling, patterns among men suggest the possibility that those with the highest education may intensify the marriage process more than those with lower levels of schooling. Data not shown here presented a similar pattern when the category seven or more years of education in the older population is considered.

6

Nuptiality

Discussion of results and policy implications

The main results of the nuptiality analysis confirm that marriage is universal in the six provinces covered by the SDES. It is also a very fast process: in a relative short period of time since the onset of nuptiality, almost 100 percent of women and men have married; in the case of women it starts earlier and proportion of married increases by age more quickly.

The widespread perception that Afghan women enter into marriage at very early ages has been confirmed only in Ghor. Whilst it is said that most girls are married before age 18, according to this data, this is not the case for the younger generation in five of the six surveyed provinces. Although a significant number of girls are already engaged or married by age 18, they are still a third or less of all women aged 18–19, except in Ghor where this proportion is 76 percent for girls and 43 percent for boys.

The proportion of ever married women at age 20 or older increases very quickly with age. Almost 100 percent are married by age 30, which confirms that among older cohorts marriage occurred at very early ages. Another evidence of positive change is that the prevalence of a wide age difference within couples (the husband older than the wife) is decreasing in the younger generation. Among young couples, age differences of less than six years are most common. This may herald positive changes in gender relationships.

At older ages, most of those outside marriage are widowed, and most of these are women. A by-product of considering the sex composition of widowhood status is that it may reflect differences in the mortality level among provinces and by sex; hence, these results can supplement mortality research.

Nuptiality indicators suggest that important changes are operating in Afghan society. Policies for delaying early marriages seem to have produced results; the expansion of the educational system to include girls surely has also had an important role and may continue to do so. Improvement in living conditions and women's empowerment should take off if universal education is achieved.

In a context of socio-economic hardship – prevalent in most Afghan provinces – the data suggests that marriage and parenthood are more accessible to those who can afford them. This may explain why the proportion of ever married men is highest among those with higher educational attainment. These are results in provinces where marriage carries high social value and development is limited; the most educated and those who are better off are usually meant to be emulated.

This may pose paradoxes on the possible effects of inclusion programmes, aimed to raise the standard of living. Would better life standards increase the entrance to marriage with consequent effects on fertility? As was seen, fertility is very high among married women. Would this effect worsen the already precarious situation of women's reproductive health? By no means should the consideration of these hypotheses be perceived as casting doubt on the need to urgently increase social investments in education, health and other social programmes. These investments are paramount, and decision makers should ensure that upgrades in social development translate into real life improvements for each female and male citizen. Indeed, these reflections are meant to highlight the need to adopt culturally sensitive approaches in the design of policies and programmes. In particular, culturally sensitive approaches are necessary to adequately address traditional values surrounding marriage and motherhood/ parenthood, and thus to bring about positive change.

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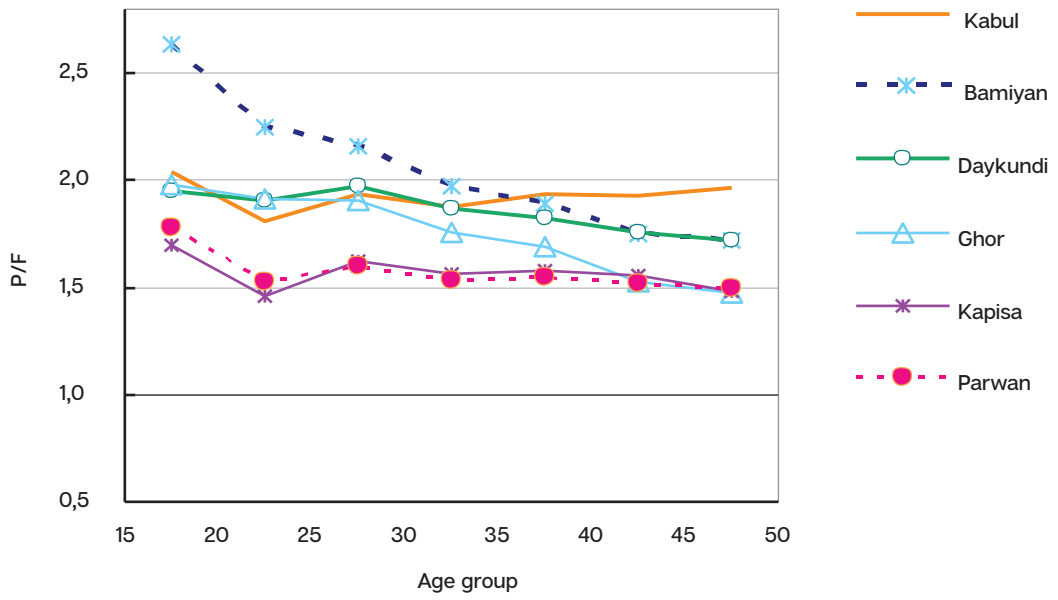
Annex

