

***Recent Demographic Trends
in Indonesia, with
Implications for Program
Strategies***

**A Presentation by John Ross for the
US Agency for International
Development**

***Prepared under an agreement with STARH
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University***

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The analysis and opinions expressed in this report are, unless otherwise stated, those of the author, and are not necessarily endorsed by the STARH Program or any of its partner, or by USAID. As John Ross makes clear in this opening paragraph, this paper is based on a Power Point presentation designed to update the audience on the implications of the latest IDHS data for an earlier analysis of contraceptive security in Indonesia. The text accompanying each slide was deliberately kept succinct. To make the analysis accessible to a wider audience the STARH editorial team have added some additional comments, **identified with shading**. John Ross is not responsible for these *Additional Comments*.

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Acknowledgements

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GLOSSARY (in alphabetical order)

BPS	<i>Badan Pusat Statistik</i> (Central Bureau of Statistics)
IDHS	Indonesia Demographic Health Survey
IUD	Intra Uterus Device
HIV	Human Immunodeficiency Virus
MCH	Maternal & Child Health
Posyandu	<i>Pos Pelayanan Terpadu</i> (Integrated Health Post)
Puskesmas	<i>Pusat Kesehatan Masyarakat</i> (Health Center)
Pustu	<i>Puskesmas Pembantu</i> (Sub Health Center)
STARH	Sustaining Technical Achievements in Reproductive Health Program
STD	Sexually Transmitted Disease
TFR	Total Fertility Rate
USAID	US Agency for International Development

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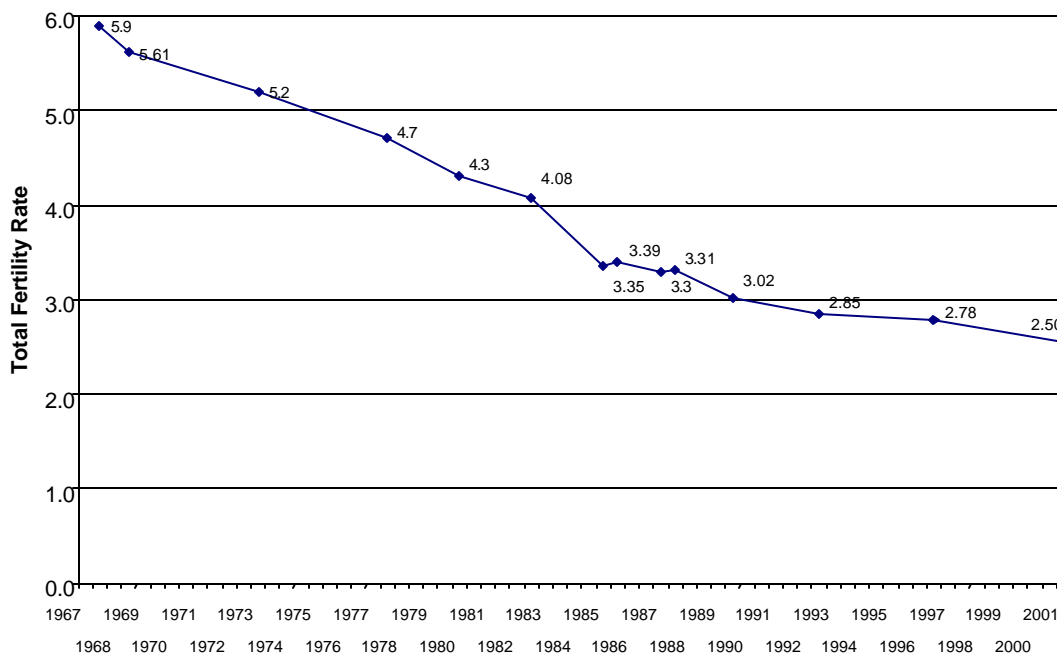
Recent Demographic Trends in Indonesia, with Implications for Program Strategies

This analysis uses the latest Indonesian Demographic and Health Survey (BPS 2003/IDHS) to update an earlier analysis (Ross 2003) of demographic trends and program strategies. The earlier analysis is more extensive than this one. So the interested reader may refer to it for additional information about data, methods, and substantive issues. The present paper is based directly upon a Power Point® presentation to a seminar at USAID-Washington on September 26, 2003. Each figure from that presentation appears below together with short explanatory text and discussion.

1. The Total Fertility Rate (TFR): Long Term Decline

Starting at the traditional, non-contracepting, TFR level of about 6 in the 1960s, the TFR decline has been essentially unbroken. It fell again in the latest IDHS, carried out in 2002-2003. However the slope has been softer since about 1991, at only .043 points fall per year. The current TFR of 2.6 is well above replacement. The recent decline is in a positive direction, but is small.

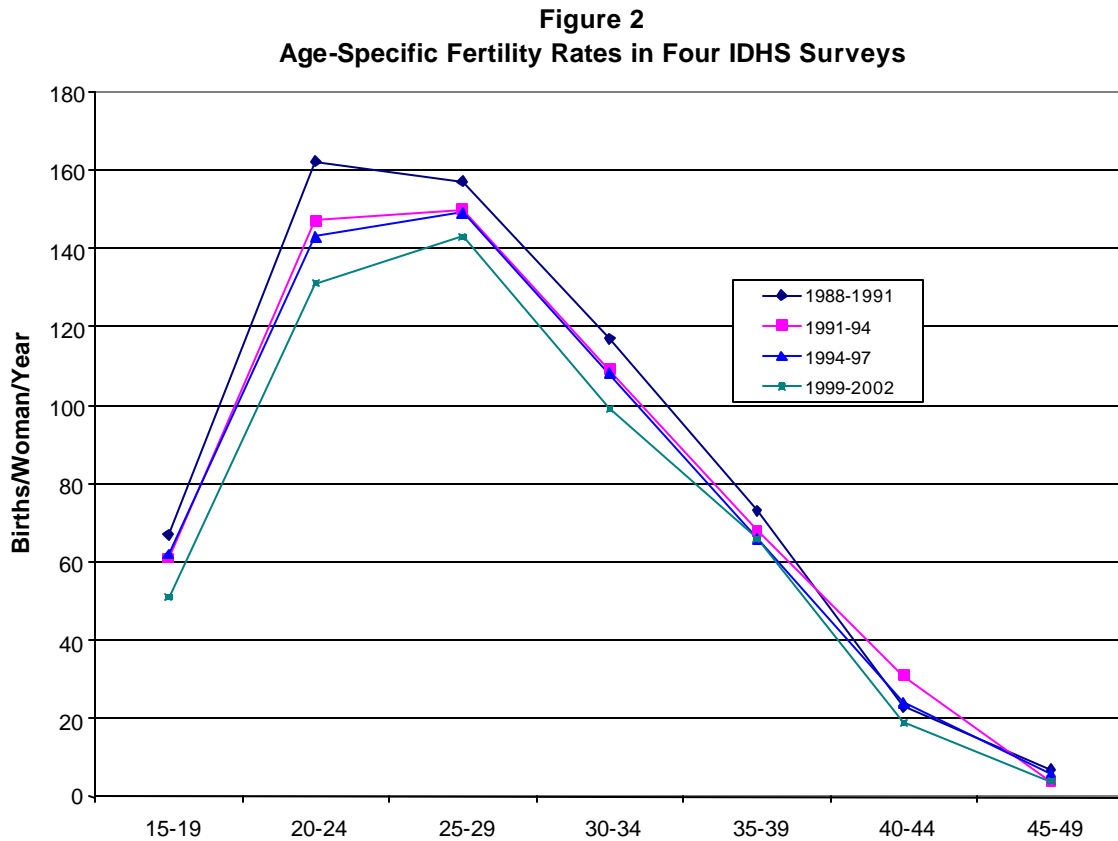
Figure 1
Total Fertility Rate: Long Term Decline



Source: Partly based on Hull (2002: Table 2)

2. Age-Specific Fertility Rates in Four Surveys

Fertility as measured in the 2003-03 and 1997 surveys fell at each age below 35, due both to the rise in the marriage age (see 15-19 and 20-24), and to more contraceptive use. The lines in Figure 2 are quite close together for the 1994 and 1997 surveys (the data are averaged for the 3-year period prior to each survey, respectively). Nonetheless, the change over the whole period is convincing and can be taken as positive news, even though the pace of change is slow.

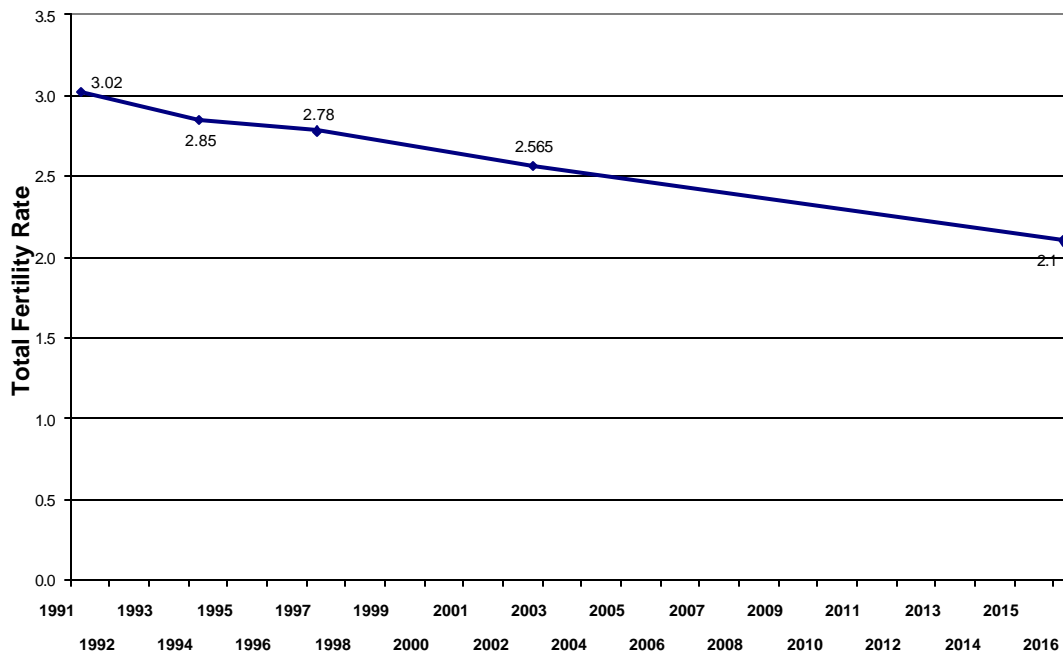


Source: IDHS series

3. Total Fertility Rates from Four IDHS Surveys Extrapolated to 2.1

Using the 11 years since the 1991 survey as a reasonable basis for extrapolation of the trend, the TFR will reach 2.1 only in 2016, 12 years from now. The actual slope could turn out to be even softer if the decentralization of the family planning program currently underway has a negative impact on the delivery of contraceptive services. International experience also suggests if it is difficult to get contraceptive prevalence much higher than its current level without more use of long-term methods (see sections 5 and 6 below).

