

*Educating girls:
A key to achieving population goals*

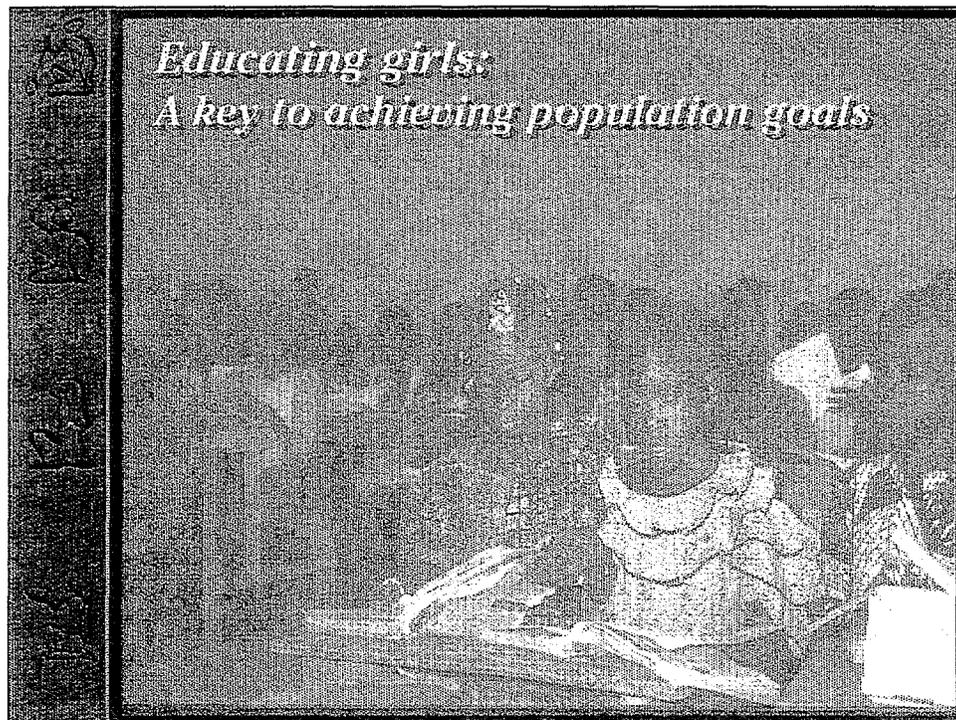
This presentation was prepared by:



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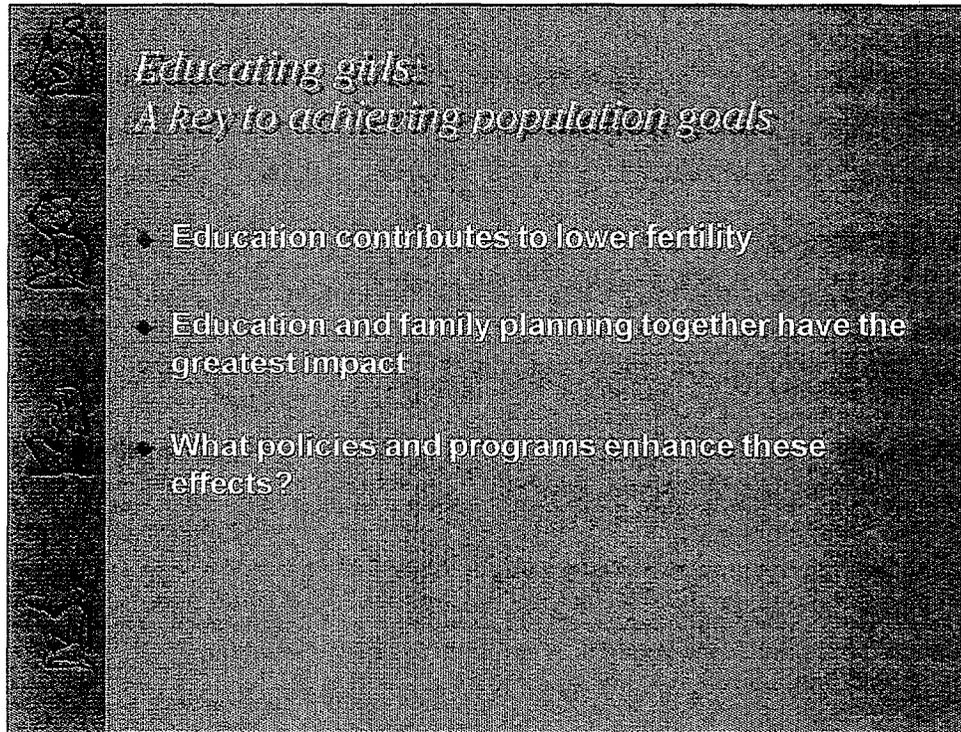
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Educating girls: A key to achieving population goals

The upcoming UN Conference on Population has refocused world attention on the need to slow population growth in order to realize sustainable development. The Conference has also stimulated and contributed to redefining the range of issues and interventions that affect population growth.

One key theme is the growing recognition that educating girls is central to achieving population goals. In this context, we have been looking anew at data related to girls' education and population, in order to understand better the specific means by which education influences fertility, and to establish the magnitude of that relationship. In this presentation, we examine the effects of girls' access to primary and secondary education, as well as those of gender equity in educational participation. The data presented are drawn from the latest round of Demographic and Health Surveys of currently married women, and from country-level data in the World Tables Database.



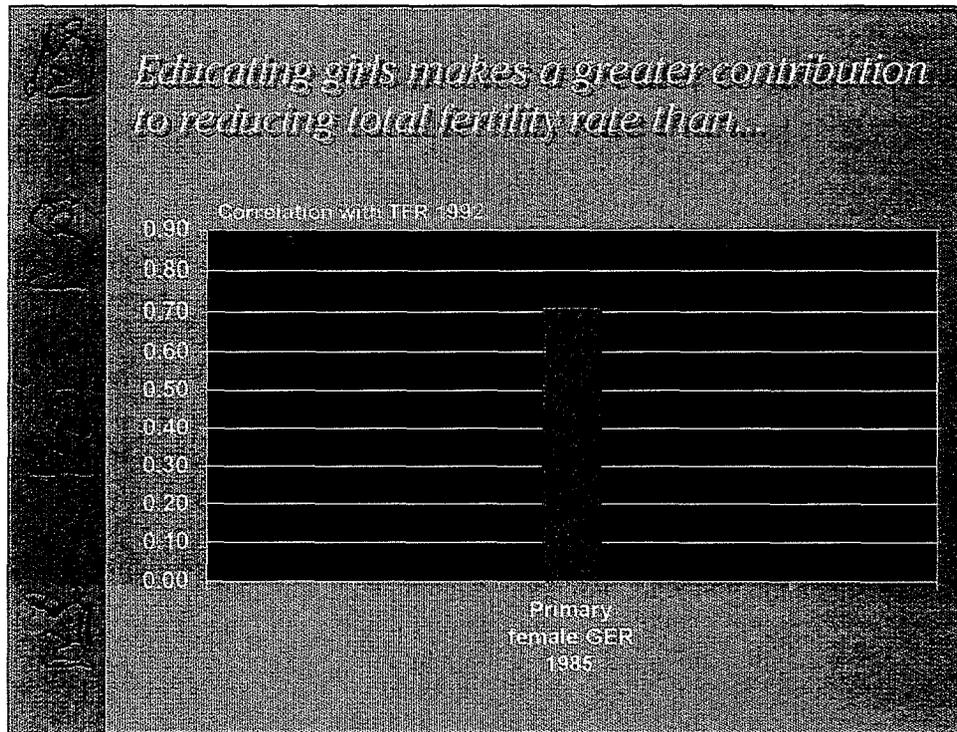
Educating girls: A key to achieving population goals

In and of itself, the education of girls has an impact on total fertility rates in the developing world. We will look at how strong this effect is, and describe how it occurs.

Of course the presence and availability of family planning services also has an important effect. But attaining population goals is most readily achieved when girls' education and family planning efforts are combined, for education exerts a multiplier effect on the fertility outcomes of family planning effort. Analyzing the independent and multiplier effects of education leads to specific policy recommendations for achieving population goals.

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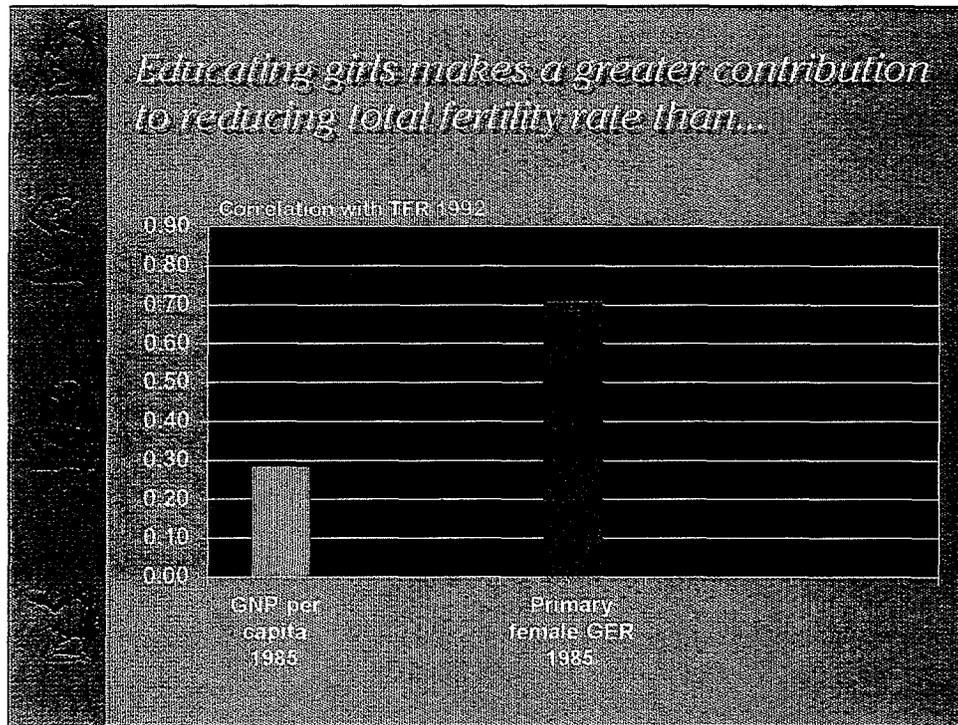
- Education contributes to lower fertility
- Education and family planning together have the greatest impact
- What policies and programs enhance these effects?



Educating girls contributes to lower fertility

Numerous studies over the past twenty years have established that educating girls is associated with lower fertility in the next generation. Differences across countries in girls' primary school participation rates in 1985 show a strong simple correlation -- $r = -.712$ -- with fertility rates seven years later.

