Determinants of Fertility and the Unmet Need for Family Planning in Indonesia

As in much of the developing world, birth rates in Indonesia have been falling dramatically since the early 1970s. Indonesian women now have an average of slightly more than three children, down from the more than five they typically bore two decades ago. The lowest birth rates are now found in the densely settled islands of Java and Bali, but fertility has fallen in all regions of the nation.

The fertility reductions are attributed mainly to increased contraceptive use, encouraged by Indonesia’s innovative and vigorous national family planning program. The Indonesian government launched the program in 1970 on Java and Bali and expanded it over the next few years, eventually introducing it even in the scattered provinces of the Outer Islands. A much-publicized model of innovation, flexibility, and community involvement, the program has achieved impressive reductions in fertility, changes in fertility preferences, and increases in contraceptive knowledge and use.

Increased contraceptive use explains much, but not all, of Indonesia’s recent fertility decline. Other factors provide clues to improving family planning motivation and services.

Increased use of contraception cannot account for all of the fertility decline. Estimates from the nationally representative 1991 Indonesian Demographic and Health Survey (IDHS) show that low fertility has been achieved despite relatively low contraceptive prevalence in the provinces of Jakarta and East Java.

According to a recent study by Haryono Suyono, now state minister of population and family planning, and James A. Palmore, a fellow at the Program on Population, East-West Center, other factors are leading to fertility decline in the two provinces. In their study of the determinants of fertility in Indonesia, Suyono and Palmore identified these additional factors and took the analysis one step further—to characterize the remaining unmet need for family planning in Indonesia’s major provinces. Their results can be used to guide program planning and ensure that populations with the greatest unmet need are supplied with appropriate types and levels of family planning services.
Indonesia's Declining Fertility

Estimates of fertility rates for Indonesia, although varying in degree, consistently show rapidly declining trends (Figure 1). Total fertility rates have fallen by at least 39% since 1971 and by at least 25% since 1980. (The total fertility rate, or TFR, is the number of live births a woman would have over her reproductive life span at current age-specific birth rates.) Indonesian women are now giving birth to an average of slightly more than three children, whereas in 1971 they were having at least five.

In 1991, TFRs in the major provinces of Indonesia ranged from 2.04 in Yogyakarta to 3.5–3.75 in the Outer Island provinces (Figure 2).

Remarkably, in four provinces—Yogyakarta, East Java, Jakarta, and Bali—TFRs have fallen to replacement level under current mortality conditions, the fertility rate necessary for stabilizing population size. This means that, at current rates of childbearing, the average couple in these provinces will replace itself by having, on average, 2.1 children.

The main cause of Indonesia’s fertility decline is increased contraceptive use. The 1991 IDHS results show that nearly half the married women in the major provinces are using contraception, and in Yogyakarta and Bali levels of use are near 70% (Figure 3). Rates of contraceptive use, however, are noticeably below expected levels in two low-fertility provinces, East Java and Jakarta. In these provinces, contraceptive prevalence rates seem to be inconsistent with their very low total fertility rates (2.13 and 2.14, respectively).

Determinants of Fertility

Acknowledging that factors other than contraceptive use are at play in East Java and Jakarta, Susono and Palmore examined data on other fertility determinants—in particular, marriage and infecundity—collected in the 1991 IDHS. They decomposed the total number of person-years lived by a hypothetical, or synthetic, cohort of women into components, paying special attention to percentages of time spent in the exposed or nonexposed states. Each percentage in their calculations is thus an estimate of the total percentage of time that a cohort of,

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**Figure 1.**
Estimated Total Fertility Rates: Indonesia, 1971–91

<table>
<thead>
<tr>
<th>Year</th>
<th>Total fertility rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>6.0</td>
</tr>
<tr>
<td>1975</td>
<td>5.5</td>
</tr>
<tr>
<td>1980</td>
<td>5.0</td>
</tr>
<tr>
<td>1985</td>
<td>4.5</td>
</tr>
<tr>
<td>1990</td>
<td>4.0</td>
</tr>
</tbody>
</table>

Estimation methods: (1) Palmore method, (2) own-children method, (3) Rele method, and (4) last live-birth method.


**Figure 2.**
Total Fertility Rates by Province: 1991 IDHS
(Estimated from birth histories for the previous three years)

<table>
<thead>
<tr>
<th>Province</th>
<th>Total fertility rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yogyakarta</td>
<td>2.04</td>
</tr>
<tr>
<td>East Java</td>
<td>2.13</td>
</tr>
<tr>
<td>Jakarta</td>
<td>2.14</td>
</tr>
<tr>
<td>Bali</td>
<td>2.22</td>
</tr>
<tr>
<td>Central Java</td>
<td>2.85</td>
</tr>
<tr>
<td>West Java</td>
<td>3.37</td>
</tr>
<tr>
<td>Outer Islands I</td>
<td>3.50</td>
</tr>
<tr>
<td>Outer Islands II</td>
<td>3.75</td>
</tr>
</tbody>
</table>


Note: Outer Islands I are the provinces of Daerah istimewa Aceh, North Sumatera, West Sumatera, South Sumatera, Lampung, West Kalimantan, South Kalimantan, North Sulawesi, South Sulawesi, and West Nusa Tenggara. Outer Islands II include all the remaining provinces.