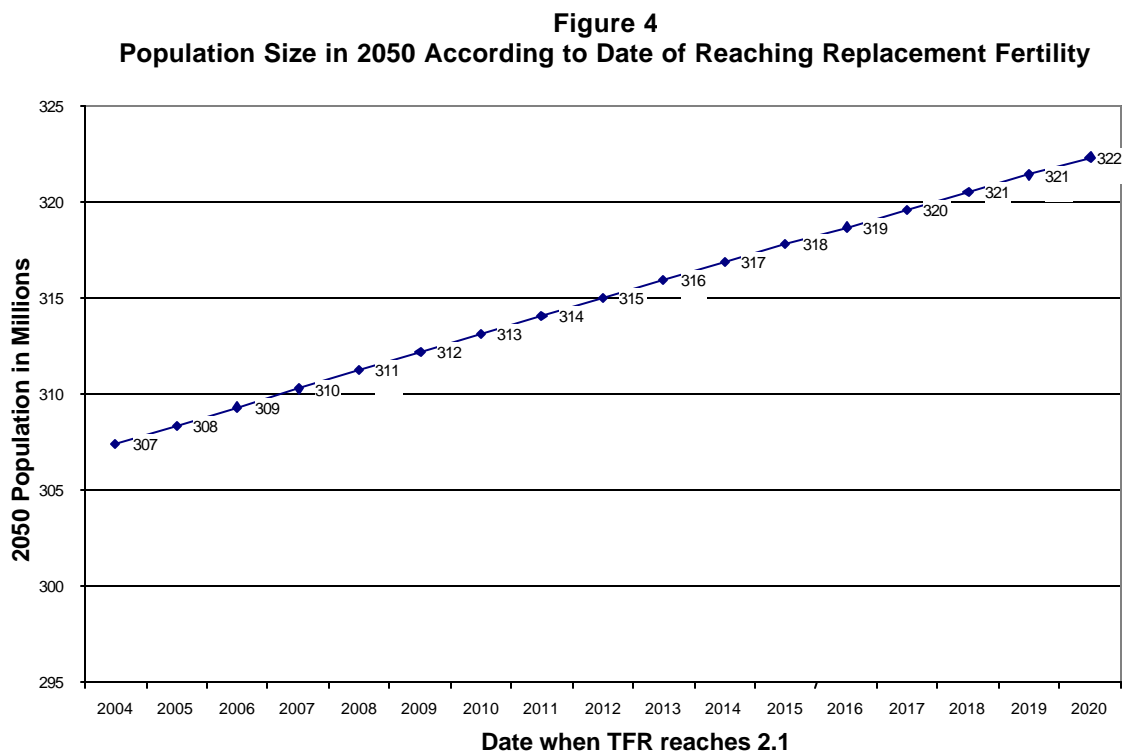
Figure 3
Total Fertility Rates from Four IDHS Surveys, Extrapolated to 2.1 in 2016



Source: IDHS series

4. Population Size in 2050 According to Date of Reaching Replacement Fertility

Figure 4 shows the projected size of population in 2050 according to the date of reaching replacement-level fertility. If the two-child family appeared immediately, and the TFR then remained at 2.1, the population size in 2050 would be 307 million. The longer the delay to reaching replacement fertility, the greater the final population size. In the above projection, with the TFR reaching 2.1 only in 2016, then the population would reach 319 million in 2050. That means an addition of 113 million people over the Census count of 206 million in 2000, increasing the total over half. That is the realistic expectation based on the last eleven years of experience, and there is no little reason to think more optimistically. Note that for each year of delay in reaching a TFR of 2.1, nearly a million more people are added to the population size in 2050¹.

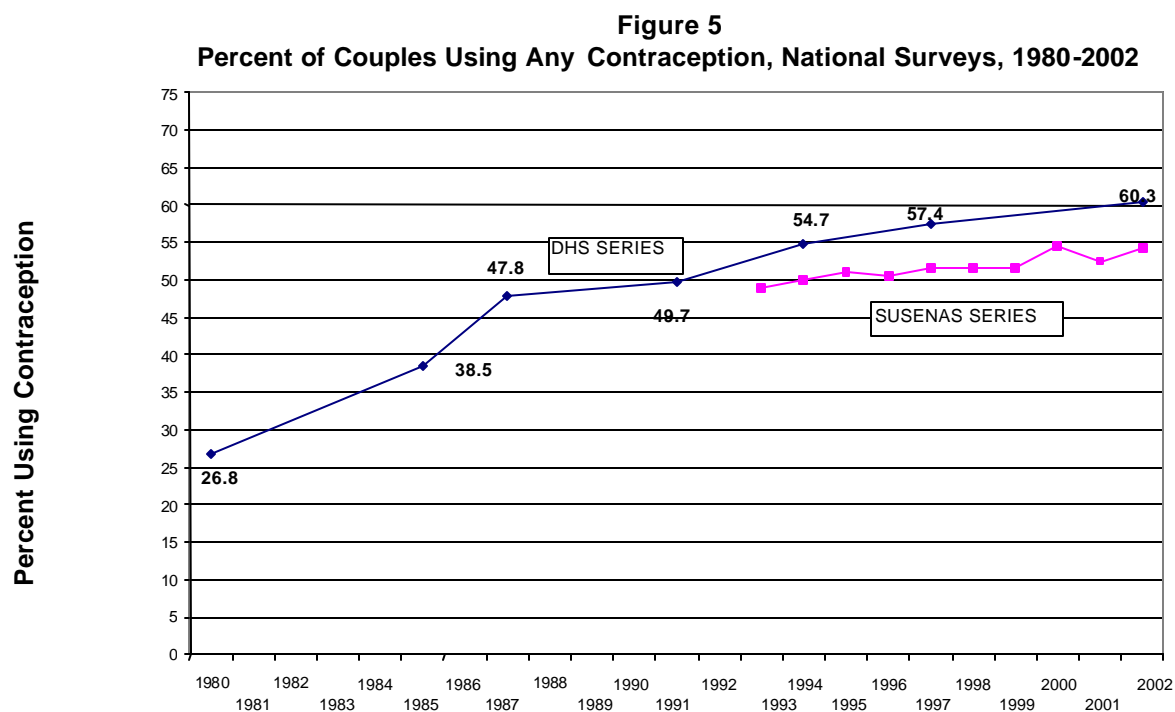


¹ Under each of these projections, however, the population is “stable” by about 2050.

5. Percent of Couples Using Contraception: National Surveys 1980-2002

The rise in contraceptive use has also been historic (although the 27% estimate is from the Census and may be too low.) Figure 5² shows the increase in contraceptive prevalence rate (CPR) since 1980.³ The 2002-03 IDHS shows 60.3 percent of currently married couples using a method. In the last 5 years prevalence rose only 3 points, from 57.4% to 60.3%, this is an advance, but the pace is unimpressive at only 0.58 points per year, well below what many other countries have done and a slower pace than in the two previous inter-survey periods. (It is remarkable, nonetheless, that the CPR did not weaken during the economic crisis years.)

The recent pace, as noted, is slow. If instead we use the full 11 year trend from 1991 to 2003, as we did for the TFR, we get a pace of 0.96 points rise per year. Extrapolating that gives 73% prevalence in 2016, which is consistent with a TFR of 2.1. It does not seem probable that the recent pace of 0.58 point/year will improve, but that will depend largely on the impact of decentralization on family planning, and on future trends in method mix and source of supply.



Source: IDHS series and Susenas series

² Percent of Couples Using Any Contraception according to the Susenas survey are 48.9 (1993); 50.1 (1994); 51.1 (1995); 50.5 (1996); 51.4 (1997); 51.5 (1998); 51.4 (1999); 54.4 (2000); 52.5 (2001) and 54.2 (2002)

³ The figure of 27% for 1980 is from the Census and may be too low.

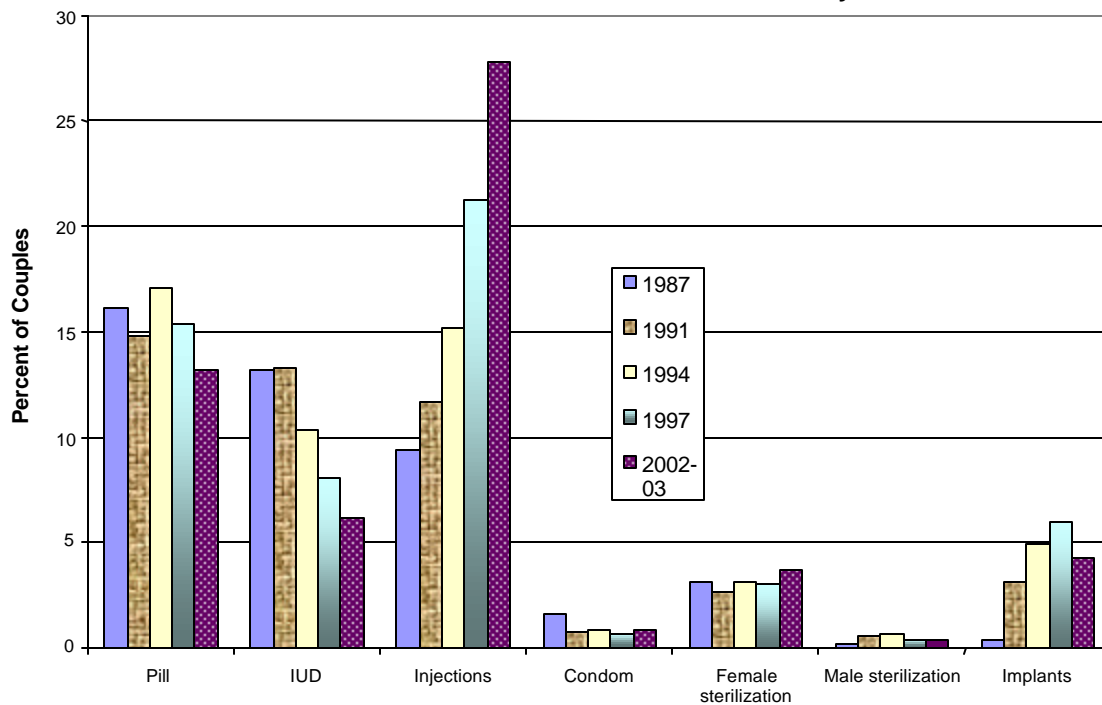
6. Use by Method: Percent of Couples Using Each Method: 15 Year Trend in National Surveys

Beneath the surface of little change in total use, a strong dynamic of method switching has been underway. Injectable use has taken off, at the expense of IUD use and secondarily, of pill use. IUD use has undergone a steady, long term decline, perhaps reflecting in part a relaxation of the strong programmatic pushes for it in past years.