FIGURE A1

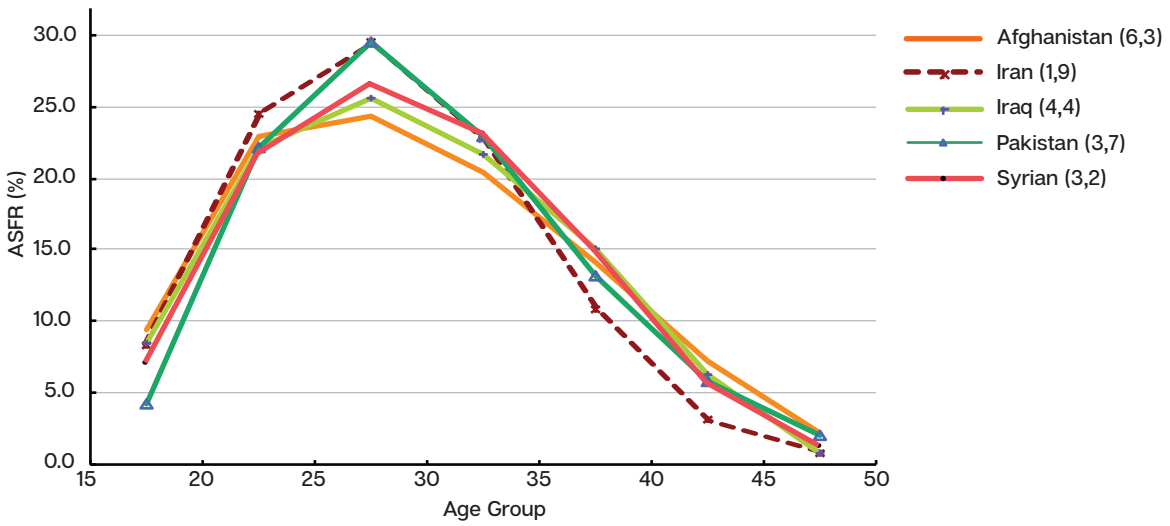
P/F SERIES BY AGE: BAMIYAN, DAYKUNDI, GHOR, KABUL, KAPISA AND PARWAN (2011-2014)