**Figure 3.**
Percentage of currently married women using contraception, by province: 1991 IDHS
(Provinces arranged from lowest to highest 1991 TTR)

Source: Same as for Figure 2.
say, 100 women would spend in various exposed and nonexposed states if they all lived through their entire reproductive period (ages 15-49) and were subject to a given set of age-specific exposed or nonexposed states. Suyono and Palmore first calculated estimates of nonexposure in an attempt to show the proportions of person-years lived for women who were not exposed to the risk of conception either because they were using contraceptives or because of their marital status or infecundity (Figure 4). They found that:

- The lower fertility rates in Jakarta can be explained by greater nonexposure to pregnancy due to never being married, not being currently married (divorced or widowed), or being infecund.
- The lower rates in East Java can be explained by those same factors. Reports for the month prior to the survey also indicate low coital frequency in East Java, but whether or not this pattern is persistent enough to account for lower birth rates is debatable.

Thus, their results show that the low TFRs for Jakarta and East Java are plausible when other fertility determinants are considered along with the prevalence of contraceptive use.

Policy Implications: Unmet Need for Family Planning

By calculating estimated nonexposure due to marriage, infecundity, and contraceptive use, the researchers were able to characterize the proportion of time during which the synthetic cohort for each province is “not exposed.” These are the proportions of person-years lived as not married, using contraception, or infecund (Figure 5).

What concern those in charge of the national family planning program, though, are the proportions of person-years lived in the “exposed” state—that is, the percentages of time during which women in the synthetic cohort are currently married, fecund, not using contraception, and sexually active. An understanding of the proportions of time that women in the synthetic cohort for each province are “exposed” would help to define the unmet need for family planning in each province and guide program planning efforts nationwide.

To determine the unmet need for family planning, researchers Suyono and Palmore first calculated the percentages of time spent in the “exposed” state by province. These ranged from 12% in Yogyakarta to more than 25% in West Java and the Outer Island provinces. Next, they divided the “exposed” category into three groups, based on the type of unmet need for family planning.

- Women with a “manifest” unmet need for family planning. These women realize that they need family planning. They are not using contraception, but they either do not want any more children or intend to postpone their next birth. Not surprisingly, Suyono and Palmore found that the manifest unmet need for family planning is highest in the areas with the highest fertility rates. The percentages of person-years in the synthetic cohort with manifest unmet need were 12% in Central Java, 13% in West Java, and 12% in the Outer Island provinces.

The researchers recommended that, for women with a manifest family planning need, the national program should emphasize improved and wider availability of information and services. These
women need to be reached with a range of high-quality reproductive services and contraceptive methods.

- **Women with a "latent" unmet need for family planning.**
  Women with a latent need do not yet realize that they need family planning. They are not using contraception, but they either already have more than two children or want to have their children closer than three years apart.

  As with manifest unmet need, latent unmet need is highest in the provinces with the highest fertility (Figure 5). The percentage of person-years in the synthetic cohort spent in the latent unmet need state is particularly high in West Java and the provinces of the Outer Islands (23% and 23-24%, respectively). Given that the national program began later in the Outer Islands than elsewhere in Indonesia, higher unmet need in those areas is understandable.

  For women with a latent unmet need for family planning, the national program's emphasis should be on education and motivation. Program efforts need to build support and credibility for family planning and spread knowledge of family planning methods and services. The goal should be increased awareness of the possibility of controlling family size through effective and acceptable means.

- **Women with no current need for family planning.** A small number of women have no current need for family planning. These are women who have just married or who have few children.

  Educational efforts directed toward these women can encourage future acceptance of family planning and contraceptive use.

### Conclusions

Just as there is no single solution to bringing down fertility rates throughout the developing world, so there is no one determinant of fertility. The Suyono and Palmore study shows that the low fertility estimated for East Java and Jakarta is probably accurate and is partly accounted for by determinants other than contraceptive use.

The researchers also acknowledge that, although contraceptive use is not the sole cause of fertility decline, it is clearly a major force in driving down fertility rates. Understanding the various determinants of fertility helps to characterize the types of unmet need for family planning that persists even in countries like Indonesia with strong national programs and declining fertility trends.

Targeting the areas of highest unmet need—both manifest and latent—helps policymakers direct services and motivational efforts to couples who want to delay or stop having children but have no reliable means of doing so. Understanding and meeting these unmet needs can help governments to continue downward trends in fertility and stabilize national population growth.

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