The other methods play minor roles. Disregarding possible sampling error, female sterilization is up slightly, and implant use is down a few points. Condom use for family planning is tiny, but the survey omits other condom use related to prevention of STDs, including HIV.

The main finding is the dramatic shift to the injectable, to a world record of 27% of all married women using it – nearly half of all users in the country. This is related to the roles of the midwives (*bidans*) (see section 8-10 below).

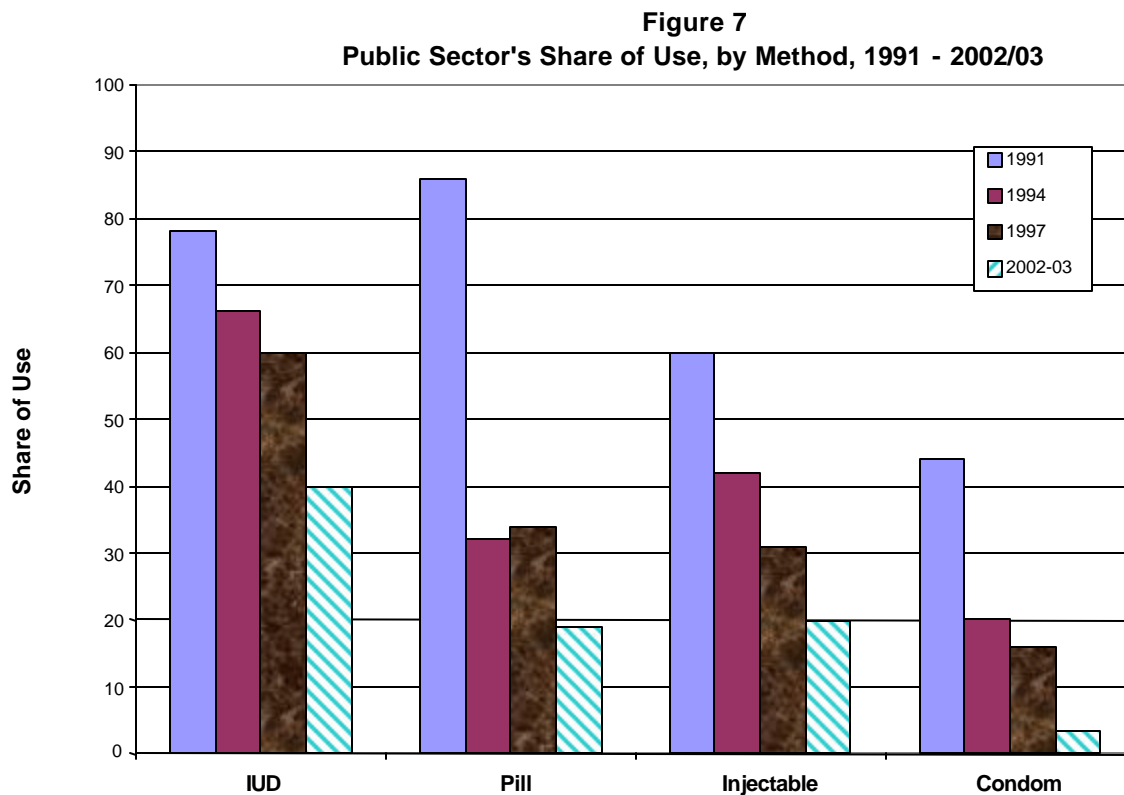
Figure 6
Use by Method: Percent of Couples Using Each Method:
15 Year Trend in National Surveys



Source: IDHS series

7. Public Sector's Share of Use, by Method, 1991 to 2002-03

Also beneath the surface of little change in total prevalence is a strong dynamic of source switching. The Government's role has declined very steadily and very sharply, for all four methods shown, since 1991. (The bars in the Figure 7 show only the Government share, not total use. For example the high bars for the IUD come from low prevalence in the population at large). The Government's declining share for the injectable is related to the growing role of the *bidans* (see Figure 8).

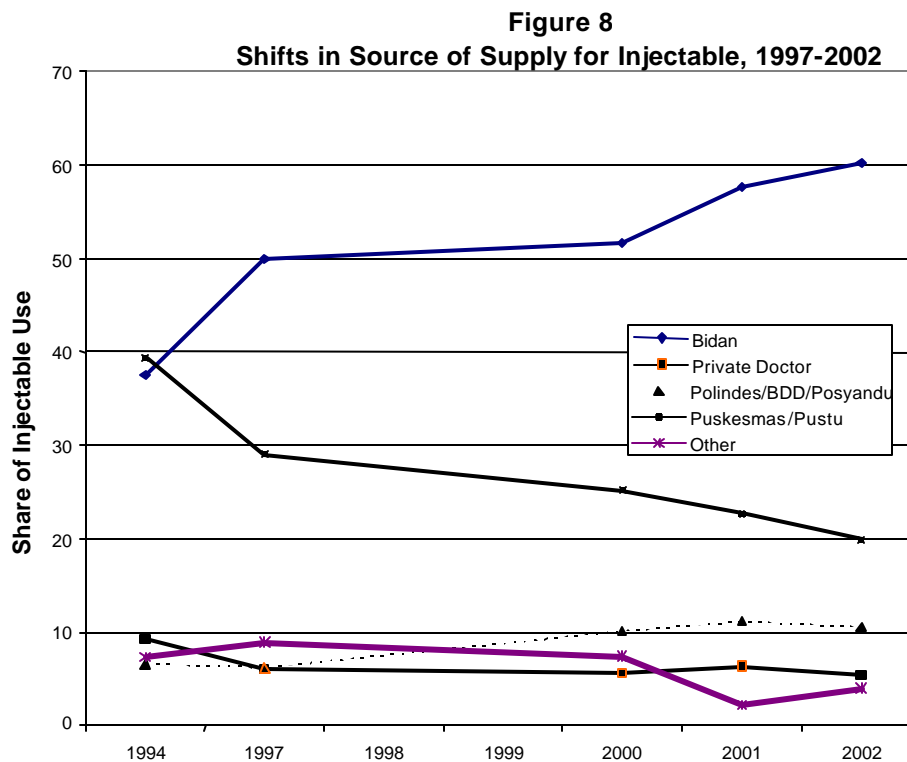


Source: IDHS 2002-03

8. Injectable: Shifts in Source of Supply, 1997-2002

Over the eight years since the 1994 survey, the *bidans* have driven out the *puskesmas* health centers as a primary place to get the injectable⁴. In 1994 *bidans* and health centers provided nearly 80% of all injections, and again in 2002 their total was about 80% -- but with the drastic upward shift seen in the role of the *bidans* as the source of service.

The other sources were minor; the Polindes/BDD (*bidan di desa*)⁵/Posyandu held a 10% share and the others less.



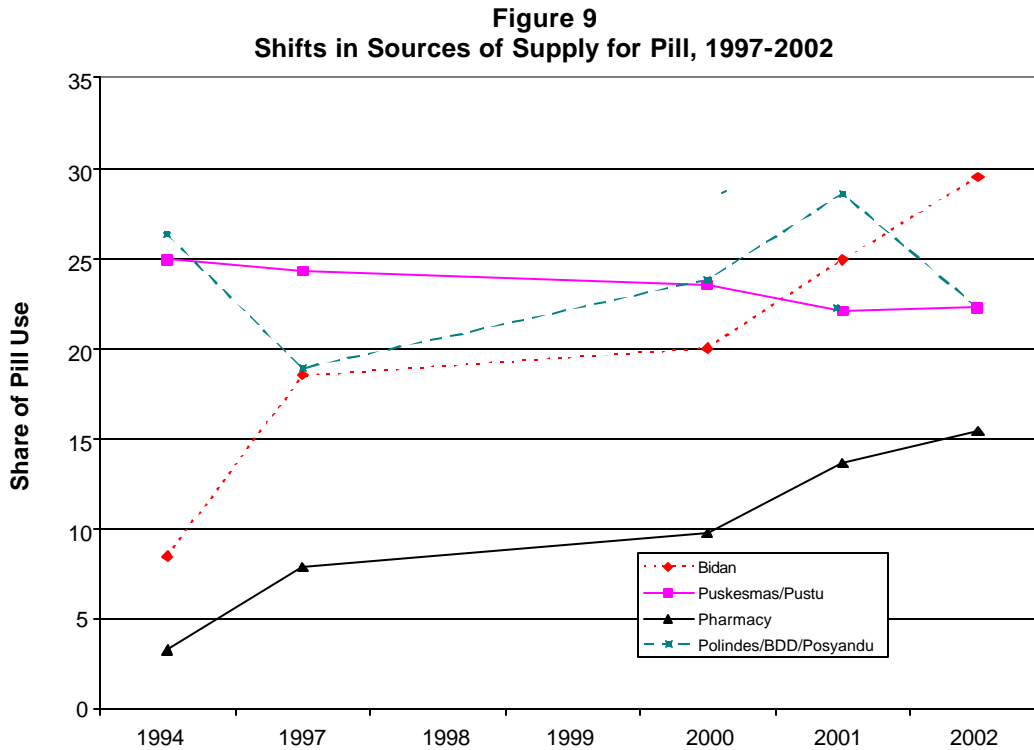
Source: IDHS 2002-03

⁴ In Figure 8-10, data for 1994 and 1997 are from the two IDHS for those two years, respectively; data for 2000-2002 are taken from the annual National Socioeconomic Survey (Susenas).