Source: CSO Afghanistan, SDES 2011–2014

FIGURE A2

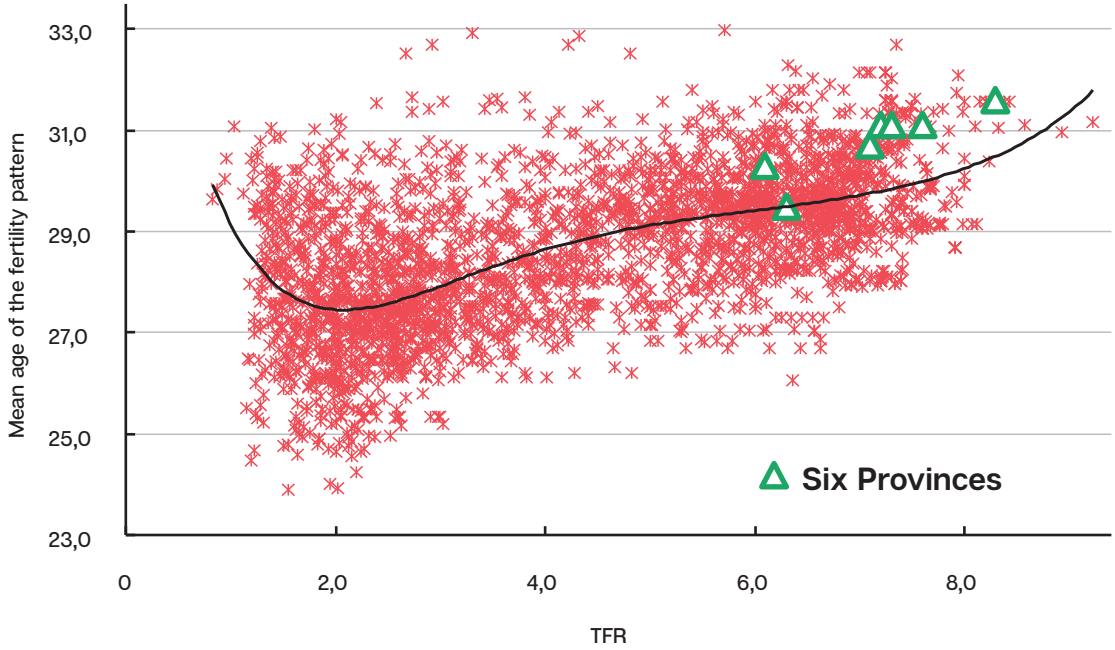
TOTAL FERTILITY RATE (TFR) AND RELATIVE DISTRIBUTION OF THE AGE SPECIFIC FERTILITY RATES (PERCENT): SELECTED MIDDLE EASTERN AND CENTRAL ASIAN COUNTRIES (2015-2010)



Source: United Nations, Department of Economic and Social Affairs, Population Division (2015). *World Population Prospects: The 2015 Revision*, DVD Edition.

FIGURE A3

TOTAL FERTILITY RATES AND MEAN AGE OF FERTILITY*: BAMIYAN, DAYKUNDI, GHOR, KABUL, KAPISA AND PARWAN (2011-2014) AND WORLD NATIONAL POPULATIONS



(*) The black solid line is the adjusted trend

Source: CSO Afghanistan, SDES 2011–2014 and UN DESA, Population Division (2015). *World Population Prospects: The 2015 Revision*, DVD Edition.

TABLE A1

TOTAL FERTILITY RATE (TFR) ACCORDING TO PLACE OR RESIDENCE AND WOMEN'S YEARS OF EDUCATION: BAMIYAN, DAYKUNDI, GHOR, KABUL, KAPISA AND PARWAN (2011–2014)

Place or residence and years women of education		Province					
		Kabul	Parwan	Kapisa	Ghor	Daykundi	Bamiyan
Place of Residence	a. Urban	6.0	6.1	7.1	8.0	7.1	7.4
	b. Rural	6.9	7.0	7.2	7.2	8.8	8.2
Years of education	c. No Education	6.8	7.2	7.6	7.4	9.2	8.4
	d. 1 to 6 years	6.6	7.5	7.0	5.3	8.8	7.3
	e. 7 or more	4.6	5.0	5.1	7.4	7.4	5.2
	f. At least 1	-	5.8	-	6.5	-	-
Adjustment factor		1.88	1.56	1.54	1.91	1.94	2.20
Differences (percent) between extreme values into:							
Place of residence		12.7	12.1	2.3	-10.7	19.5	9.5
Years of education**		49.7	43.7	48.8	-0.1	23.4	60.5

* It refers to the same adjustment factors estimated for the total population
** Estimated between categories (c) and (e).
Source: CSO Afghanistan, SDES 2011–2014

TABLE A2

RELATIVE DISTRIBUTION OF THE ASFR (PERCENT) AND FOR SPECIFIC AGE GROUPS AND MEAN AGE OF THE FERTILITY DISTRIBUTION (IN YEARS), BAMIYAN, DAYKUNDI, GHOR, KABUL, KAPISA AND PARWAN (2005-2010)

