



## Policies for Fertility Reduction: Focus on Asia

**R**APID population growth can threaten development. Reducing fertility, therefore, is a central concern of population policy and development strategies. Because many factors affect fertility, and these factors vary by level of development and by culture, reducing fertility is a complex task for any developing nation.

Among development program objectives, efforts to improve educational attainment and raise women's status, in particular, generally result in lower fertility. Affecting the fertility behavior of married couples directly is also of vital importance to reducing national fertility rates.

Individual behaviors such as early or late marriage, breastfeeding, and use of contraception have particularly strong influence on fertility. Among these behavioral factors, age at marriage and duration of breastfeeding have their greatest effects on fertility levels at the early stages of a country's fertility decline. Contraception becomes more important at later stages of the transition from high to low fertility.

"No transition has ever been accomplished without substantial control of fertility within marriage," observes Rodolfo A. Bulatao, author of the World Bank working paper *Reducing Fertility in Developing Countries*:

*A Review of Determinants and Policy Levers*. Widespread use of contraceptive methods may be the single most important factor necessary for a society to complete the fertility transition.

Policymakers will be most likely to achieve their goals for reducing national fertility levels if they can:

- Identify the specific factors, both those included in development programs and those related to individual behavior, that have the greatest effect upon fertility.

- Devise policies and programs that successfully influence these factors in desired ways. Family planning programs are the most cost-effective intervention.



## Development and Fertility

OVER the long run, socio-economic development has a decisive effect on reducing fertility. In the short run, however, its effects are mixed. Some development programs promote lower fertility; others have no effect on fertility or, for a time, even contribute to higher fertility.

■ **Education.** Providing greater educational opportunities typically leads to lower fertility by giving individuals greater access to information, participation in the modern sector, and new attitudes and values. Women's educational advancement is particularly likely to lead to lower fertility. However, opportunity must extend beyond primary education to the secondary school level. "A sustained commitment over a period of time and the provision of more than minimal education are needed if fertility is to be reduced through this channel," according to Bulatao.

■ **Health.** Achieving lower infant and child mortality is essential to the fertility transition. Lower infant mortality lengthens the interval between births by prolonging the period of protection against pregnancy provided by breastfeeding. It also reduces the need for parents to "replace" children who die. An adequate public health system is of great value to fertility control.

■ **Residence.** Urban fertility tends to be much lower than rural fertility, in part because urban residents have better access to education, information, health care, and other modern benefits. Governments almost never favor increased urban growth. However, to the degree that they can extend the reach of the modern sector to rural areas, they may be able to reduce fertility without encouraging urban growth.

■ **Income.** Income's effects on fertility vary widely by level of de-

velopment, the distribution of income, and other factors. Over the long run, higher incomes and related economic and social changes eventually lead to lower fertility. For developing nations, however, Bulatao states that "to rely on rising incomes to lead to fertility control is clearly a deficient strategy, since in particular circumstances rising incomes could instead increase fertility."

■ **Employment.** Employment is so closely linked to factors such as education, place of residence, and income that "attempts to reduce fertility solely by changing employment patterns are likely to have limited success," writes Bulatao. Although it cannot be confirmed that employment itself is responsible for reducing fertility, one important relationship is that women employed in the modern sector tend to have lower fertility.

■ **Women's Status.** Improvements in the welfare of women are particularly likely to contribute to fertility decline. Education tends to reduce fertility, but female education has a much larger effect than male education. Female employment in the modern sector contributes to marriage delay and increased contraceptive use. Women's status in the home also makes a difference.

## Individual Behavior and Fertility

TRUSTING entirely to development to bring lower fertility is insufficient. The fertility dynamics at the individual or household level also have great relevance. In developing countries, the links between age at marriage, duration of breastfeeding, and use of con-

**Table 1: How Different Fertility Determinants Affect Potential Total Fertility: Asia and the Pacific**

Country	Actual Total Fertility Rate*	% reduction from total potential fecundity (Total Fertility Rate = 17) due to:			
		Marriage age	Breast-feeding	Contraception	All other factors
Pakistan	6.24	21	42	4	33
Nepal	6.12	16	56	2	26
Bangladesh	5.96	11	62	7	20
Philippines	5.12	42	22	25	11
Malaysia	4.62	35	8	24	33
Thailand	4.55	32	31	28	9
Indonesia	4.51	21	42	20	17
Korea	4.23	37	26	20	17
Fiji	4.14	27	13	28	32
Sri Lanka	3.70	38	32	17	13

\*From World Fertility Survey (WFS). Although these statistics have changed since the time of the WFS (1974-1979), the relationships remain valid. The Total Fertility Rate, most simply defined, is the average number of children that women will bear in their lifetime.

Source: Rodolfo A. Bulatao, *Reducing Fertility in Developing Countries: A Review of Determinants and Policy Levers*, The World Bank, Washington, D.C., 1984.



traception have important implications for policies to reduce fertility.

Analysis of data from the World Fertility Survey shows that each of these three factors has played a role in controlling fertility. Assuming that the maximum number of children a woman could give birth to during her childbearing years is 17, researchers calculated how much of the difference between the actual Total Fertility Rate in each country and the theoretical maximum of 17 was due to the marriage age, breastfeeding behavior, and contraceptive practice. The results for ten Asian and Pacific countries appear in Table 1.

