How Development Programs Can Affect Fertility: The Case of Bangladesh

Developing countries engage in many programs to improve living standards and increase productivity in rural areas. To the extent that such development programs can also have a positive effect on fertility reduction, they may result in a more efficient use of resources and provide better coordination between family planning and development objectives.

In Bangladesh, where government policy stresses both rural development and fertility reduction, a research program studied the impact of specific development policies and programs on fertility in selected rural areas. The researchers demonstrated that some development activities, although they do not have fertility reduction as an objective, also result in lower fertility, whereas other development programs have little or no effect on contraceptive use or fertility levels.

The research findings have three major policy implications:

- Efforts to raise the educational and employment status of women, and to organize women's communal activities, will have a measurable effect on contraceptive prevalence and fertility by increasing women's knowledge of family planning practices, raising the marriage age, and providing wage-earning opportunities for women.

- Improvements in infrastructure and technology such as transportation, communications, and rural electrification will encourage lower fertility by improving diffusion of information and hastening adoption of family planning practices.

- The "grass-roots" participation of rural households in development programs is required if these programs are to affect fertility levels. Projects that increase agricultural productivity and income result in lower fertility for those households that receive economic benefits, but unless these benefits are distributed among the community as a whole the effect on fertility levels is likely to be small.
Fertility Effects of Development Programs in Bangladesh

How do improvements in rural electrification, agricultural productivity, women's education and employment, and other rural development project goals affect contraceptive use and fertility levels? In Bangladesh, a research project studied how development programs affect fertility reduction. The research was carried out by members of the Population and Development Planning Unit of the Bangladesh Government Planning Commission, with support from the United Nations Fund for Population Activities and the Population Council.

The findings of the research project strongly suggest that development programs that raise the status of women play an important role in reducing fertility levels. Although emphasizing women's participation, education, and employment may be a controversial objective for government programs in some societies, it appears vital to bringing population growth under control in Bangladesh and other countries.

According to Atiqur Rahman Khan, project director of the Bangladesh Population and Development Planning Unit, and Warren C. Robinson, who served as Population Council/UNFPA advisor to the project: "The chief stumbling block to population control, or socio-economic development in general, in Bangladesh is the depressed, virtually subjugated status of women. They are married in arranged fashion at an early age and are expected to produce children, especially male children, at a regular pace thereafter."

When women gain in education and achieve marketable skills, their attitudes, self perception, and motivation change. Their economic security and social standing no longer rest solely on their ability to produce children. As a result, the use of contraceptives increases, and fertility falls.

Education

In Bangladesh, the higher a woman's education level, the fewer children she bears. Women between the ages of 25 and 29 with a Secondary School Certificate, for example, have given birth to an average 2.4 children each, versus 4 children for women of the same age with no education (see Table 1).

The inverse relationship between education and fertility is greatest for women in their 20s, and less evident in older age groups, possibly because of the greater availability of family planning services in recent years. This finding suggests that education will have an even more powerful effect upon fertility in the future. Assuming that the current fertility experience of women of ages 25 to 29 will apply in the future, the researchers calculated that over 6 million births could be averted by 1995 because of expected increases in secondary school attainment.

Employment

Primary education serves as a necessary preparation for women's employment. To understand the relationship between employment and fertility, the researchers studied the experience of relatively poorly educated rural-born women in the modern manufacturing sector of the Bangladesh economy. Since some 95 percent of the 68,000 garment workers in Dhaka are women, the researchers focused on this industry. From a random sample of 10

<table>
<thead>
<tr>
<th>Age Groups</th>
<th>No education</th>
<th>Below Class V</th>
<th>Class V-IX</th>
<th>SSC and above</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-19</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
<td>0.5</td>
</tr>
<tr>
<td>20-24</td>
<td>1.7</td>
<td>1.9</td>
<td>1.8</td>
<td>1.4</td>
</tr>
<tr>
<td>25-29</td>
<td>4.0</td>
<td>3.5</td>
<td>3.4</td>
<td>2.4</td>
</tr>
<tr>
<td>30-34</td>
<td>4.7</td>
<td>5.0</td>
<td>4.7</td>
<td>4.0</td>
</tr>
<tr>
<td>35-39</td>
<td>5.7</td>
<td>6.2</td>
<td>5.9</td>
<td>5.7</td>
</tr>
<tr>
<td>40-44</td>
<td>6.2</td>
<td>6.6</td>
<td>6.5</td>
<td>6.2</td>
</tr>
<tr>
<td>45-49</td>
<td>6.4</td>
<td>7.0</td>
<td>7.1</td>
<td>6.6</td>
</tr>
</tbody>
</table>

The effect of upgrading educational attainment to universal female primary education, or Class V, would be striking. Recent data suggest a reduction of 15 percent in completed fertility for female primary school graduates compared to those with no education. This difference would mean women who were between 5 and 9 years old in 1985 would have 4 million fewer births by the year 2035, if they all received at least a primary education. The clear relationship between women's educational attainment and fertility reduction demonstrates that education policy can be enlisted in the struggle to control population growth.
such firms, researchers selected 300 currently married female workers for interviews.

The fertility findings are significant. All of the women interviewed could name at least two modern contraceptive methods. Half reported currently using modern contraception, versus only 16 percent of all women surveyed in 1983, while another fourth said the reason they were not using contraceptives was that they were pregnant or desired to have a first child. In contrast with other studies showing very low use of the pill, 25 percent of the interviewed women were using the pill, which was the most popular method. Nearly two-thirds of the women gave an economic reason for practicing family planning.