Kabul				**Bamiyan**			
Age group	Total	Urban	Rural	Age group	Total	Urban	Rural
15-19	3.4	3.7	3.3	15-19	3.5	4.3	3.4
20-24	21.4	21.8	21.2	20-24	17.9	19.6	18.0
25-29	27.7	25.9	28.1	25-29	23.0	25.3	23.0
30-34	23.3	22.3	23.6	30-34	22.5	21.8	22.6
35 - 39	15.2	14.8	15.4	35 - 39	17.0	17.3	17.2
40 -44	6.2	7.4	5.9	40 -44	10.4	7.5	10.5
45 -49	2.8	4.1	2.5	45 -49	5.2	4.0	5.4
20 - 34	72.3	70.0	73.0	20 - 34	63.5	66.8	63.5
35 or more	24.3	26.3	23.8	35 or more	32.6	28.9	33.0
Mean Age	30.3	30.6	30.2	Mean Age	31.6	30.9	31.7
Daykundi				**Ghor**			
Age group	Total	Urban	Rural	Age group	Total	Urban	Rural
15-19	7.2	4.0	4.0	15-19	7.2	7.8	7.2
20-24	19.9	19.4	17.6	20-24	21.1	20.5	21.0
25-29	25.5	22.2	23.2	25-29	22.2	20.9	22.1
30-34	25.8	20.7	20.5	30-34	18.8	17.9	18.8
35 - 39	22.5	20.1	18.3	35 - 39	15.5	14.9	15.4
40 -44	12.8	7.0	10.2	40 -44	9.2	8.5	9.0
45 -49	2.2	6.6	6.1	45 -49	6.6	9.5	6.4
20 - 34	71.3	62.3	61.4	20 - 34	62.1	59.3	61.9
35 or more	37.6	33.7	34.6	35 or more	31.3	32.9	30.9
Mean Age	36.1	31.6	31.8	Mean Age	31.1	31.3	30.8
Kapisa				**Parwan**			
Age group	Total	Urban	Rural	Age group	Total	Urban	Rural
15-19	3.0	4.1	2.8	15-19	2.9	2.7	3.0
20-24	19.9	23.9	19.3	20-24	20.1	21.0	20.5
25-29	26.3	23.8	26.5	25-29	26.6	27.8	26.8
30-34	24.1	20.3	24.4	30-34	22.1	22.6	22.5
35 - 39	15.1	14.1	15.2	35 - 39	15.7	17.5	15.4
40 -44	8.9	9.8	8.6	40 -44	7.9	5.5	7.9
45 -49	3.4	4.1	3.2	45 -49	4.0	2.8	3.8
20 - 34	70.3	67.9	70.2	20 - 34	68.9	71.4	69.8
35 or more	27.3	28.0	27.0	35 or more	27.6	25.9	27.1
Mean Age	31.1	30.6	30.9	Mean Age	30.7	30.5	30.8

Source: CSO Afghanistan, SDES 2011–2014

TABLE A3

PROPORTION OF WOMEN WITH AT LEAST THE INDICATED NUMBER OF CHILDREN BY THE END OF THEIR REPRODUCTIVE LIVES ACCORDING TO CURRENT AGE AT THE TIME OF THE SURVEY: BAMIYAN, DAYKUNDI, GHOR, KABUL, KAPISA AND PARWAN (2011–2014)