⁵ *Bidan di desa* – a nurse with an extra year’s training in midwifery, living in a village and paid a very small stipend under a contract by the Government.

9. Pill: Shifts in Source of Supply, 1997-2002

Pharmacies have steadily gained as the pill source (while total pill use has been declining (as seen above)). The *bidans*' share has also grown, to nearly 30% of all pill use. The government's share has held steady, while an "other" category (not shown) has declined.

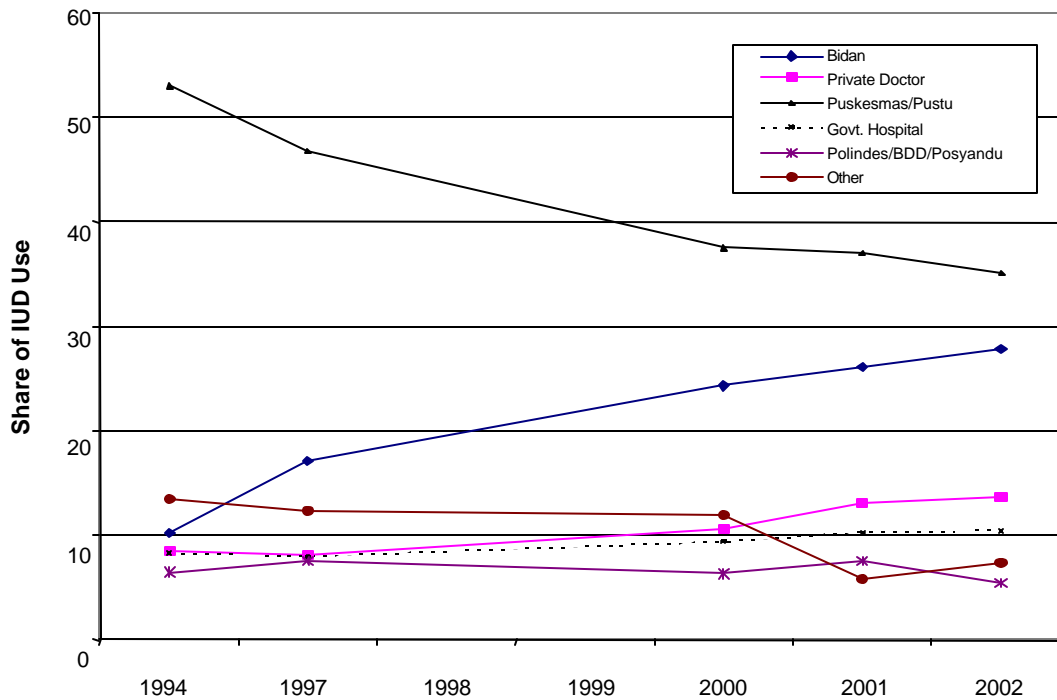


Source: IDHS 2002-03

10. IUD: Shifts in Source of Supply, 1997-2002

While total IUD use has been declining, the share provided by the *Puskesmas/Pustu* has also declined, so its net role for IUD provision has come down a good deal. Meanwhile the ubiquitous *bidans* have become a more prominent source, perhaps enough to keep their absolute levels constant during the overall decline.

Figure 10
Shifts in Sources of Supply for IUD, 1997-2002



Source: IDHS 2002-03

11. Contraception Sources in 2002-03: Poor vs. Non-Poor for Injectables, Pills & IUD.

The next three figures compare supply sources for the Poor and the Non-Poor in the IDHS 2002-2003 survey. Here the “Poor” group is simply the bottom quintile (20%) on a wealth index⁶, and the “Non-Poor” are the other 80%. (The wealth index was introduced in the IDHS tables only in 2002-03).

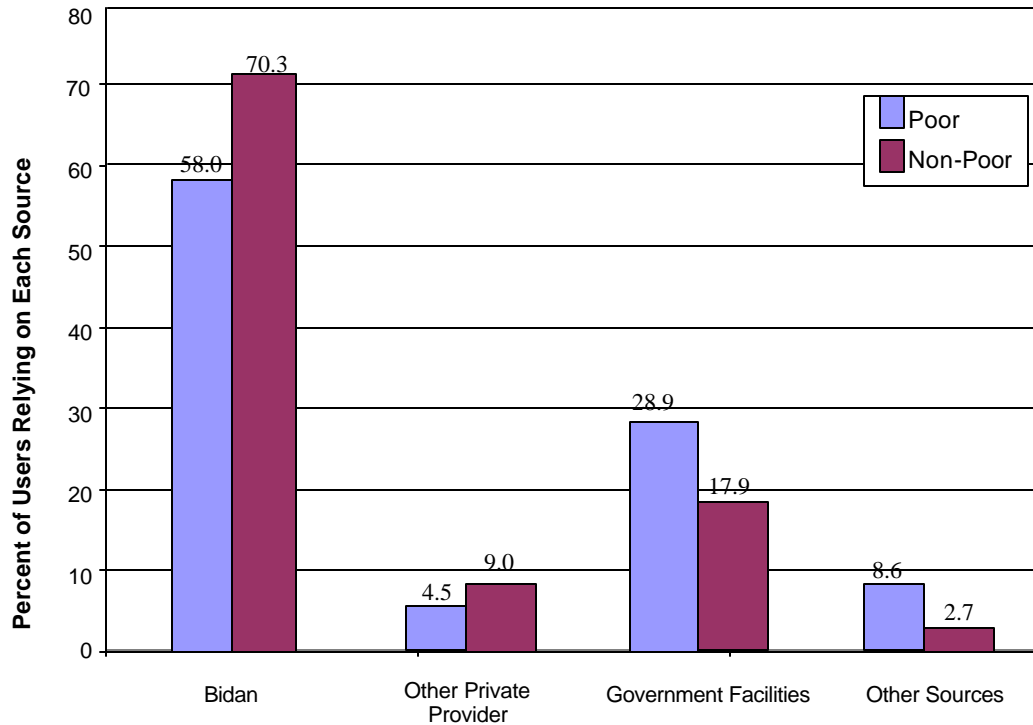
For the three methods the lack of difference in the use of *bidans* is notable because most *bidans* have some sort of fees for services. Apparently the level or adjustments in *bidan*'s fees for family planning have a limited impact on the Poor's selection of a source of service.

For the pill the Poor rely on pharmacies less, and on the government more.

For the IUD the Poor rely on private doctors less, and on the government more.

None of this is surprising. It is important to note, however, that the Poor and Non-Poor use the *bidan* almost equally, suggesting that cost is not a barrier to their use. The small difference in use of *bidan* among the two groups is also facilitated by the fact that many *bidan* adjust their charges to the Poor to ease the cost burden.

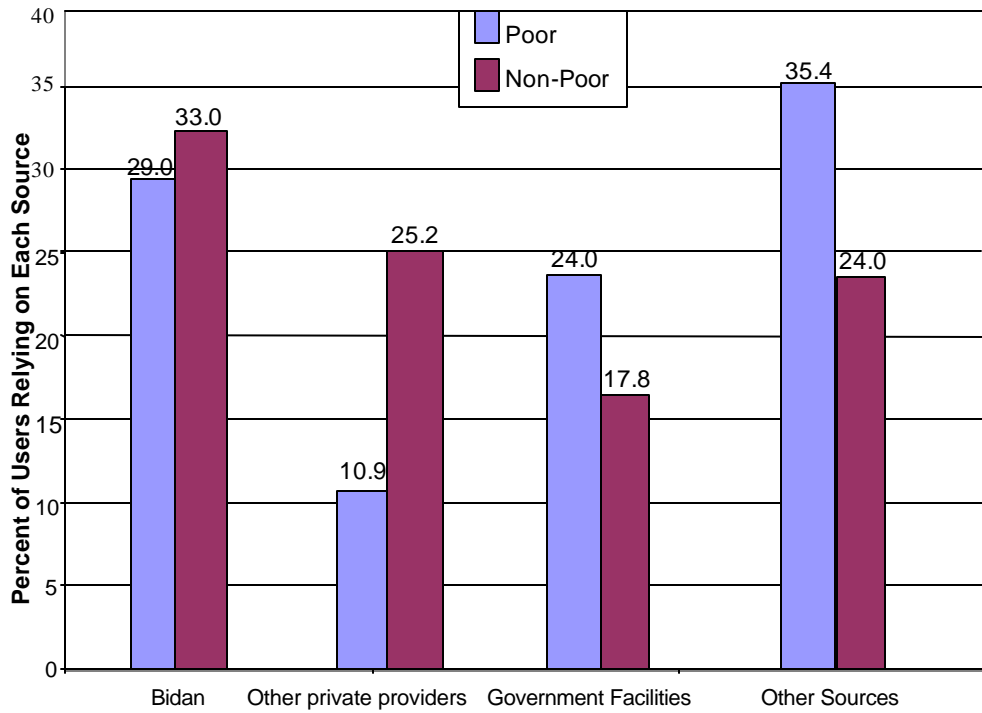
Figure 11.A
Injectable Sources in 2002-03: Poor vs. Non Poor



Source: IDHS 2002-03

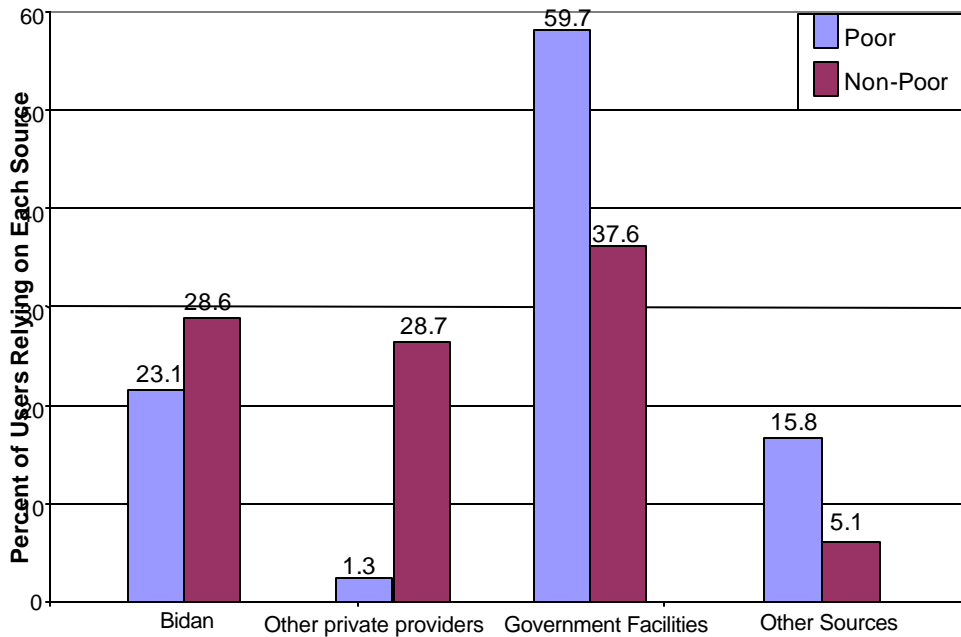
⁶ See IDHS Report 2002-2003 for a description of how the wealth index is created.