In each of the three high-fertility countries of South Asia—Pakistan, Nepal, and Bangladesh—breastfeeding plays a key role in fertility control. Contraceptive use is low. Bangladesh has the longest average duration of breastfeeding—27 months—of any of the 29 countries reported in the World Fertility Survey, and the youngest average age of marriage for women—16 years.

In Thailand, Indonesia, and Korea, breastfeeding also plays a relatively important role. In all of the other Asian and Pacific countries studied, however, the contribution of breastfeeding to fertility reduction is much lower. Somewhat later marriage ages may compensate for lower breastfeeding levels in controlling fertility.

The contribution of contraception varies widely, from only 2 percent in Nepal to as much as 28 percent in Thailand. In Fiji, contraception plays a greater role than either breastfeeding or the age of marriage in reducing fertility. A low Total Fertility Rate is almost always the result of relatively widespread use of contraceptives.

Increases in contraception largely explain the reductions in the Total Fertility Rate during the 1970s in India, Indonesia, Thailand, and Korea. In contrast, the practice of

**Table 2: How Different Fertility Determinants Have Contributed to Decline in the Total Fertility Rate: Four Asian Countries**

Country	Reduction in Total Fertility Rate	% contribution/(impediment) to reduction in Total Fertility Rate from:			
		Delayed marriage	Reductions in breast-feeding	Increases in contra-ception	All other factors
India (1972-78)	0.51	41	(58)	114	3
Indonesia (1970-80)	0.90	41	(77)	134	2
Korea (1968-78)	2.16	50	(38)	53	34
Thailand (1968-78)	2.74	11	(17)	86	20

Source: Same as Table 1.

breastfeeding declined, retarding the fall in fertility rates in each of these countries during this period. Delayed marriage nearly compensated for these reductions in breastfeeding. (See Table 2.)

## Policy Options

**T**HE major policy implication of this research is that if the goal is reducing fertility, it is indispensable to include contraception as a policy option. It is unwise, however, to ignore either marriage timing or breastfeeding. Each has a large effect on fertility. As recently as the early 1970s, breastfeeding provided more protection than family planning in developing countries.

■ **Raising Age at Marriage.** Encouraging women to delay marriage and childbearing could have a significant effect upon reducing fertility. If Bangladesh immediately could adopt the Sri Lankan marriage pattern—without any other change in fertility behavior—women there would each give birth to an average of 2.2 fewer children.

Early marriage means a shorter gap between successive generations, significantly increasing the birth rate. Early marriage also exposes women to the risk of conception for a longer period, and often ends possibilities for further education and employment.

Creating programs to encourage delayed marriage is complex, because many cultural, ethnic, and religious factors as well as development factors affect the marriage age. "Nonetheless," Bulatao argues, "the essential role that later marriage plays in fertility decline argues that some attention must be paid to it."

■ **Moderating Breastfeeding Declines.** The practice of breastfeeding has declined in developing countries in recent years, as development levels have risen. Breastfeeding reduces fertility because infant suckling stimulates the production of the hormone prolactin, which inhibits ovulation. Until six months postpartum, a woman whose child is fully breastfed is almost completely protected against conception. The health benefits of breastfeeding are also important.



Although some decline from long breastfeeding durations—two to three years in some countries—seems inevitable as development occurs, breastfeeding promotion programs have potential. "Providing women with confidence and the knowledge to breastfeed successfully is critical," Bulatao observes. "The scientific evidence suggests that it is more useful to think of breastfeeding and contraception as complements in delaying pregnancy and, partly as a result, improving infant health."

■ **Promoting Fertility Regulation.** Once a country passes the early stages of the fertility transition, the largest declines in fertility occur from deliberate fertility reduction. Effective modern contraceptive methods become more accessible

and acceptable. Family planning programs are largely responsible for the diffusion of modern methods.

Recent studies indicate that active family planning programs lead to greater fertility decline than can be expected from socioeconomic development alone. A comprehensive study of Matlab, Bangladesh, revealed that after two years fertility fell 22 percent more in 70 villages where comprehensive family planning services were introduced than in 79 other Matlab villages without such services.

Family-size preferences also play an important role in fertility reduction, but it is more difficult for governments to change people's preferences than it is to offer family planning information and services. "Direct attempts to modify prefer-

ences generally come only after family planning programs have had some time to work," according to Bulatao's study.

Effective family planning programs cannot be separated from other development-related factors. People must be interested in family planning, and a support system for family planning services must be in place if they are to be effective. A variety of cultural and other factors contribute to fertility reduction in any society. Nevertheless, Bulatao's study reports: "The general conclusion remains that family planning programs are by far the most cost-effective intervention, if one focuses solely on the fertility effects, in virtually all circumstances."

Asia-Pacific

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*Asia-Pacific Population & Policy* reports research of interest to policymakers and other professionals concerned with population trends, family planning, and development.

Support for this publication is provided by the Office of Population, U.S. Agency for International Development, under a cooperative agreement with the East-West Population Institute, East-West Center.

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ISSN 0891-6683

This bulletin is based on the following study:

Bulatao, Rodolfo A. (1984) *Reducing Fertility in Developing Countries: A Review of Determinants and Policy Levers*. World Bank Staff Working Paper Number 680, Population and Development Series, Number 5. Washington, D.C.: The World Bank.

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