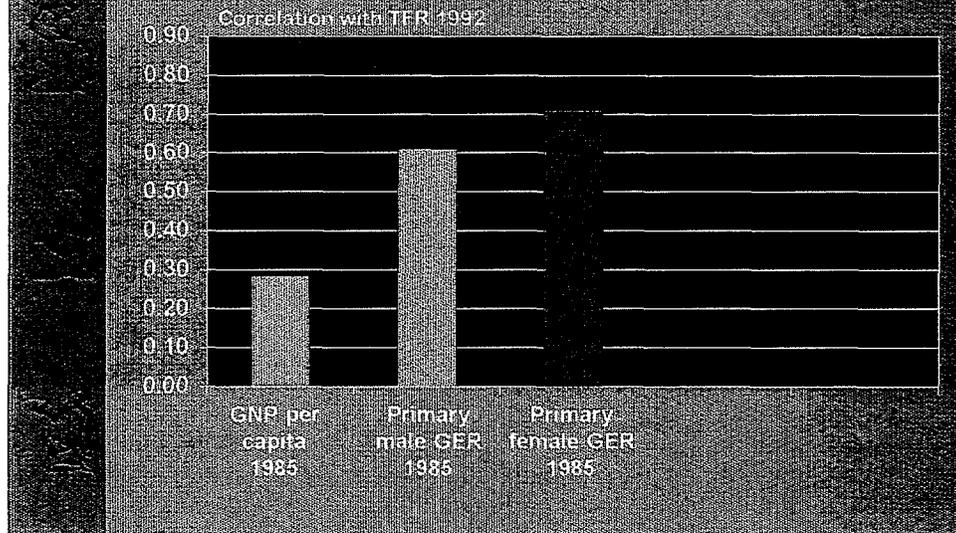
The correlation coefficient (r) can vary from 0 to an absolute value of 1. An r value of -1 or +1 would indicate a perfect correlation between 2 factors such as education and fertility rates. A value of 0 would indicate no relationship between the two factors. Thus, an r value of .712 indicates a strong association between girls' primary education and total fertility seven years later.



Educating girls contributes to lower fertility...more than general economic development

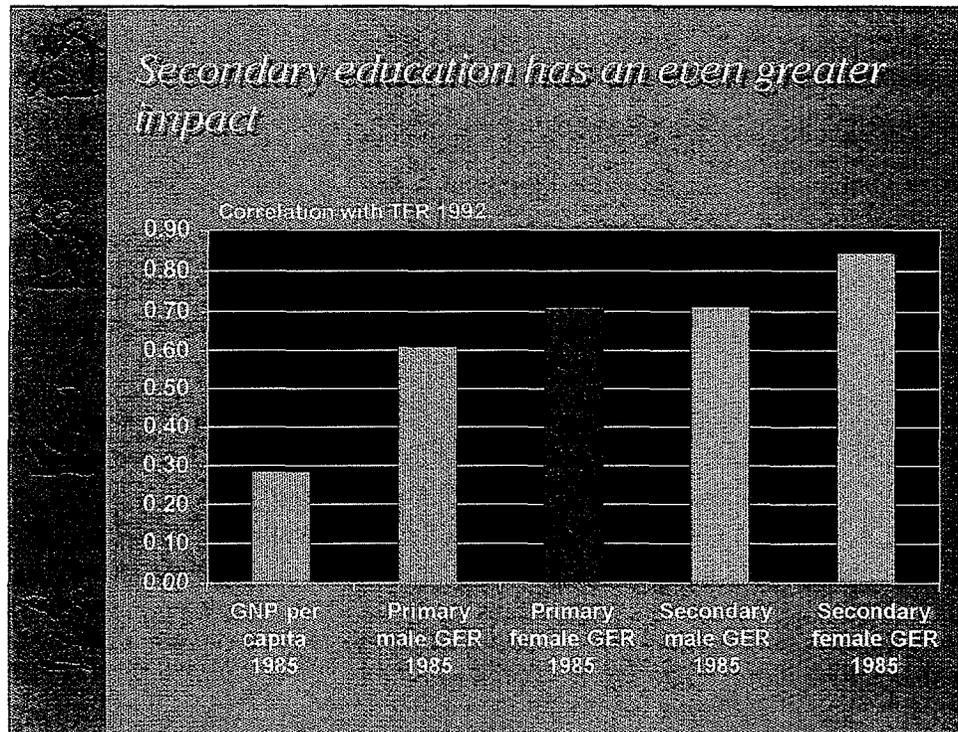
In the same countries, the correlation of fertility rates to general economic development, represented here by GNP per capita, is much weaker, at $r = -.285$.

Educating girls makes a greater contribution to reducing total fertility rate than...



... or boys' primary education

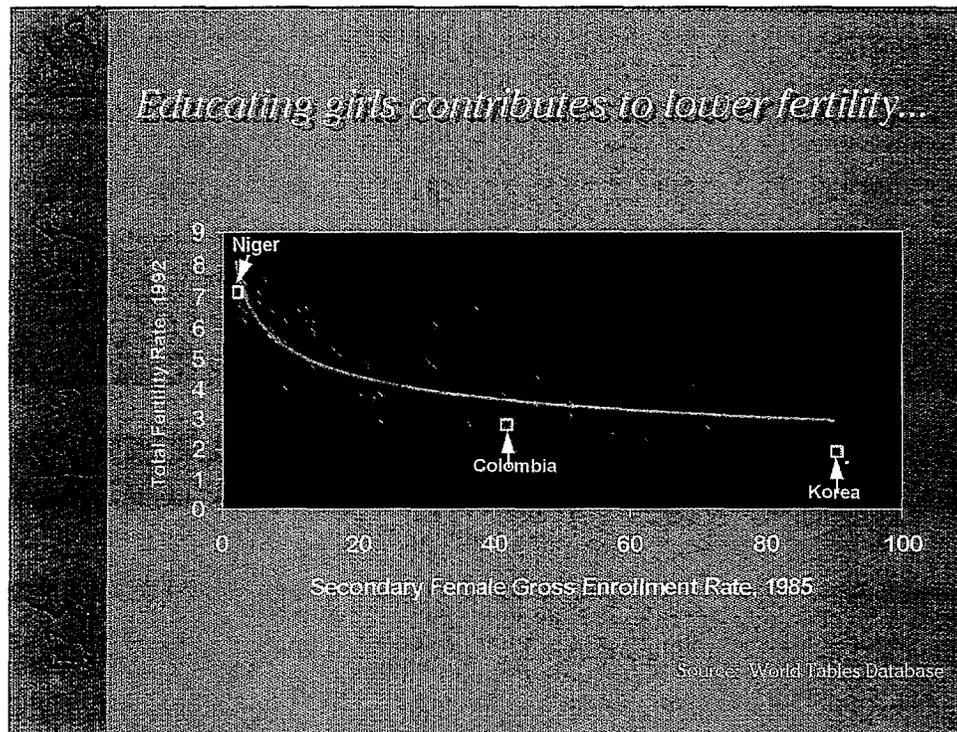
At $r = -.612$, the correlation of boys' 1985 primary enrollment rate with total fertility rate seven years later falls is higher than that of GNP per capita, but lower than that of girls' primary enrollment rate.



Secondary education has an even greater impact

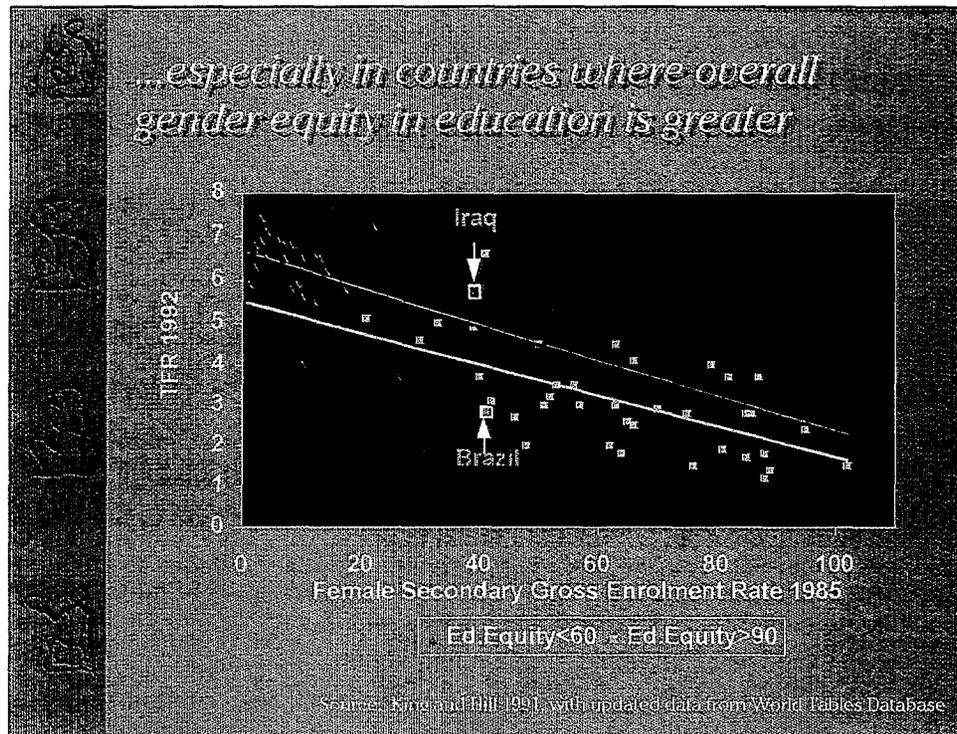
The participation of boys in secondary education shows a correlation with fertility of the same magnitude ($r = -.712$) as girls' primary enrollment rate.

Girls' secondary participation shows the strongest simple relationship, correlating $r = -.845$ with fertility across countries.