Figure 11.B
Pill Sources in 2002-03: Poor vs. Non-Poor



Source: IDHS 2002-03

Figure 11.C
IUD Sources in 2002-03: Poor vs. Non-Poor



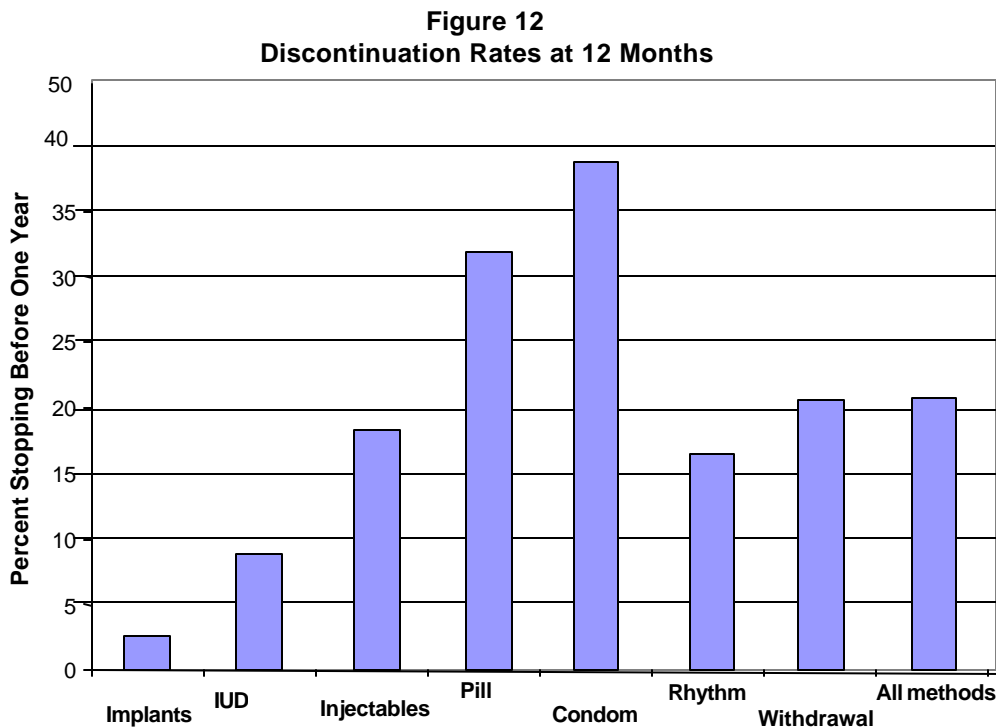
Source: IDHS 2002-03

12. Discontinuation Rates at 12 Months

Because resupply methods dominate in Indonesia, discontinuation rates are unfortunately very high. Even by the end of the first year, terminations are already high: 39 percent of condom starts, 32 percent of pill starts, and 18 percent of injectable starts, have stopped use within 12 months. The picture is of course worse by the end of the second or third year.

Some women discontinued for a desired pregnancy and some switched to a more satisfactory method, but there is a very large element of stopping due to health concerns, nuisance problems, and fears. The absence of well-delivered, well publicized sterilization options, and the fall-off of the IUD, are unfortunate. The “churning” from one method to another or to non-use is inefficient for both the program and the couple, and it acts as a brake on the rise of total prevalence of use.

The implants (not widely available) and the IUD have the lowest discontinuation rates. The other methods - of rhythm and withdrawal - are little used.



Source: IDHS 2002-03

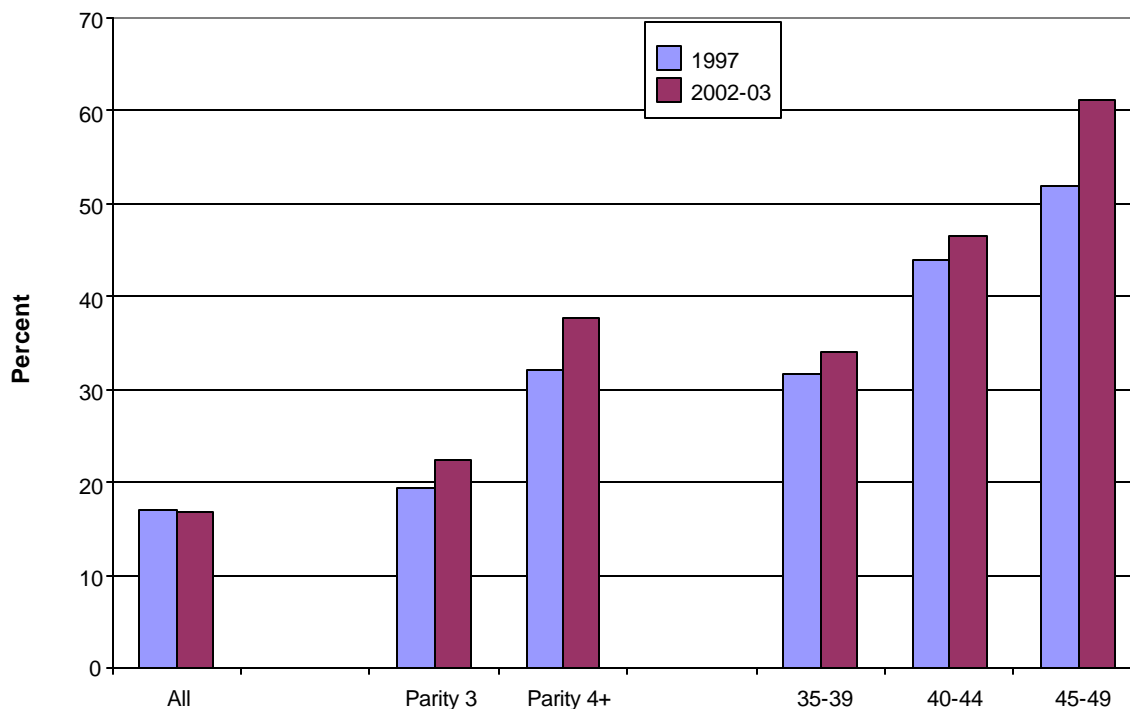
13. Births/Current Pregnancies in the Last Five Years That Were Not Wanted, Either Then or Ever

In Figures 13-20 we see the march of social change, - evidence of changing norms that accompany the process of modernization (or ideational change). At each of the sensitive parities or ages, the proportion over the last two IDHS has risen for those considering the last birth or current pregnancy to be ill-timed or not wanted at all.

One could argue that the rising percentages reflect worsening contraceptive availability, but the changes are parity and age-related. At low parities and ages the differences are relatively small. The figures below support the explanation of social change in the norms of family size, and suggest method failure or ineffective contraceptive use.

The bars for “All” document that a full one-sixth of all births or current pregnancies were not wanted, either then or ever. To those must be added some unknown number of additional unwanted pregnancies did not go to full term to get a complete picture of “unmet need.”

Figure 13
Percent of Births/Current Pregnancies in Last Five Years
That Were Not Wanted, Either Then or Ever

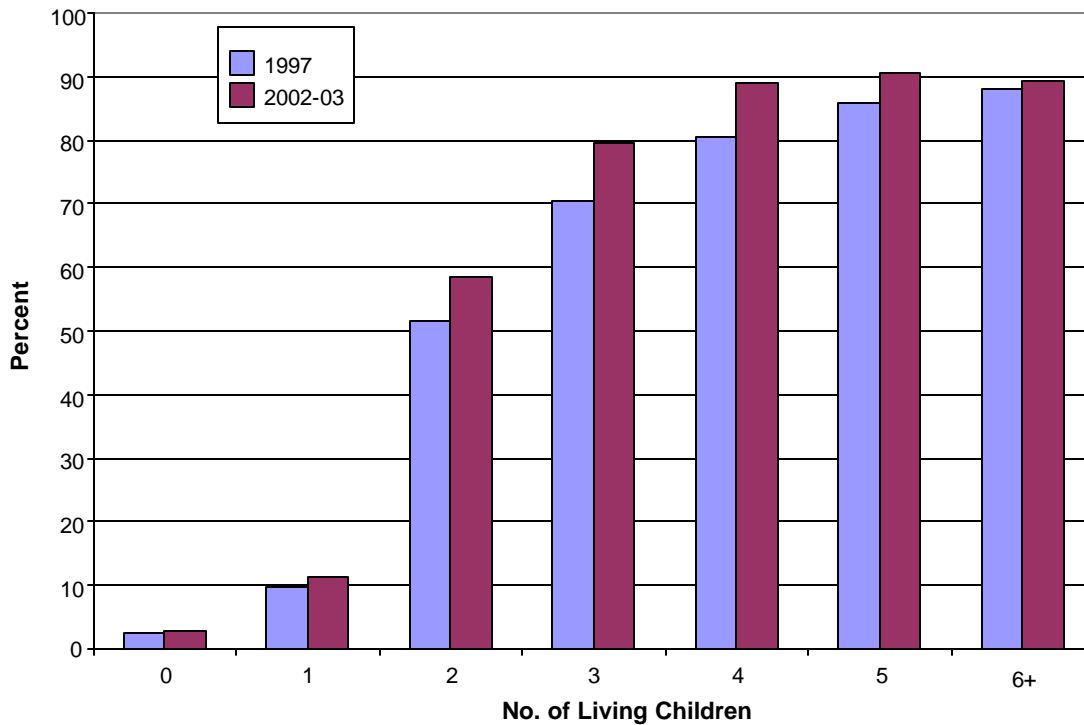


Source: IDHS 2002-03

14. Percent of Women Who Want No More Children

The trend of women reporting “not wanting more children” is up at every family size. The levels are as impressive as the trend: Over half of all women with two children want to stop. Nearly 80% of women with three children want to stop, as do those with larger families. However, the reverse side of this is that on average the number desired is still above two. The changes are too little and too slow to say there is any change worth elaboration.