For women garment workers in their twenties, the average number of births was fully one birth below the average for all women in the Bangladesh fertility survey. This figure suggests a completed fertility level of only 3.2 births over the course of their childbearing years, versus the national average of nearly 6, or even the urban rate of 4.3 births per woman. For policymakers, the clear implication of these findings is that programs directed to furthering women's participation in the labor force are also likely to help reduce fertility levels.

<table>
<thead>
<tr>
<th></th>
<th>Electrified</th>
<th>Non-Electrified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family planning is acceptable</td>
<td>82.3%</td>
<td>73.4%</td>
</tr>
<tr>
<td>Has knowledge of supply points of contraceptives</td>
<td>63.3%</td>
<td>58.2%</td>
</tr>
<tr>
<td>Current use of contraception</td>
<td>24.2%</td>
<td>23.2%</td>
</tr>
<tr>
<td>Total live births</td>
<td>5.9</td>
<td>5.4</td>
</tr>
<tr>
<td>Boys</td>
<td>3.1</td>
<td>2.8</td>
</tr>
<tr>
<td>Girls</td>
<td>2.8</td>
<td>2.6</td>
</tr>
<tr>
<td>Total living children</td>
<td>4.5</td>
<td>4.2</td>
</tr>
<tr>
<td>Boys</td>
<td>2.3</td>
<td>2.2</td>
</tr>
<tr>
<td>Girls</td>
<td>2.2</td>
<td>2.0</td>
</tr>
<tr>
<td>Desired family size</td>
<td>2.9</td>
<td>3.2</td>
</tr>
</tbody>
</table>

Social Welfare Schemes

Effective and successful community organization efforts directed at women can be successful in increasing contraceptive prevalence in rural areas. Self-help programs that link family planning to economic and social improvement programs have doubled contraceptive prevalence.

These findings result from studies of the relationship between the Bangladesh Rural Social Services (RSS) program and the fertility of women participants in the program. One aspect of the RSS program provides self-help employment for very poor families in rural areas and also assists in health and nutrition education, family planning, and literacy. A second aspect is the Mothers Clubs, a program in which social workers assist in establishing and supporting self-reinforcing groups of women for skill development, maternal and child health and nutrition, and family planning education.

The researchers found that these programs succeeded in raising the incomes of the participants and in increasing the acceptance of family planning. Other benefits included higher child literacy rates.

Between 1978 and 1981, for example, the average increase in income for self-help program families was 168 percent. In the Mothers Clubs, four women in ten improved their incomes. Acceptance of family planning among participants was at least double the national average of 20 percent. In 1984, for example, the contraceptive prevalence rate was 47 percent among the Mothers Club participants studied, and a 1981 evaluation of the RSS program reported a contraceptive prevalence rate of 46 percent. Analysis of the findings from other studies of nearly a dozen government rural development programs, all of which contained components aimed at improving the status of women, showed above average contraceptive prevalence rates.

Rural Electrification

Rural electrification programs have a high priority in Bangladesh development planning, and many programs are already being undertaken. Evidence is mounting that bringing electricity to rural areas makes an important contribution to changes in the attitudes and behavior of residents.

To learn whether rural electrification contributes to family planning objectives, researchers studied a sample of villages in four major
areas affected by the Rural Electrification Board in 1981. They interviewed 400 electrified households and 200 without electricity. Because the villages had been electrified for only three years at the most, the researchers did not expect to find differences in fertility between electrified households and those without electricity. Nevertheless, the study did reveal small but statistically significant differences both in approval of family planning and actual practice. (see Table 2).

A second survey of the same villages in 1985, however, showed greater fertility differences between the two types of households. Contraceptive prevalence in electrified households was 34 percent—10 points higher than in the 1981 survey. Contraceptive prevalence rates rose 5 percentage points in the control group of households without electricity.

These findings demonstrate that rural electrification can have demographic as well as economic benefits. Electrification contributes to lower fertility by providing women with more time and greater freedom to engage in household discussions and visit other families and by raising their aspirations for their children because they believe the future can be better.

### Recommendations

BECAUSE some types of rural development programs affect attitudes, values, and motivation to adopt contraception, governments can speed fertility decline not only by sponsoring family planning and contraceptive distribution programs, but also by emphasizing development programs that have the greatest effect on fertility.

In Bangladesh, these programs include:
- improved capital infrastructure to open the rural areas to new opportunities, information, and ideas, changing aspirations and values.
- emphasizing female primary education and modern sector employment.
- insuring that all major rural development programs are participatory, involving the entire community, including women.

Asia-Pacific

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

Editor: Bryant Robey
Correspondence Address: Population Institute East-West Center 1777 East-West Road Honolulu, Hawaii 96848 USA
ISSN 0891-6683

Further information is contained in The Fertility Impact of Development Programs in Bangladesh, edited by Atiur Rahman Khan and Warren C. Robinson. This publication is available from the Population Planning Section, Planning Commission, Government of Bangladesh, Dhaka.

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**Agricultural Development**

Bangladesh’s well-known Comilla development program, which began in 1959, successfully raised agricultural output. However, researchers who studied demographic and socioeconomic data collected from a sample of households in villages affected by the program found that the agricultural and technological changes created by the program had little influence on increasing contraceptive use and reducing fertility levels.