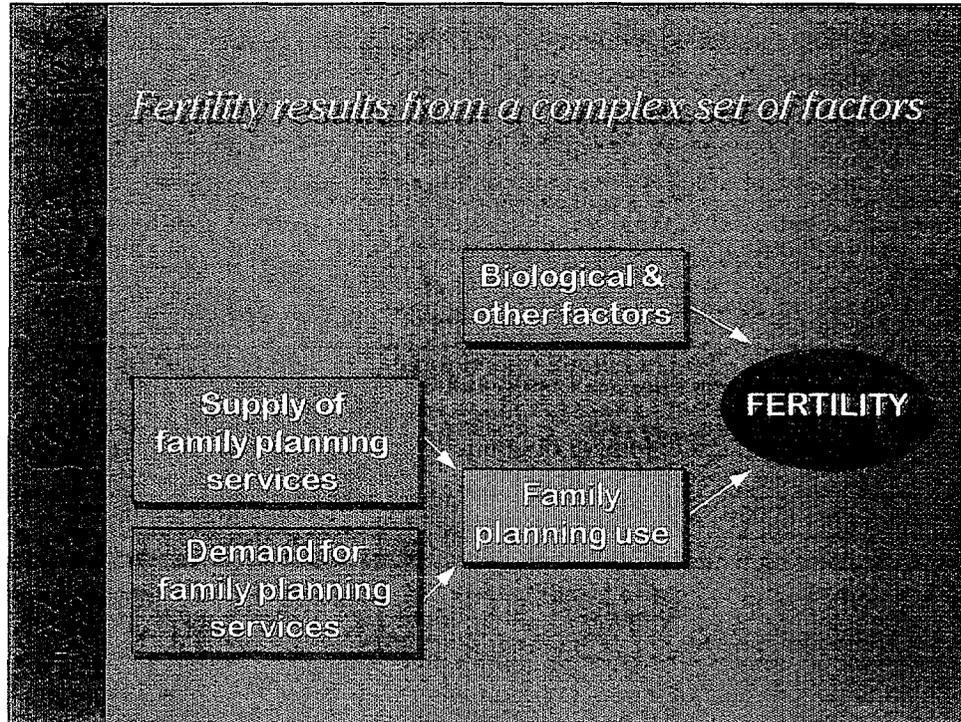
Educating girls contributes to lower fertility...

This graph shows the data underlying the correlation of girls' secondary schooling and fertility rates. The horizontal axis shows the percentage of school-age girls who are enrolled in secondary schools, or the girls' secondary gross enrollment ratio. The vertical axis shows total fertility rates. Each dot represents one country. In countries where girls had a high level of access to secondary education in 1985, the average fertility rate is lower in 1992. For example, in Chile, 70% of secondary school-age girls were enrolled in 1985. Seven years later, fertility averaged 2.7. By contrast, in Togo, only 10% of girls were enrolled in 1985. In 1992, the fertility rate in Togo stood at 6.5.



... especially in countries where overall gender equity in education is greater.

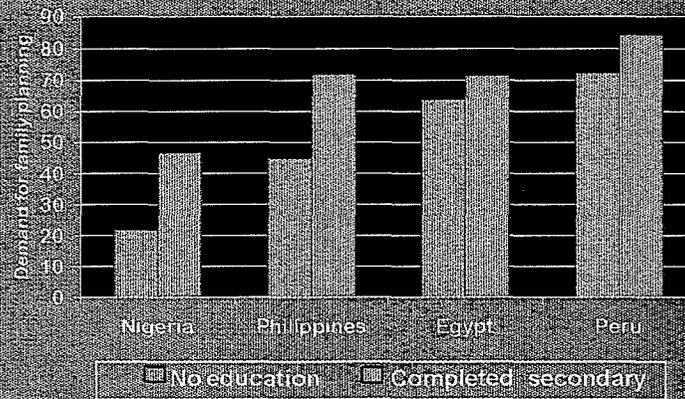
Where gender equity in secondary education is high, fertility tends to be lower by roughly 1 child per woman at the same levels of overall girls' participation in secondary education. The lower line on this graph represents countries with high gender equity in secondary education, that is, countries where there are 90 or more girls to every 100 boys. The upper line represents countries with low gender equity, in which the ratio is 60 or fewer girls for every 100 boys. At the same level of overall educational participation, equity between girls and boys enhances the impact on fertility of girls' access to education. For example, Iraq and Brazil both have female secondary enrollment rates of about 40%. Iraq, which fell into the low equity category in 1985, had a fertility rate of 5.7 in 1992. In Brazil, where gender equity in education is, fertility averaged 2.8 in 1992.



Fertility results from a complex set of factors

The most immediate determinants are biological factors and the use of family planning methods. Whether or not couples employ family planning, in turn, is determined by both supply and demand factors.

Educated women are more likely to have a demand for family planning...

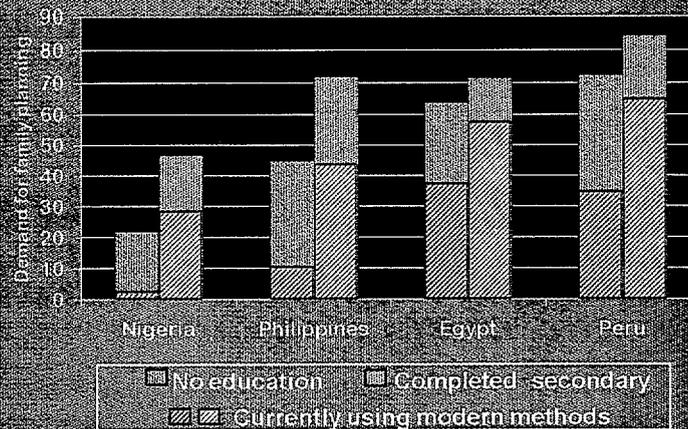


Source: DHS individual country reports, 1990-1993

Educated women are more likely to have a demand for family planning

Data from the Demographic and Health Surveys show that educated women are more likely to have a demand for family planning than women with no education. As the cases of Nigeria, the Philippines, Egypt, and Peru demonstrate, women with completed secondary education express a greater desire to space or limit future births than women with no formal education.

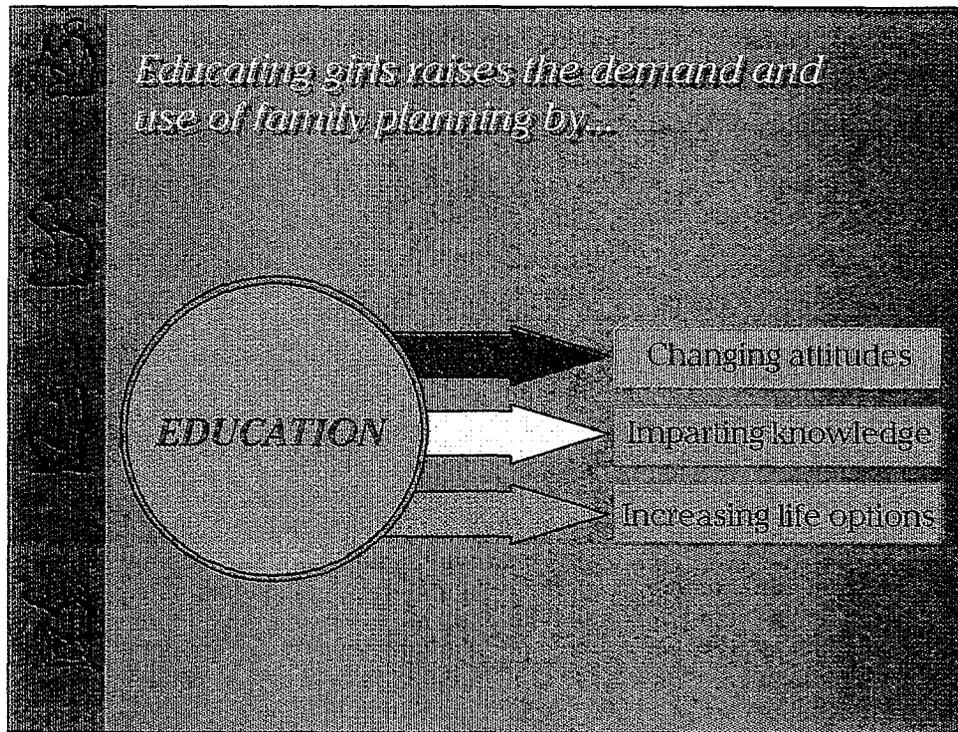
...and to satisfy that demand through the use of modern methods



Source: DHS individual country reports, 1990-1998

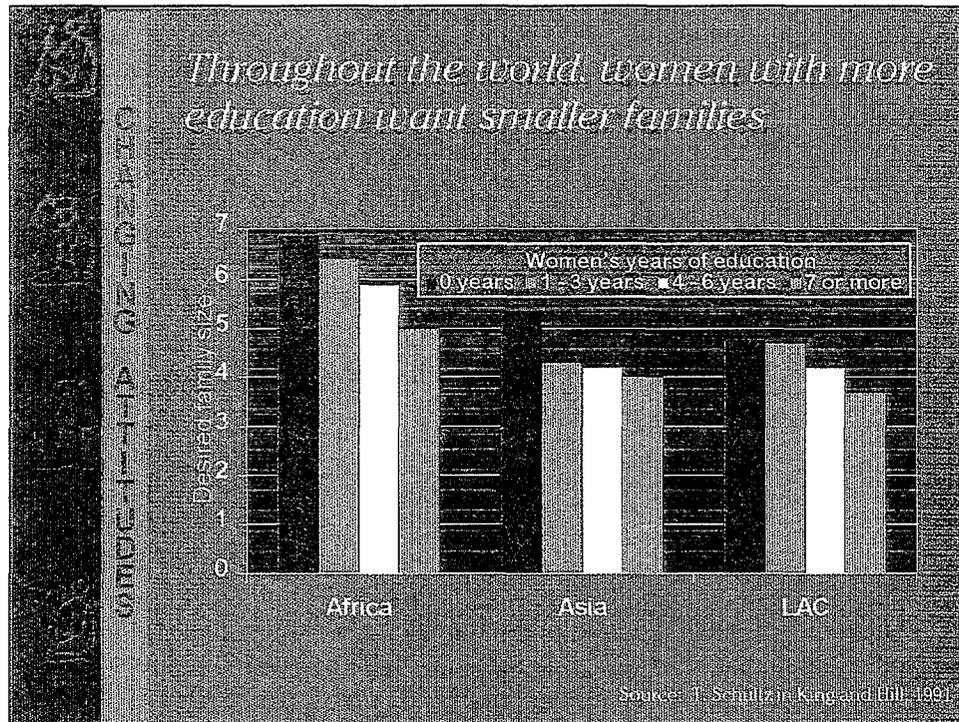
... and to satisfy that demand through the use of modern methods

Educated women are also more likely to satisfy their demand for family planning through the use of modern contraceptive methods. Women who have completed secondary education are far more likely to use modern methods than those with no schooling. Thus, education affects fertility by increasing overall demand for family planning services, and by converting demand into use. In this graph, the hatched area indicates the proportion of women using modern methods. The remaining portion of the bar represents unmet need and method failure. We can see clearly that unmet need is a much larger portion of the bars for uneducated women.