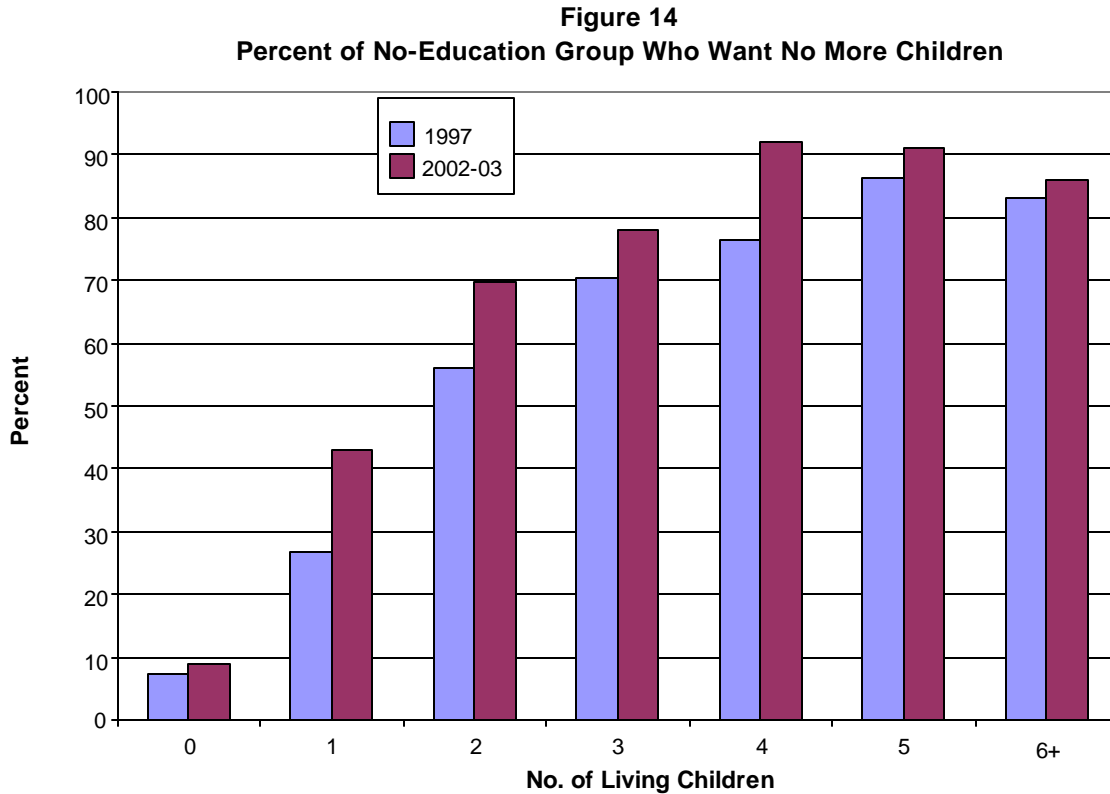
Figure 14
Percent of Women Who Want No More Children



Source: IDHS 2002-03

15. Percent of Women with No-Education Who Want No More Children

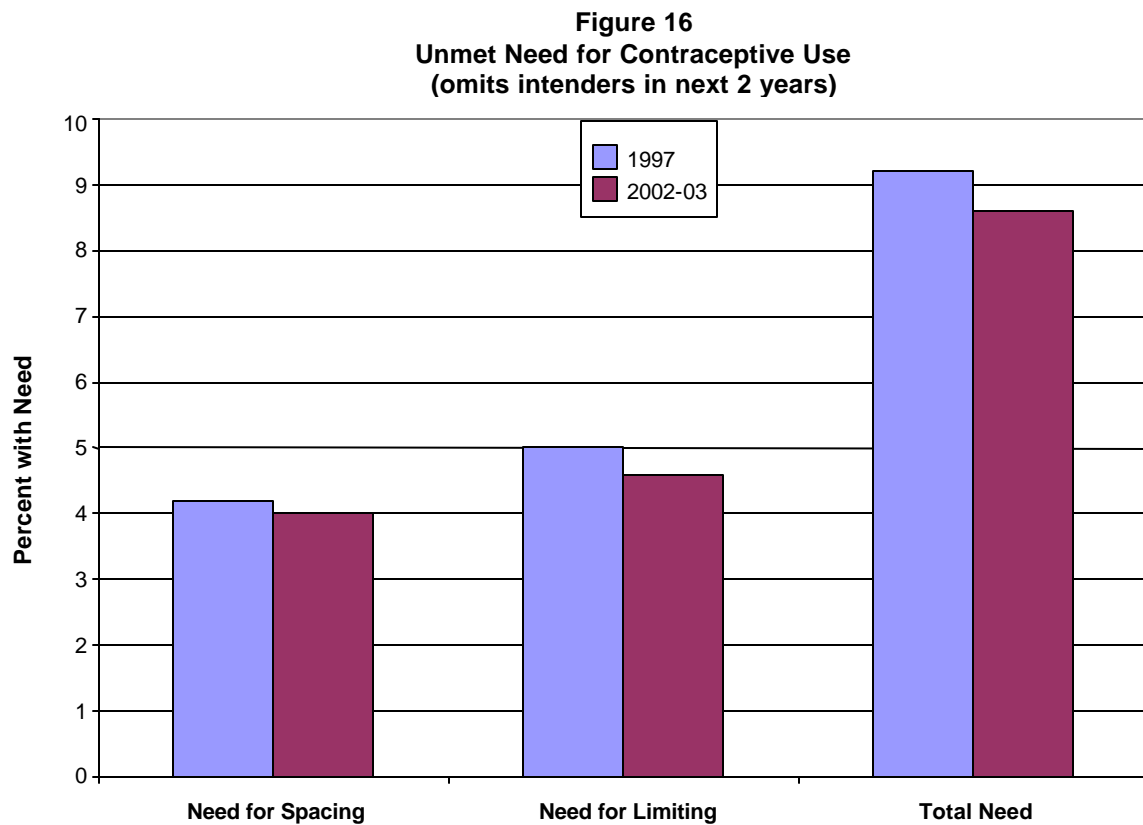
Figure 15 shows that even at the bottom of the education ladder the same pattern holds as in Figure 14 above -- except that the bars for zero, one and two children are actually higher than in the previous figure. This indicates that economically disadvantage Indonesian women link children and household economics in their decision making process.



Source: IDHS 2002-03

16. Unmet Need⁷ for Contraceptive Use (omits those intending to get pregnant in next 2 years)

Unmet need is at about the same level as five years ago, totaling about 9 percent. That is less than in many countries, but the IDHS standard estimate omits women who say they want a child within two years, but still intend to use contraception. That group is in need of services, to avoid an early conception and a short birth interval.

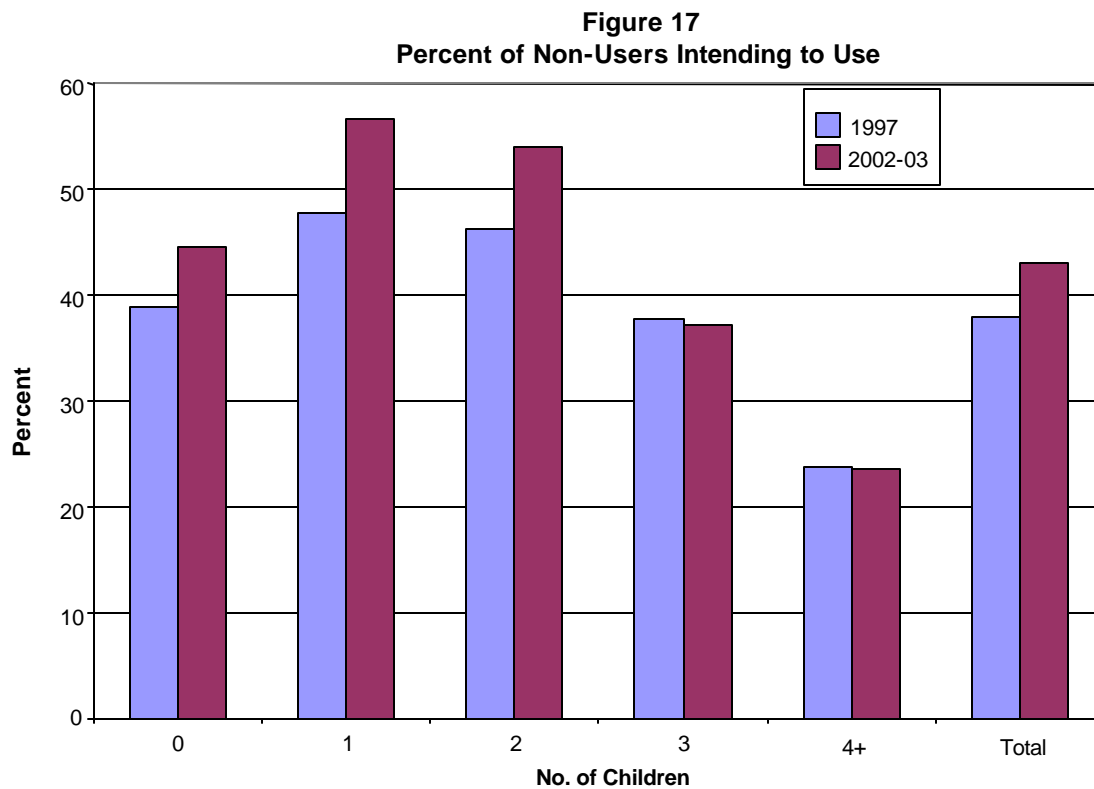


Source: IDHS 2002-03

⁷ Unmet need is defined as the percentage of currently married women who either do not want any more children or want to wait two or more years before having their next birth, but are not using any method of family planning. Unmet need for “spacing” refers to those not using any method of family planning, and who want to wait two or more years for their next birth. Unmet need for “limiting” refers to women who are not using any method of family planning, and who want no more children.