Number of children that a women may have by the end of their reproductive life	Current age of the women at the time of the survey					
	20-24	25-29	30-34	35-39	40- 44	45-49*
Kabul						
1 or more	49.3	80.8	90.6	95.5	96.3	100.0
3 or more	32.4	57.3	78.1	88.7	90.8	98.0
5 or more	33.2	32.3	48.1	66.8	73.1	81.4
7 or more	23.0	19.4	20.8	33.7	42.8	51.6
Bamiyan						
1 or more	50.7	79.5	87.4	90.8	90.1	95.3
3 or more	34.2	62.0	78.6	86.0	84.7	92.2
5 or more	29.8	36.0	55.7	70.2	71.8	78.5
7 or more	28.2	25.3	29.7	42.4	46.9	55.5
Daykundi						
1 or more	56.4	87.0	94.3	97.4	97.7	100.0
3 or more	34.9	70.4	87.8	95.0	95.2	100.1
5 or more	38.5	40.5	63.2	82.3	86.5	95.4
7 or more	40.8	33.1	35.9	53.6	65.0	76.2
Ghor						
1 or more	67.3	89.7	93.1	95.7	94.2	100.0
3 or more	39.5	67.4	80.7	86.4	83.4	90.7
5 or more	39.0	40.6	51.9	61.7	61.5	68.1
7 or more	30.9	27.9	28.6	35.8	35.8	40.6
Kapisa						
1 or more	51.8	84.1	92.4	95.9	97.6	100.0
3 or more	33.0	62.2	82.7	90.1	92.4	99.4
5 or more	47.4	43.9	63.6	78.6	82.6	88.5
7 or more	42.5	34.7	35.7	49.2	58.8	65.0
Parwan						
1 or more	52.2	83.9	92.5	96.4	96.6	100.0
3 or more	37.0	64.0	82.5	91.0	92.2	100.0
5 or more	42.3	39.2	55.5	72.2	77.9	86.4
7 or more	33.7	27.6	28.2	41.0	50.6	58.3

*Due to methodological assumptions, proportion may result in more than 100 percent; in these cases, upper limit was fixed as 100 percent.

Source: CSO Afghanistan, SDES 2011–2014

TABLE A4

PROPORTION OF WIDOWERS AND WIDOWS AND RATIO OF WIDOWERS AND WIDOWS IN THE LAST TOTAL AGE GROUP (PERCENT): BAMIYAN, DAYKUNDI, GHOR, KABUL, KAPISA AND PARWAN (2011-2014) AND SELECTED COUNTRIES

Province/ Country	Proportion (percent)		Ratio	Age group	Year of the Survey/ Census
	Widowers	Widows			
Province from SDES -Afghanistan					
Kabul	15.3 percent	62.5 percent	4.1	70 +	2011-2014
Bamiyan	17.5 percent	54.3 percent	3.1		
Daykundi	14.3 percent	59.1 percent	4.1		
Ghor	13.7 percent	59.9 percent	4.4		
Kapisa	18.3 percent	62.0 percent	3.4		
Parwan	16.4 percent	56.6 percent	3.5		
Selected Countries					
Brazil	21.9 percent	56.9 percent	2.6	70 +	2000
	19.3 percent	55.1 percent	2.9		2010
China	23.3 percent	50.5 percent	2.2	65 +	2000
	21.1 percent	46.7 percent	2.2		2010
Iran	10.2 percent	56.5 percent	5.5	70 +	2011
United Kingdom	18.8 percent	49.0 percent	2.6	70 +	2012
United States	21.6 percent	59.4 percent	2.8	75 +	2000
	21.0 percent	56.4 percent	2.7		2012

Source: CSO Afghanistan, SDES 2011–2014

Demographic Yearbook: http://data.un.org/Data.aspx?q=Population+by+marital+status+age+sex&d=POP&f=tableCode percent3a23#POP) Accessed 16 August 2015 19:01

Appendix

Sources used by DESA/Pop Div/UN (2015) for estimating fertility measures *

Total fertility: based on adjusted age-specific fertility rates from

a the own-children method applied to the 2007/08 NRVA survey, 2010 Afghanistan Mortality Survey (AMS) and 2011 MICS;

b maternity-history data and period parity progression ratios from the 2010 AMS;

c data on children ever born by age of mother from the 2000 and 2003 MICS;

d data on children ever born and births in the preceding 24 or 36 months, both classified by age of mother, from the 2006 MOH Health Survey, 2007/08 and 2011/12 NRVA survey, and 2011 MICS;

e reverse survival from the 1972/73 Afghanistan Demographic Survey (ADS), 1979 census, 2003/05 household listing, 2005 National Risk and Vulnerability Assessment (NRVA) survey, 2006 MOH Health Survey; births in the preceding 12 months to the 1979 census classified by age of mother;

f data on children ever born and births in the preceding 12 months, both classified by age of mother, from the 1972/73 ADS;

* From: http://esa.un.org/unpd/wpp/DataSources/ (Accessed: 11/09/2015 21:28)

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