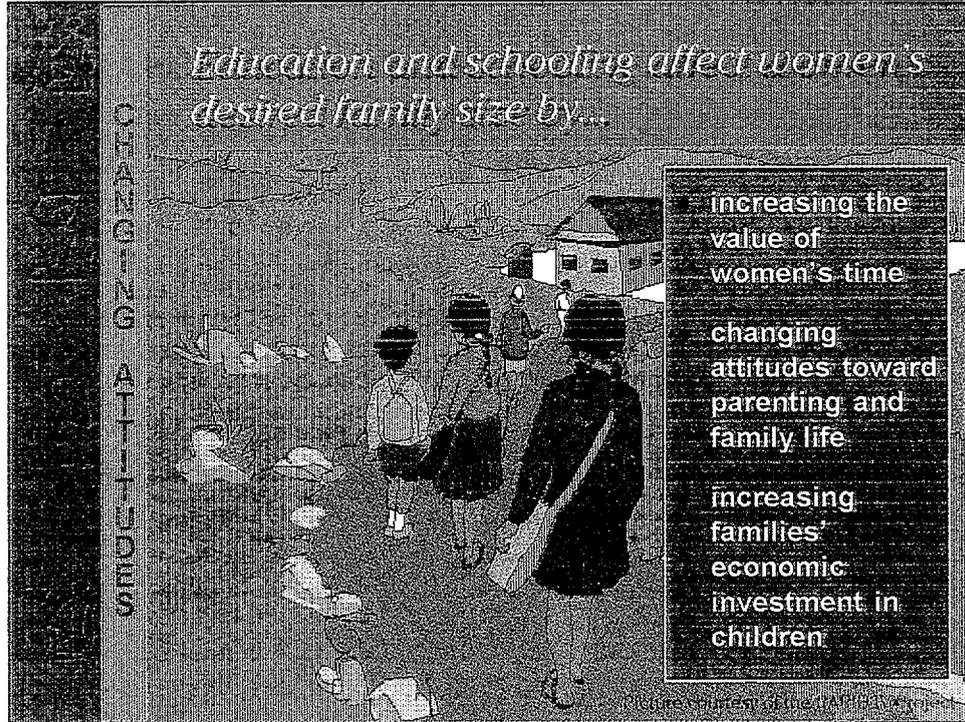
Educating girls raises demand and use of family planning

Educating girls raises demand and use of family planning through at least three avenues: by changing attitudes, by imparting knowledge, and by increasing the life options of girls and young women.



Changing attitudes: Throughout the world, women with more education want smaller families

In the Demographic and Health Surveys, women are asked about the number of children that they would like to have. Women with more education consistently report a desire for fewer children; this relationship holds across Africa, Asia, and Latin America. On average, women with secondary education or more express a desire for one to two fewer children than those with no formal education.

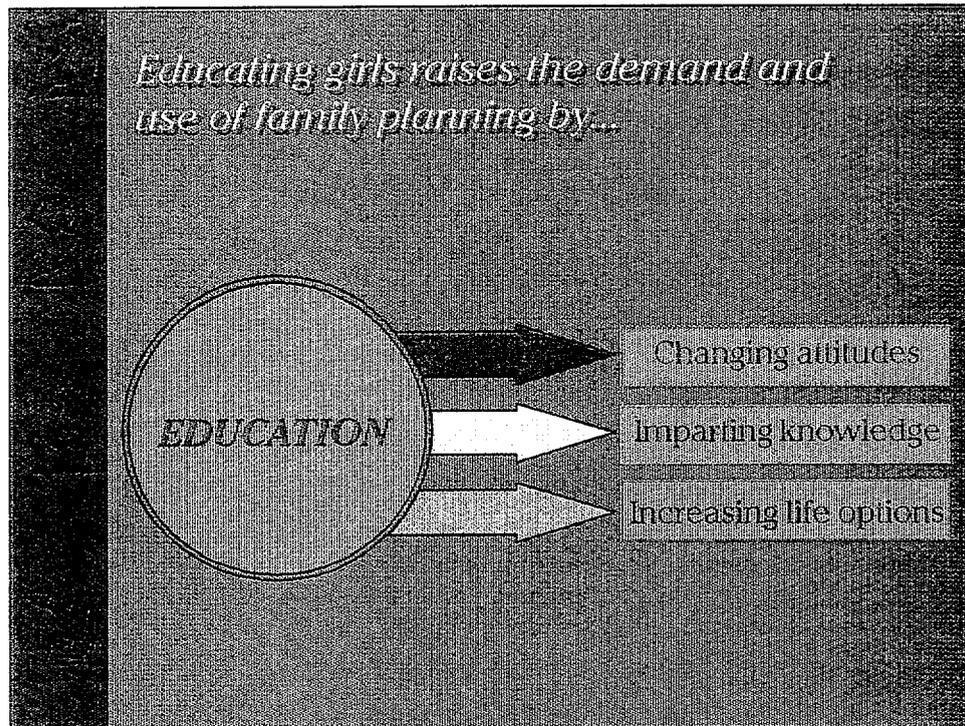


Educating girls affects desired family size (in several ways)

Girls who receive education are likely to become adults whose time has higher economic value. This general pattern leads to decisions to devote a greater portion of time to income generating activities.

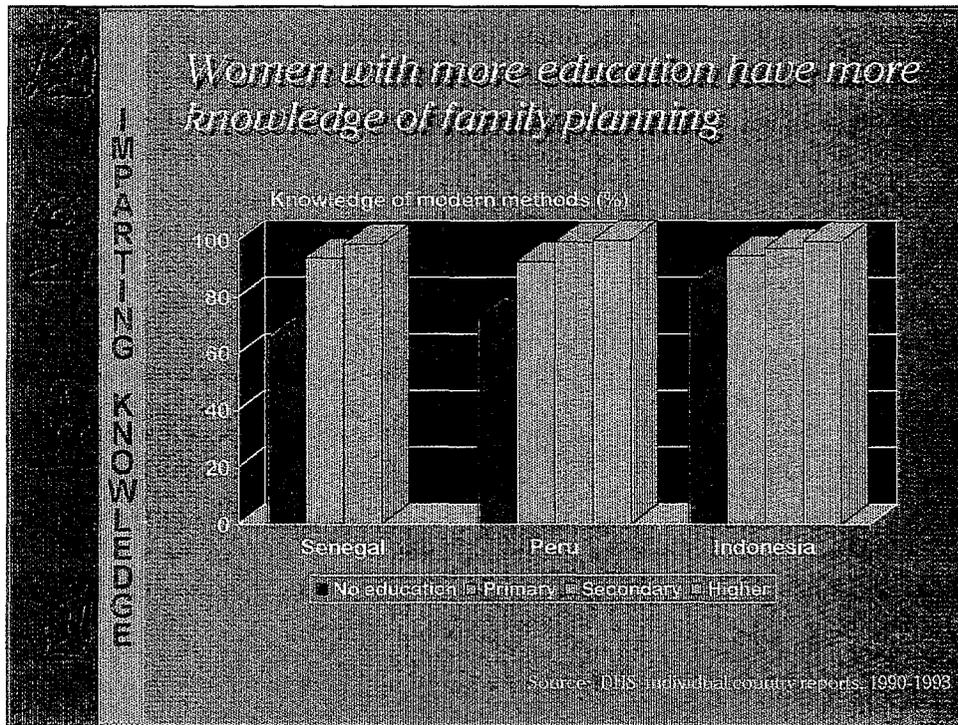
Formal education also changes attitudes towards parenting and family life. The experience of schooling can shape the way that women interact with their own children, increasing their attention to each child's growth and development. Women who themselves have been educated are also more likely to aspire to have their own children educated.

These desires result in practical decisions to limit the number of children, so that each can be assured sufficient attention and education. The net outcome is the dedication of more resources to fewer children.



Imparting Knowledge

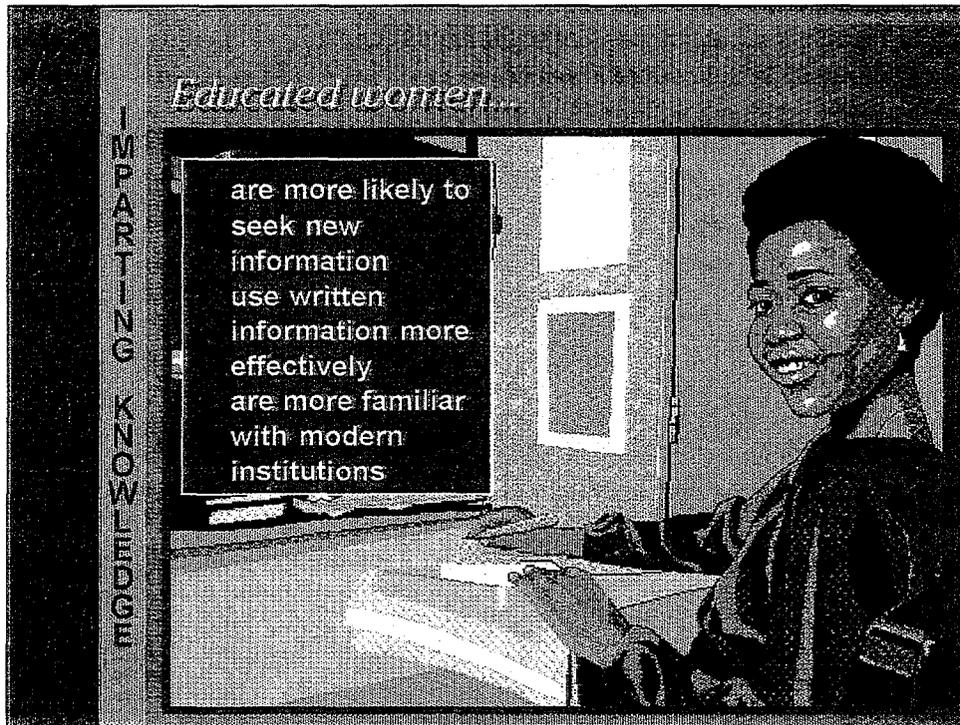
Education conveys a range of knowledge about society, nature, and culture. In few societies, however, does the formal curriculum include extensive materials on responsible parenting or reproductive health. And yet, the general knowledge acquired in schools makes it more likely that young women will know about modern techniques of family planning.



Women with more education have more knowledge of family planning

This graph presents DHS data on the proportions of women of different educational levels who indicated knowledge about one or more modern family planning methods, in Senegal, Peru, and Indonesia. We see that among women with no formal education, knowledge of modern methods is relatively low.