17. Percent of Non-Users Intending to Use

About 40% of all non-users say they intend to use, a large percentage that suggests broad approval of family planning use. It also suggests that there are still opportunities to increase contraceptive prevalence. The percentage has risen both overall and in families with 0-2 children, a sign of changing contraceptive desires. (It is not immediately clear why the percentages at 3 and 4+ children have been constant)

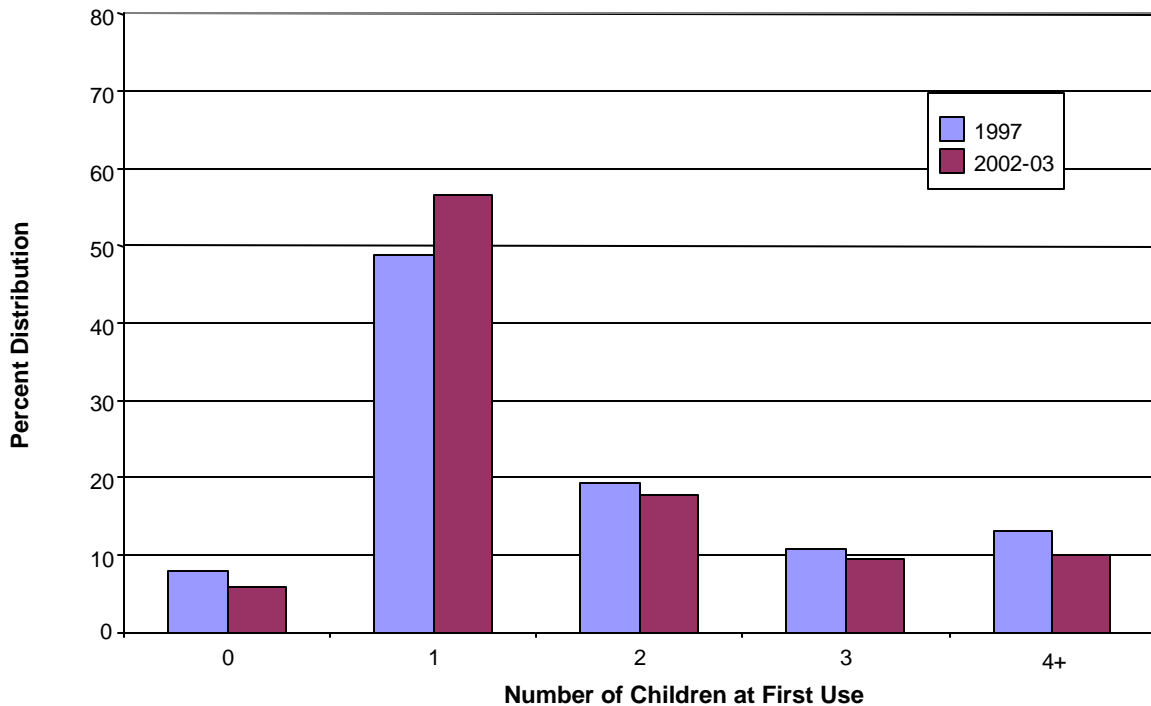


Source: IDHS 2002-03

18. No. of Living Children at First Use of Contraception (Among Ever-Married Women Who Ever Used)

Figure 18 shows the number of living children at first use of contraception (among ever-married women who ever used). Here too there has been an upward shift: more women now try a contraceptive method when they have just one child. A full 56% do so, and another 18% do so with two children. This testifies to a strong spacing interest and a willingness to act.

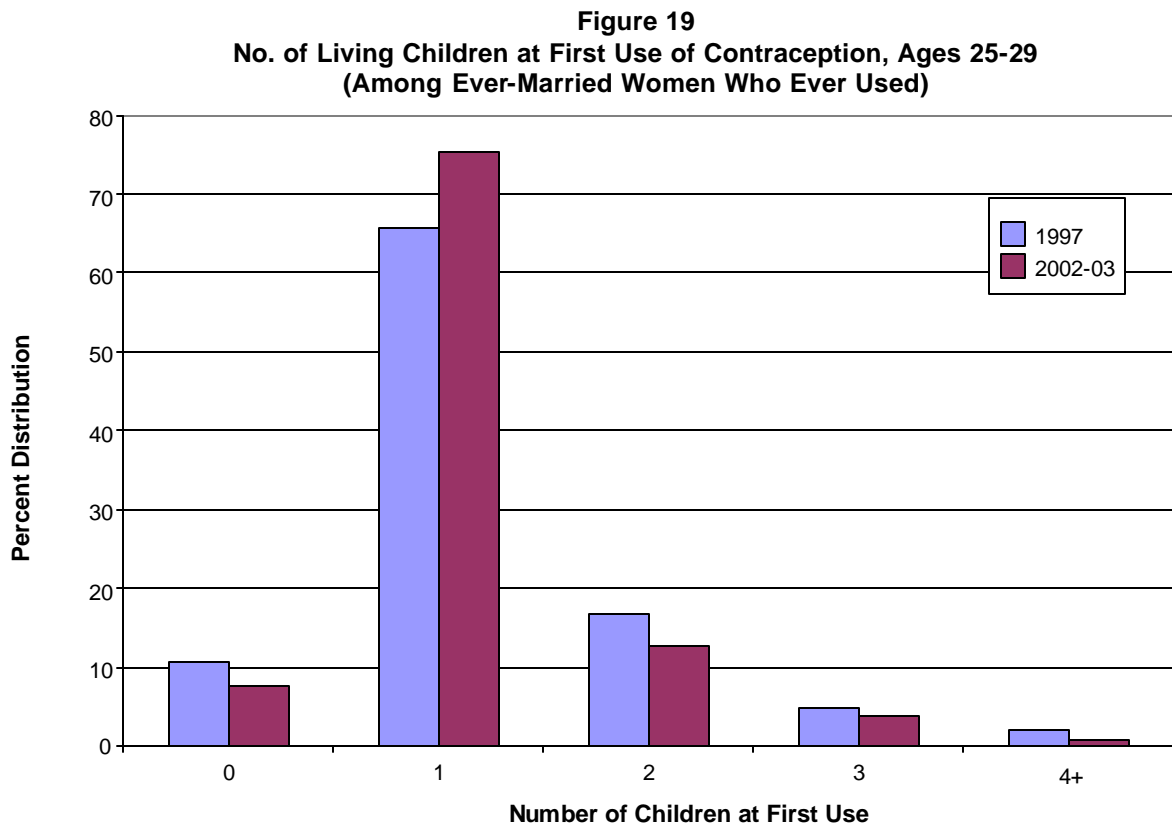
Figure 18
No. of Living Children at First Use of Contraception
(Among Ever-Married Women Who Ever Used)



Source: IDHS 2002-03

19. No. of Living Children at First Use of Contraception (Ages 25-29) (Among Ever-Married Women Who Ever Used)

Figure 19 looks again at the number of living children at first use of contraception (among ever-married women who ever used), but this time focusing on a key age group of women, 25-29 years old. For them, a full 75% first tried contraception when they had only one child.

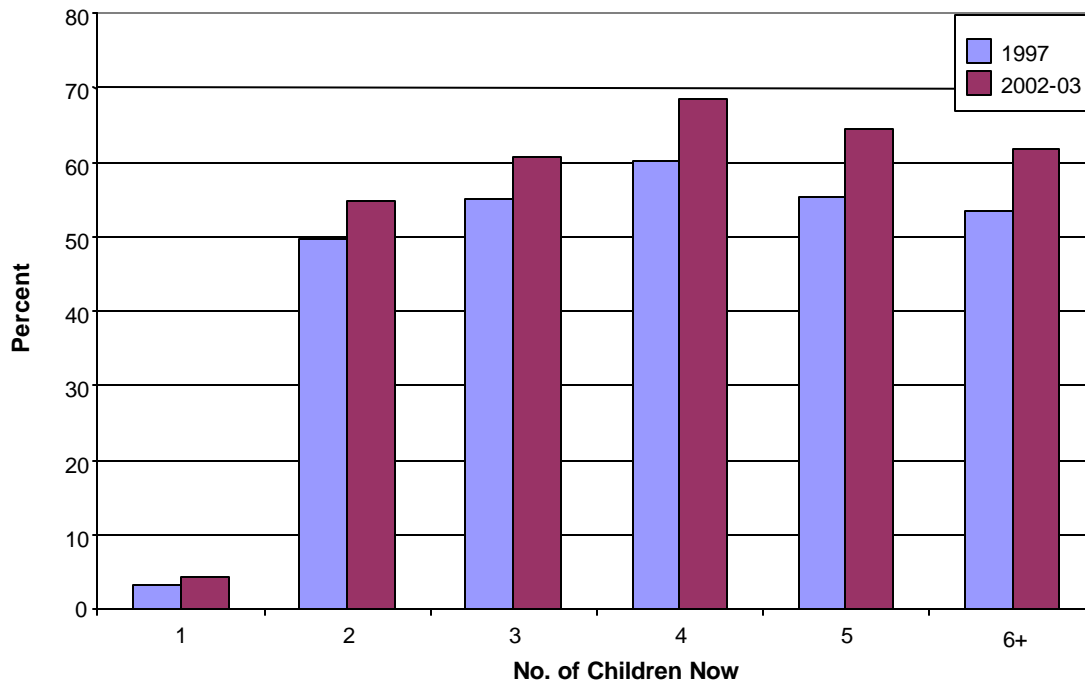


Source: IDHS 2002-03

20. Percent Whose Ideal Number of Children is the Same or Less Than the Number They Already Have

Another sign of significant social change is that shift has occurred in the ideal number of children. For example, when women with two children were asked in the 2002-03 IDHS about their ideal number, 55% said either 2 or fewer, an increase from the 1997 survey. At every family size, more women now name an ideal that is the same or less than the number they actually have. The levels are impressively high, and there is a consistency of change across all groups.