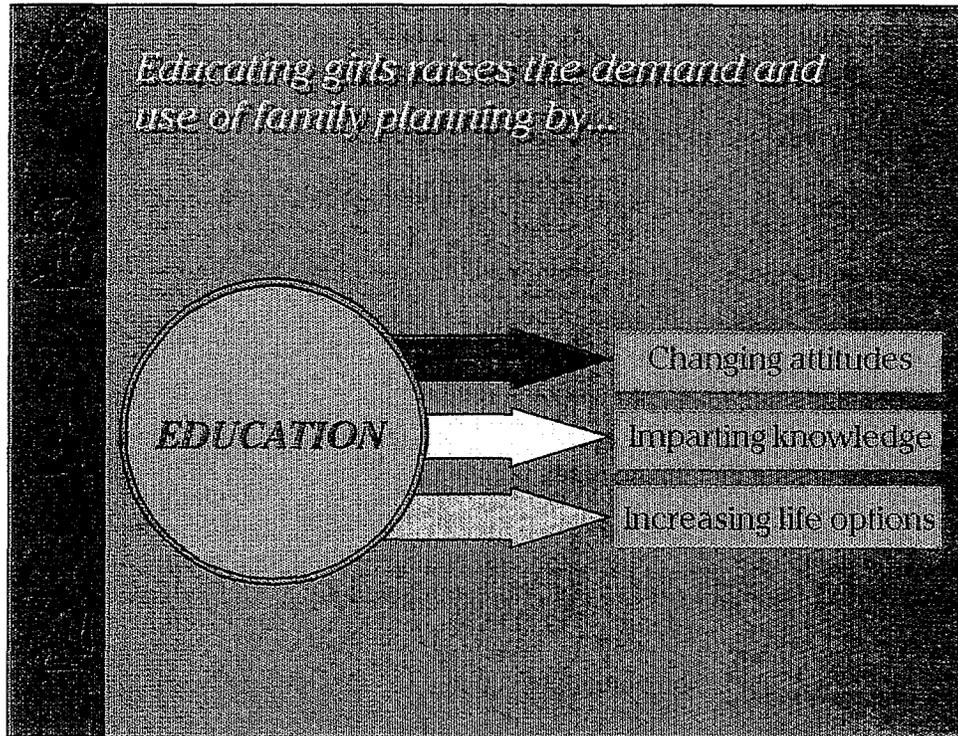
With increasing levels of education, the proportion of women with knowledge of modern methods is also higher. Returns to education are particularly strong at primary and secondary levels, but diminish beyond the secondary level.



Educated women...

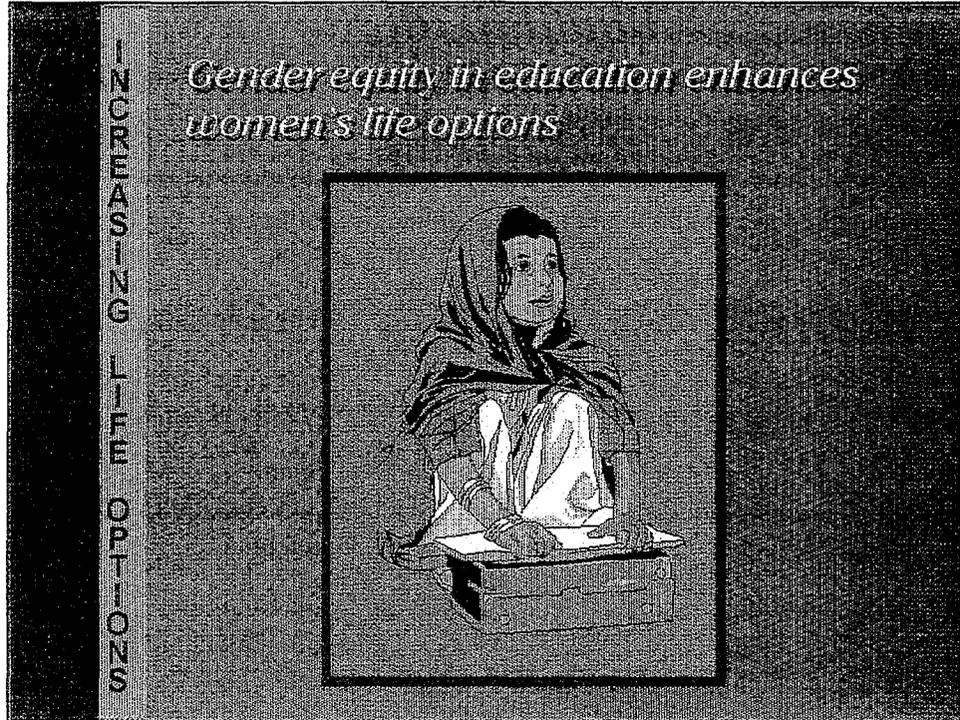
Women who have been educated are more likely to seek new information, including that in written form, and to make effective use of it.

Formal schooling also familiarizes young women with the organization and style of modern institutions, making it easier for them to take advantage of the services of these institutions.



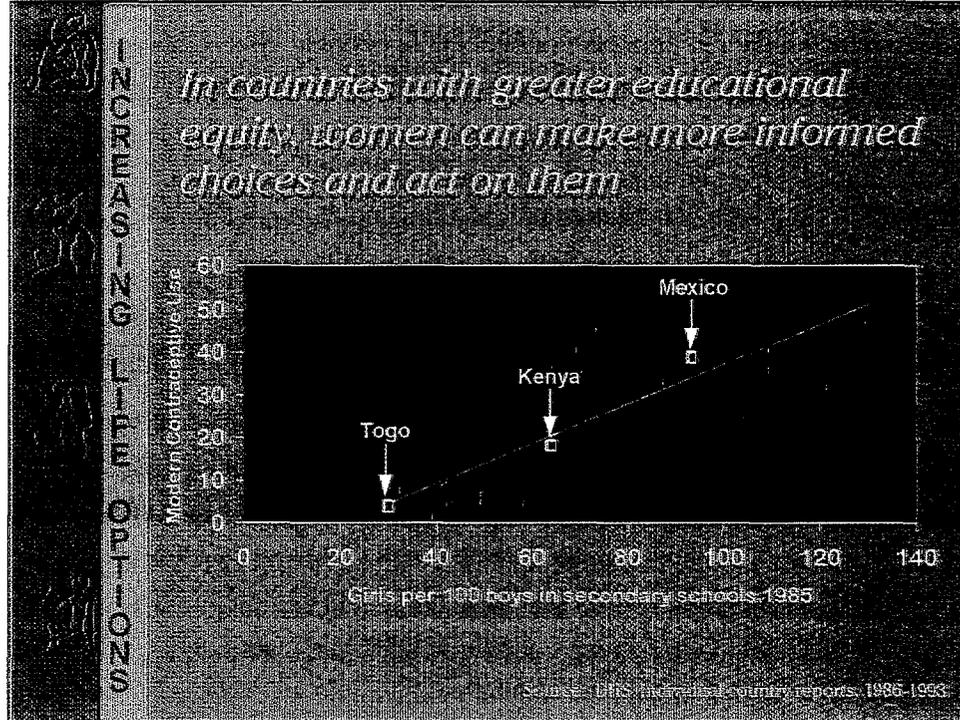
Increasing life options

Education leads to enhanced productivity, increases adaptability to change, and can open doors to new modes of livelihood. For women, having life options means that child-raising becomes one dimension of a rich and varied life.



Gender equity in education enhances women's life options

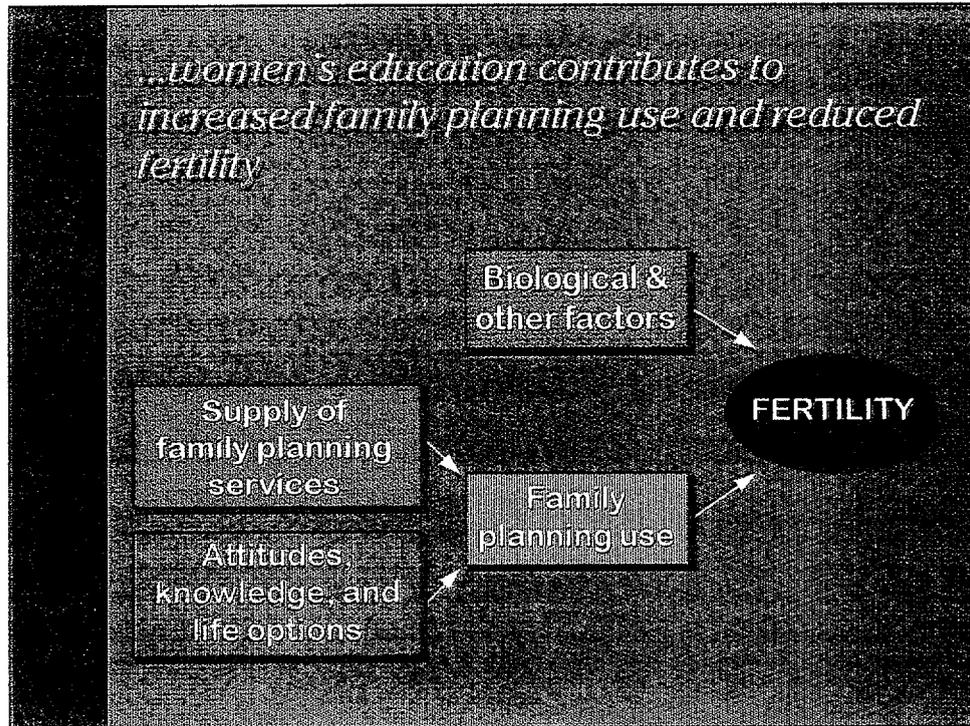
In countries where gender equity in education is high, it is more likely that wives and husbands will have similar levels of education. Ethnographic studies have shown that equity in education is linked to greater equity in household decision making.



In countries with greater educational equity, women can make more informed choices, and act on them

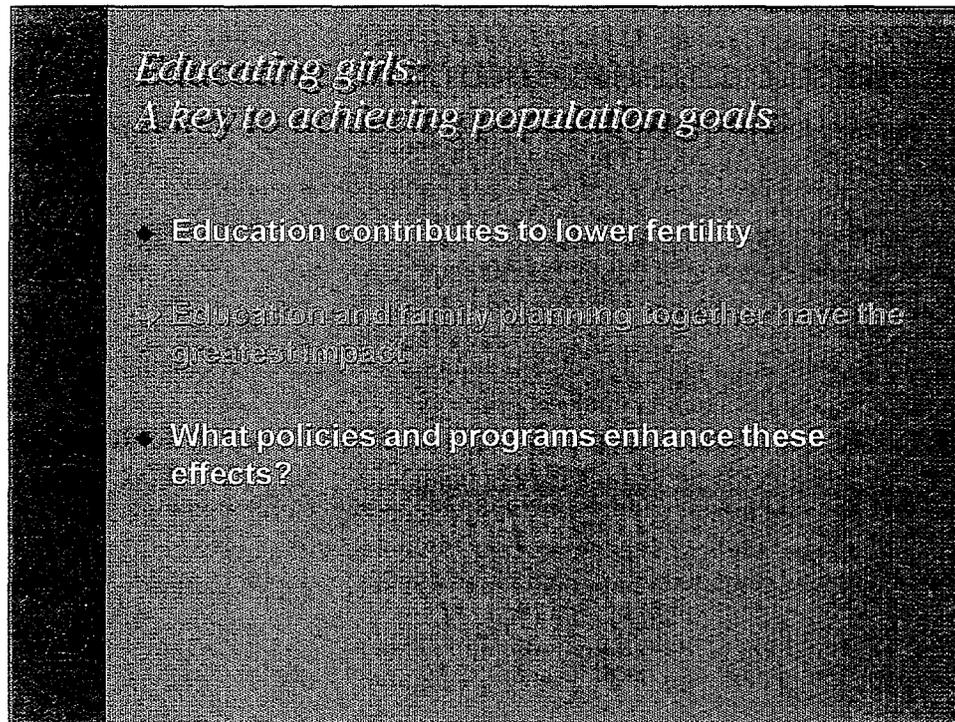
The ability to make choices and to act upon them is especially important to family size decisions. These choices are rarely a woman's alone. In countries characterized by low gender equity in education, inequities are likely to exist in other spheres as well. One reflection of this phenomenon is the difference in contraceptive use rates in countries with lower levels of educational equity.

The horizontal axis of this graph shows the number of girls per one hundred boys in 1985. The larger this number, the greater the gender equity. The vertical axis shows the percentage of women who used modern contraceptives in the early 1990s. As equity increases, so does the use of contraceptives. In Togo, for example, there are only 30 girls per 100 boys in secondary schooling, and only 3.1% of women use contraceptives. In contrast, Mexico has high equity, with 93 girls per 100 boys; contraceptive use among women is 45%.



Through its effects on demand-side factors.... women's education contributes to increased family planning and reduced fertility

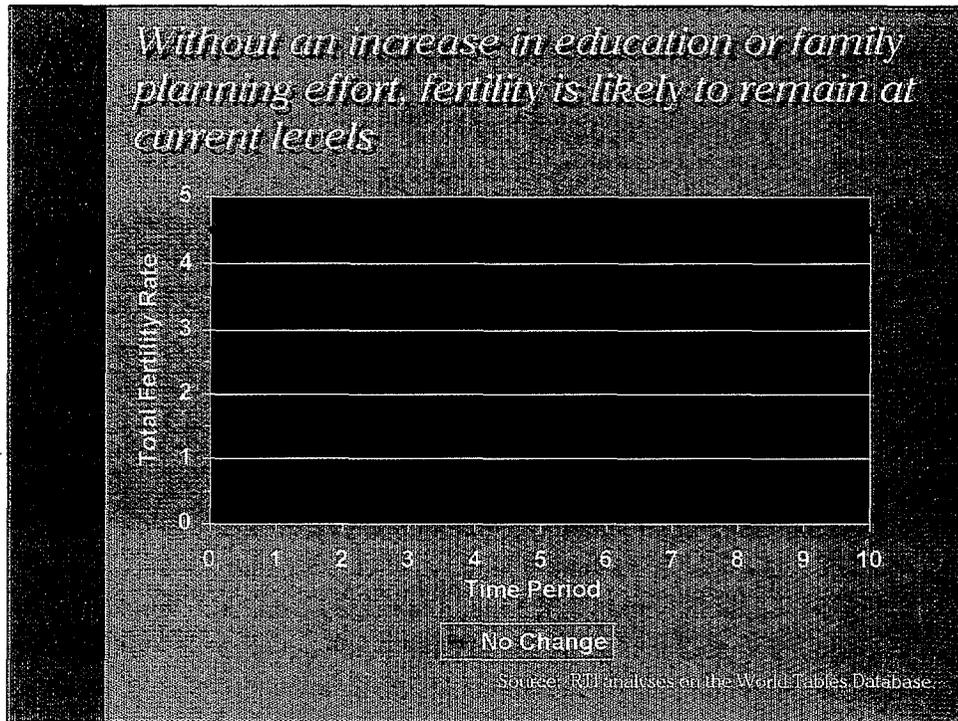
In summary, by changing attitudes, increasing knowledge, and increasing life options, women's education contributes to increase the demand for and use of family planning services.



Increasing girls' education and family planning effort exerts the greatest impact on reducing fertility

Periodically, concerned groups have estimated the degree of effort that countries devote to family planning services and activities. The strength of these efforts clearly has an impact on fertility.

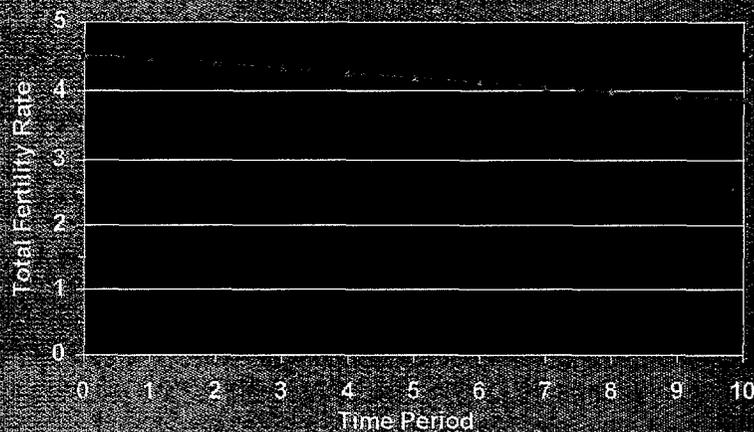
In the late 1980s, the Population Crisis Committee (now Population Action International) published a family planning effort index which rated countries on a scale from 0 to 100, with higher scores representing higher effort. The scale combines separate ratings of availability of six modern contraceptive devices, service-related activity, information outreach, private sector involvement, and government spending and policies. In the graphs that follow, we show that a country's family planning effort (as represented by this index) interacts with education to affect fertility.



Without an increase in education or family planning effort, total fertility is likely to remain at current levels

This next series of figures simulates the effect of different scenarios on a single country over time. In a country with a relatively low score of 40 on the Family Planning Effort index, and girls' educational participation rates of 70 percent in primary and 20 percent in secondary levels, for example, fertility averages 4.4. Over time, no change in family planning effort or educational participation will produce no change in fertility.

But with an increase in educational participation, the fertility rate decreases

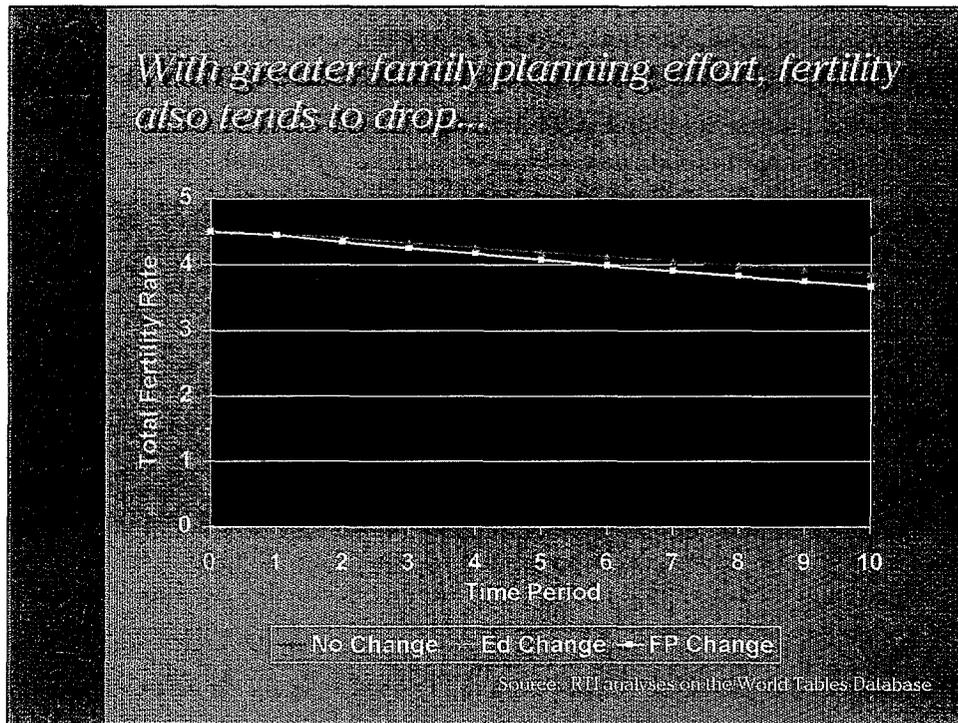


No Change — Ed Change

Source: RII analysis of the World Tables Database

But with increased educational participation of girls, the fertility rate decreases.

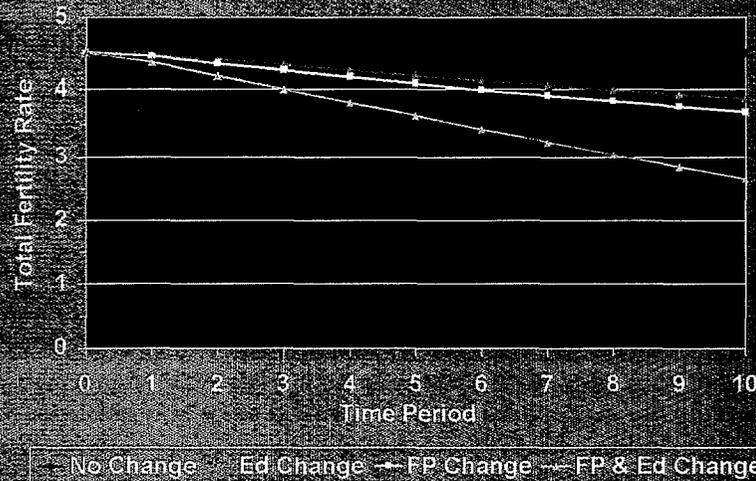
If primary educational participation of girls were to increase from 70 to 100 percent, and secondary participation from 10 to 40 percent, however, the total fertility level could be reduced by nearly one child per woman.



With greater family planning effort, fertility also tends to drop.

By doubling family planning efforts from a level of 40 to 80, the total fertility level could be reduced by nearly one child per woman.