Figure 20
Percent Whose Ideal Number of Children is the Same or Less Than the Number They Already Have



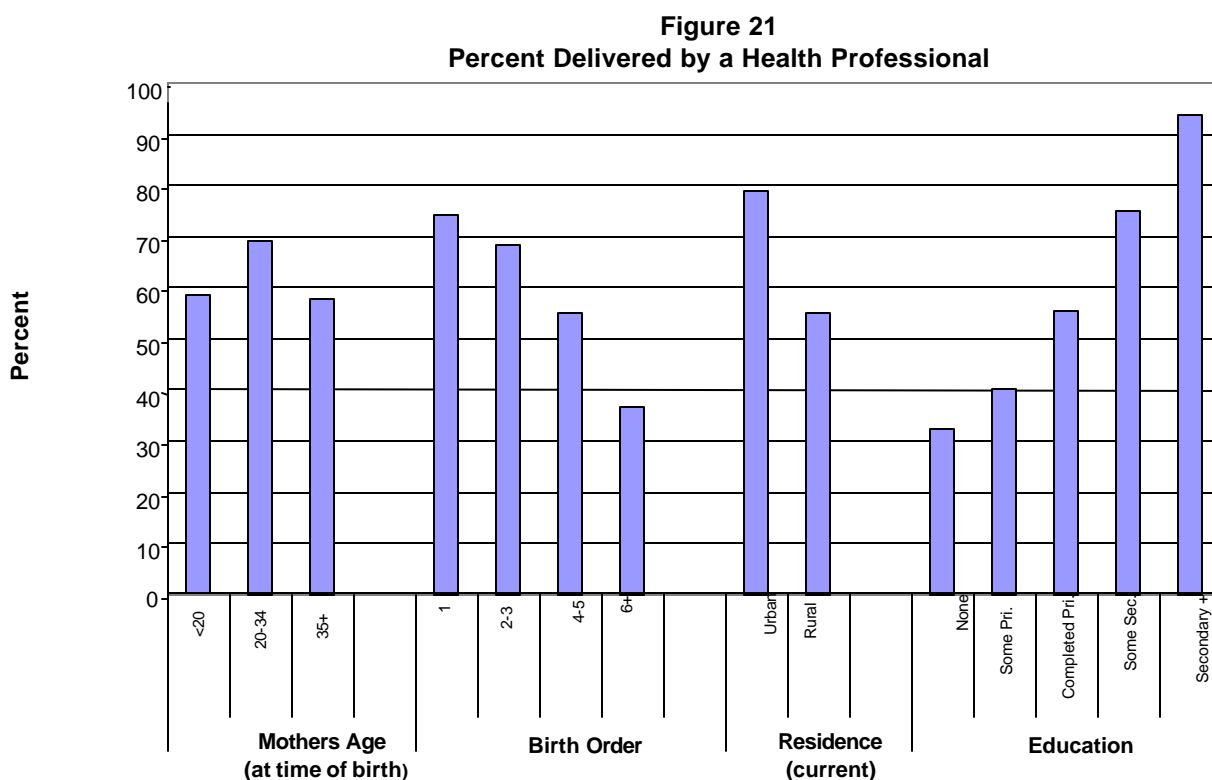
Source: IDHS 2002-03

MATERNAL AND CHILD HEALTH DATA FOR IDHS

21. Percent Delivered by a Health Professional

Section 21-23 look at data from the Maternal and Child Health (MCH) tables of the 2002-03 IDHS.

Overall, 66.2% of deliveries (of the last two births)⁸ (not shown) were attended by a health professional, with the expected differences by urban/rural and education (Figure 21). The percentage also declines with birth order; probably the upper orders are more prevalent in rural areas. There is rather little difference across age groups.



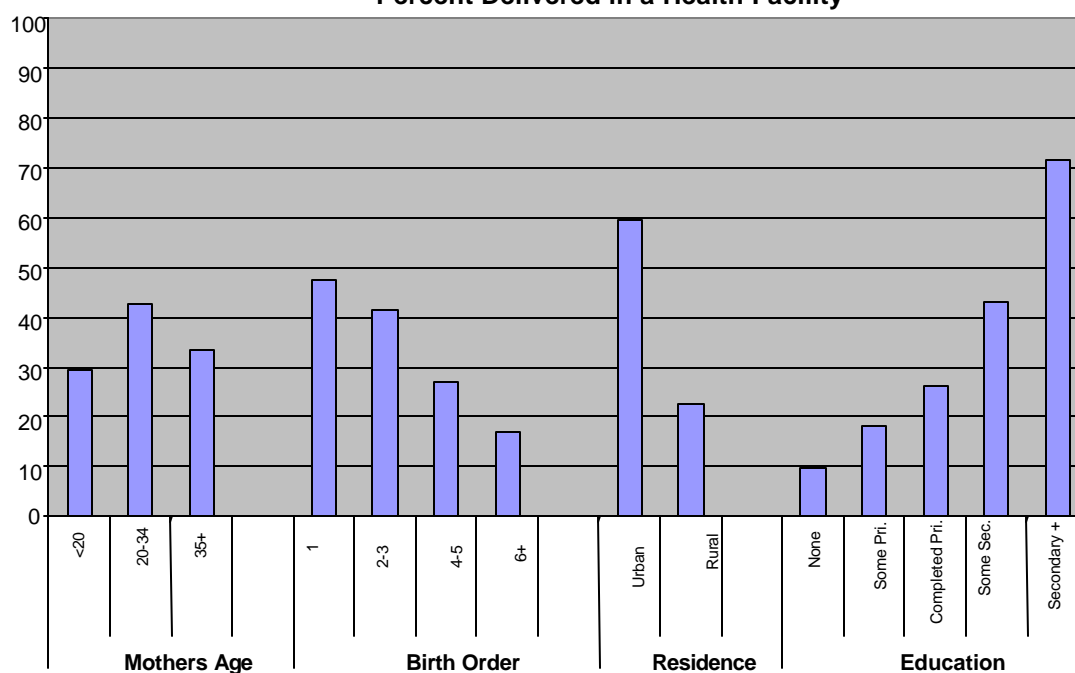
Source: IDHS 2002-03

⁸ The IDHS collects delivery practice data for the last two births. This is considered to be consistent with the births in the last five years used in the Birth History questions. Because birth intervals are so long in Indonesia, 93% of the women reporting on deliveries had only one delivery in the “last five years.”

22. Percent Delivered in a Health Facility

Only 39.8% of deliveries (of last two births) (not shown) occur in a health facility, much below the 66.2% having attended births in Fig. 21 above. The gradients obtained when tabulating by mother's age, birth order, residence, and education, are similar as before, although rather sharper for residence and for education. We would expect to find that the risks for maternal and infant morbidity/mortality parallel these gradients (inversely correlated).

Figure 22
Percent Delivered in a Health Facility



Source: IDHS 2002-03

23. Other Points on MCH

- The Maternal Mortality Ratio (deaths per 100,000 births) has been estimated at 230 as of 2000, 472 as of 1995 and 650 as of 1990.⁹ The methodologies used differed somewhat for the three dates.

⁹ Sources are as follows: For 2000, see AbouZahr and Wardlaw (2003), based on a technical paper by Kenneth Hill and Yoonjung Choi; for 1995, see Hill et al. (2001); and for 1990, see WHO and UNICEF (1996).

The infant mortality rate is estimated at 35, and the under-five rate at 46, in the 2002-03 IDHS for the preceding 5-year period, but both of these are probably too low. The 1997 IDHS gave 46 and 58, respectively.

Short birth intervals and teenage mothers: Among non-first births to teenage mothers aged 15-19, 33.4% of births arrived within 24 months of the previous one. In some cases the earlier birth died, leading to an abbreviated next interval. Overall, the 2002-03 IDHS reports 12.7% of birth intervals, or one in eight, were shorter than 24 months (compared to 15.4% in the 1997 IDHS). Interestingly 56.6 percent of intervals were longer than 48 months. Indonesia has a longer average birth interval than most developing countries, but the dangers lie especially in the briefer intervals.

The under-five mortality rate is a full 126 per 1000 births for intervals below 24 months. That is double the rate of 65 for 24-35 months and three times the rate of 39 for longer intervals. Overall there are at least 165,000 infant deaths, part of the 218,000 child deaths annually.

There is an interaction between contraceptive use, which lengthens birth intervals, and the numbers of infant/child deaths. In addition, when an infant survives, the next interval is longer than when it dies, truncating breastfeeding.

CONCLUDING OVERVIEW

GOOD NEWS:

- The TFR is down a little
- Prevalence is up a little
- Demand measures are up modestly
- The private sector is increasing its role.

BAD NEWS

- The pace of change in the TFR and prevalence is quite slow.
- At the pace of the last decade over 100 million additional people will be added to the population of Indonesia, by 2050.
- Replacement fertility according to the current trends will arrive only in 2016.
- The current contraceptive method mix is inefficient and fragile, with heavy reliance on two resupply methods.

REFERENCES

- AbouZahr, Carla, and Tessa Wardlaw. N.d. "Maternal Mortality in 2000: Estimates Developed by WHO, UNICEF, and UNFPA." Accessed on the web, Dec 4, 2003.
- BPS (Central Bureau of Statistics). 1998. *Indonesia Demographic and Health Survey 1997*. Jakarta: BPS.
- BPS (Central Bureau of Statistics). 2003. *Indonesia Demographic and Health Survey 2002-2003*. Jakarta: BPS.
- Hill, Kenneth, Carla AbouZahr, and Tessa Wardlaw. 2001. "Estimates of Maternal Mortality for 1995." *Bulletin of the World Health Organization*, 79 (3).
- Hull, Terence H. 2002. "Caught in Transit" Questions about the Future of Indonesian Fertility." Paper presented at the Expert Group Meeting on completing the Fertility Transition, New York, February 14, 2002, Population Division, United Nations.
- Ross, John. 2003. "Contraceptive Security in Indonesia: What do the Data Say?" Jakarta: Johns Hopkins University – STARH Program.
- WHO and UNICEF. 1996. "Revised 1990 Estimated of Maternal Mortality: A New Approach by WHO and UNICEF."