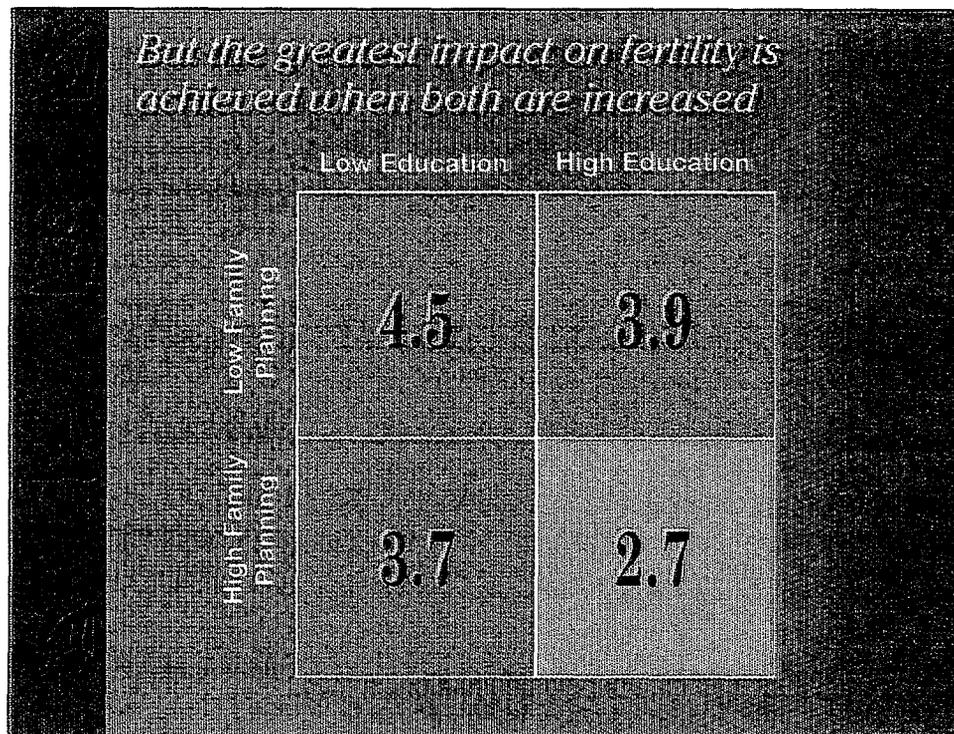
...and the change is most dramatic when both girls' educational participation and family planning effort are increased



Source: RTH analyses on the World Tables Database

The change is most dramatic, however, when both girls' educational participation and family planning effort are increased.

If we were to increase girls' primary educational participation to 100 percent and secondary to 40 percent, and double family planning effort over the same period of time, the effect is roughly double what an increase in either factor alone would produce.



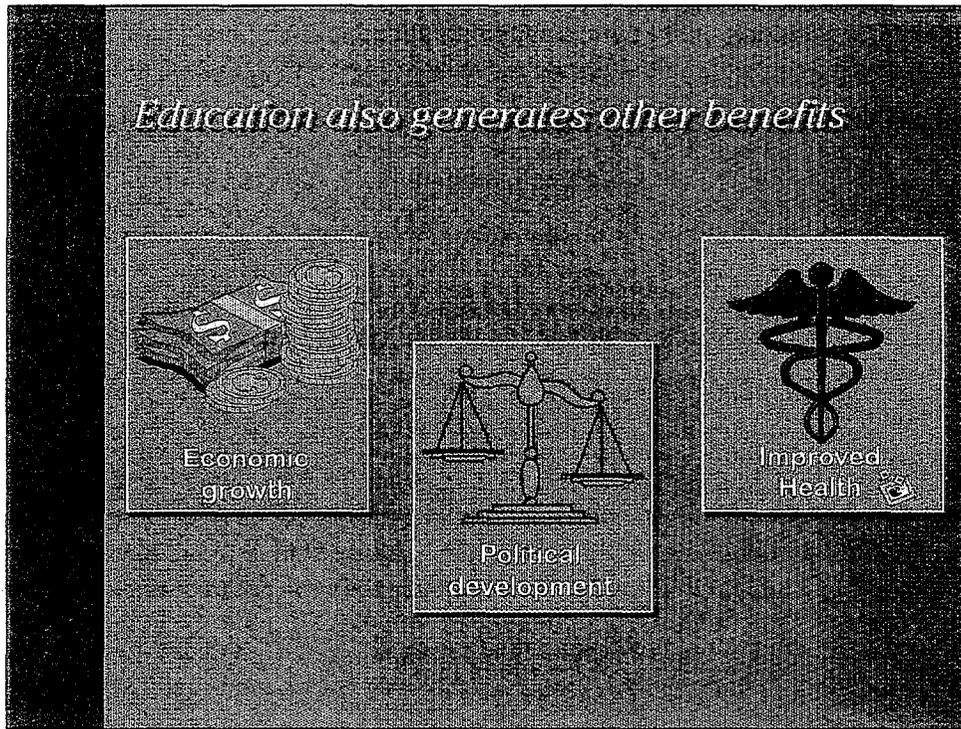
Fertility is high in countries where girls' education and family planning effort are low

In addition to looking at change over time, we can also estimate the impact of different combinations of family planning effort and educational participation across countries. In a country with a family planning effort score of 40, with 70 percent of primary school-age girls, and only 10 percent of secondary school-age girls attending school, for example, we could expect average fertility to be about 4.5.

But fertility drops with higher education. In a country with the same level of family planning effort, but with 100% girls' primary enrollment and 40% girls' secondary enrollment, we could expect fertility to average 3.9.

Fertility also drops with higher family planning effort alone. Conversely, if the educational participation of girls remained low, but family planning efforts doubled to a score of 80, fertility would average about 3.7.

But the greatest impact on fertility is achieved when both are high. In the best-case scenario, a country with both relatively high education of girls and strong family planning efforts could anticipate a fertility rate approaching replacement-level fertility, averaging 2.7 live births per woman.



Education also generates other benefits

The impact of girls' education on fertility is only one of many benefits. Research has also established strong relationships between the education of women and economic benefits such as increased GNP and labor productivity.

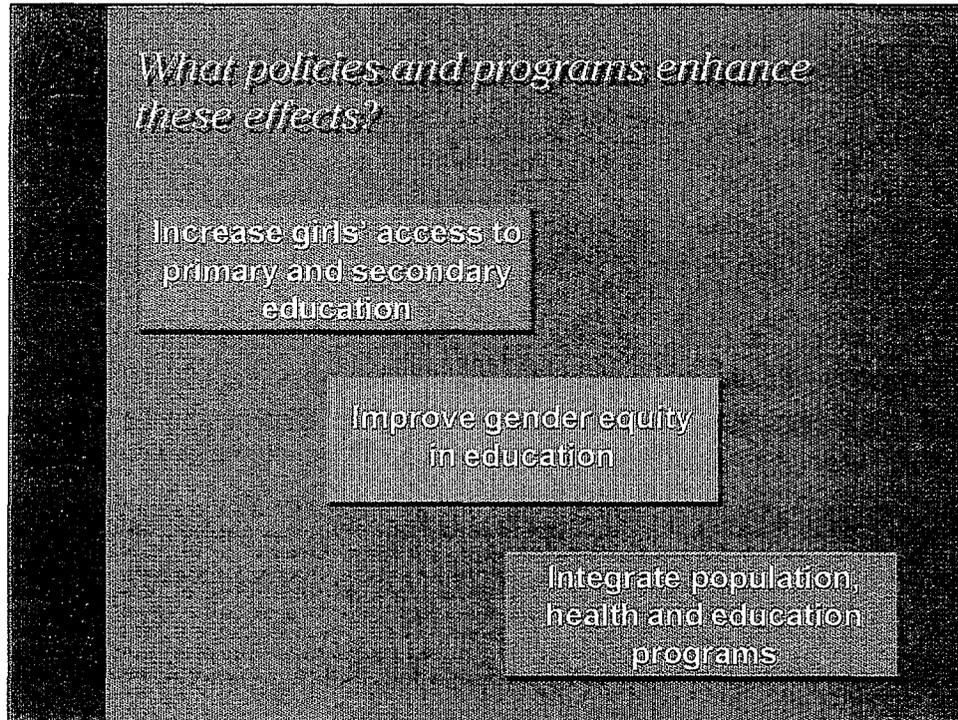
Political stability and the presence of democratic institutions also tend to be greater in countries with higher educational participation.

The impact of education on health, especially the education of girls, has been clearly demonstrated. Girls' education has been linked to higher child and maternal survival as well as better health behaviors.

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- Education contributes to lower fertility
- Education and family planning together have the greatest impact

• What policies and programs enhance these effects?



What policies and programs enhance these effects?

The evidence we have seen points to three general interventions

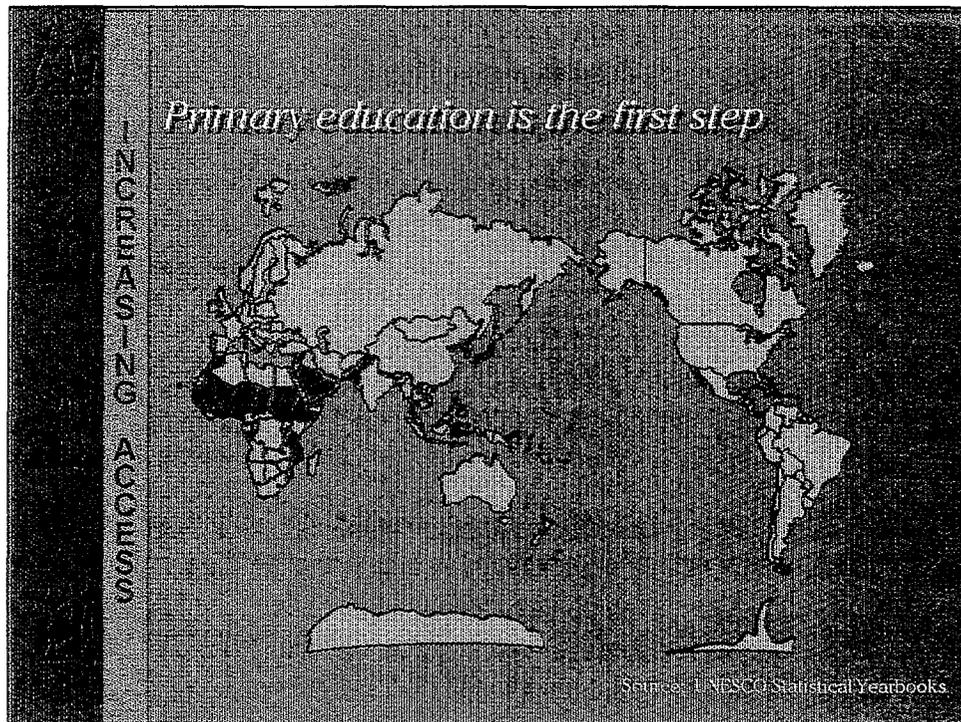
- increasing girls' access to primary and secondary education,
- improving gender equity in education, and
- designing development policy and programs that integrate population, health, and education issues.

What policies and programs enhance these effects?

Increase girls' access to primary and secondary education

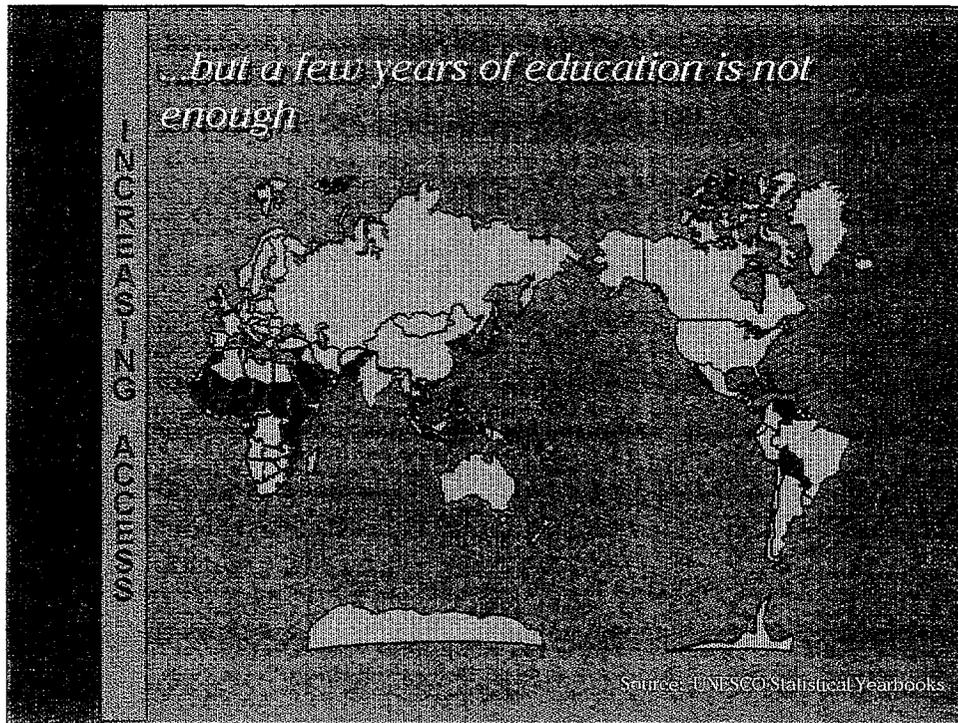
Improve gender equity in education

Integrate population, health and education programs



Primary education is the first step...

In 1990, numerous African countries, and Haiti, still had total gross primary enrollment rates of less than 80 percent of their school-age population.



... but a few years of education is not enough

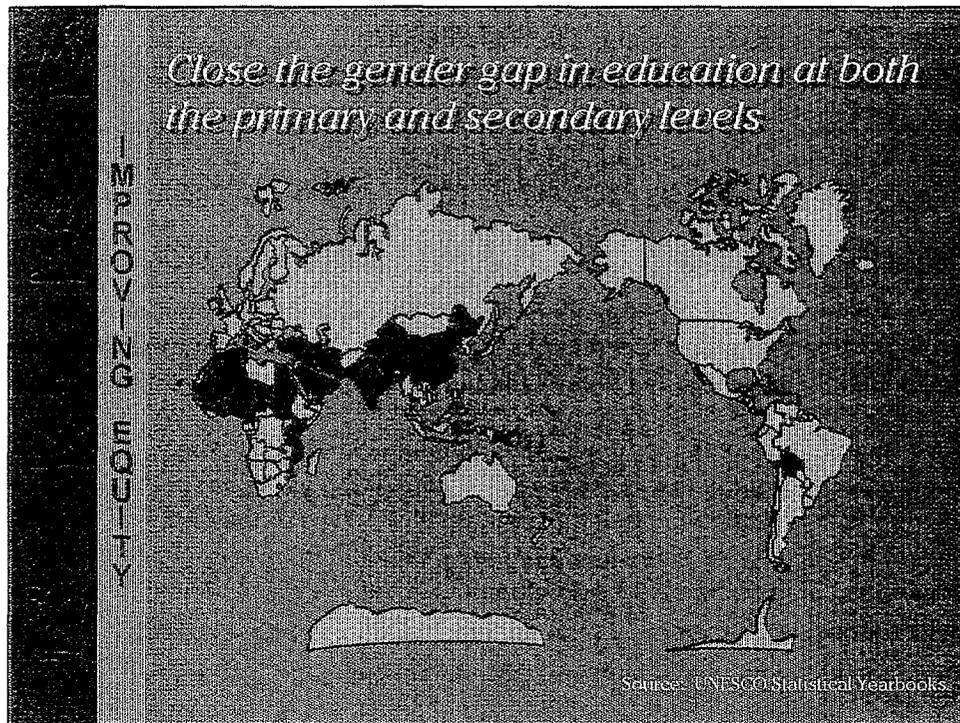
Secondary enrollment rates of under 40 percent are also common in many parts of the world. Family planning and health efforts in these countries are likely to show minimal returns unless educational access is also seriously addressed.

What policies and programs enhance these effects?

Increase girls' access to primary and secondary education

Improve gender equity in education

Integrate population, health and education programs



Close the gender gap in education at both the primary and secondary levels

It is also important to close the gender gap in education at both the primary and secondary levels. Substantially fewer girls attend school than boys in a number of countries, where women's ability and opportunities to make family and health decisions are also likely to be constrained.

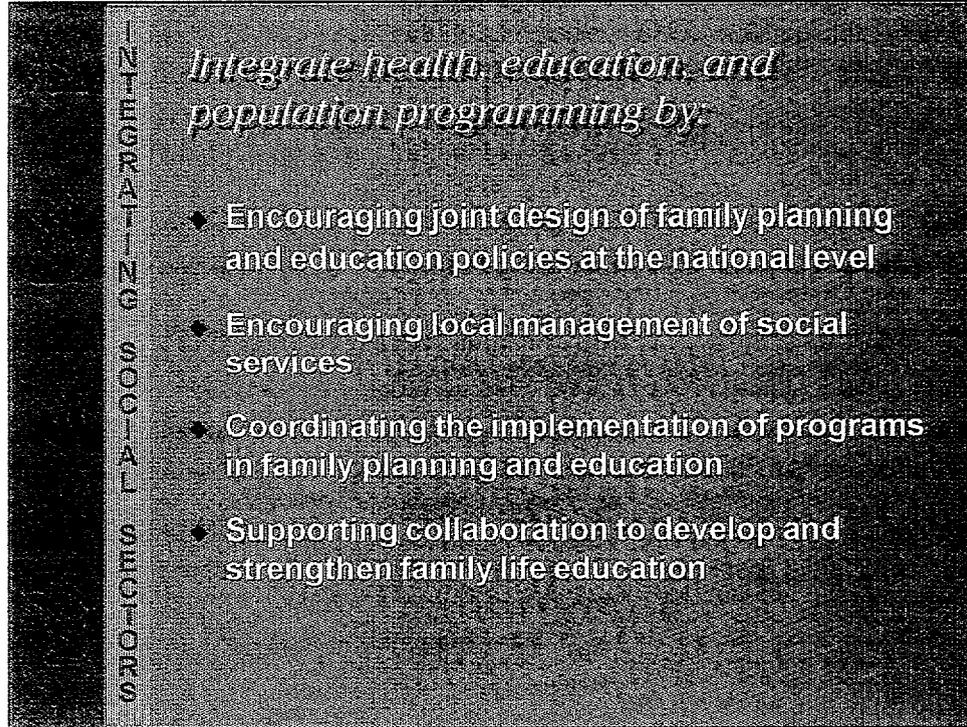
Improving gender equity in education may be the first step in promoting overall equity.

What policies and programs enhance these effects?

Increase girls' access to primary and secondary education

Improve gender equity in education

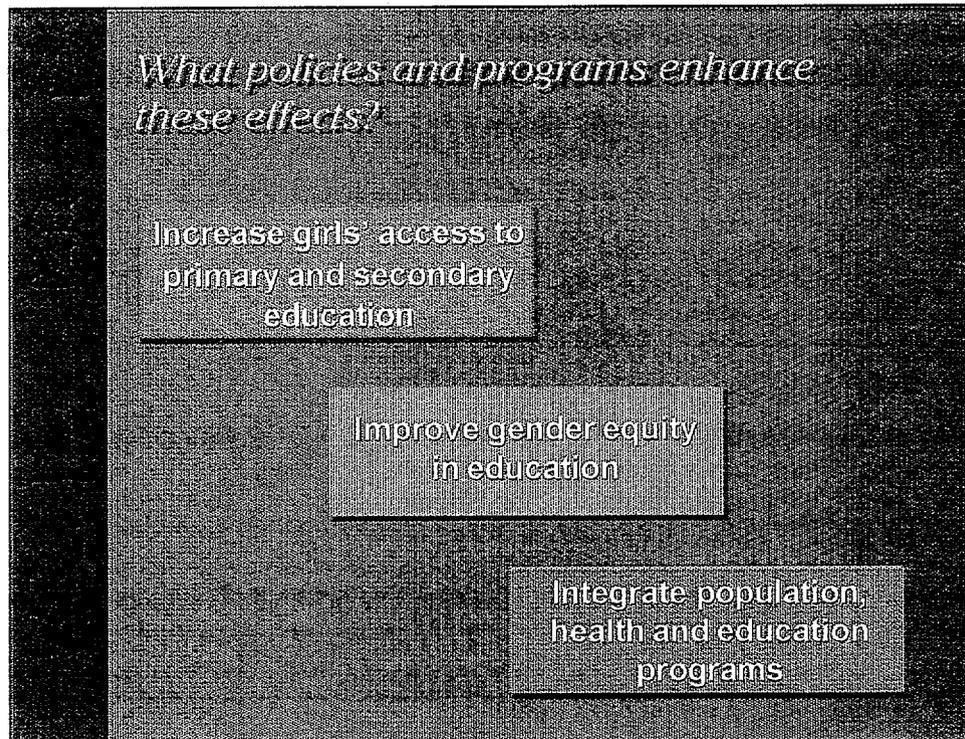
Integrate population, health and education programs



Integrate health, education, and population programming by:

Integrate health, education, and population programming by:

- Encouraging joint design of family planning and education policies at the national level
- Encouraging local management of social services
- Coordinating the implementation of programs in family planning and education
- Supporting collaboration to develop and strengthen family life education



What policies and programs enhance the effects?

In efforts to lower fertility and slow population growth around the world, we have seen that investing in girls' education is likely to ADD VALUE to family planning investments over time. In other words, family planning investments will yield greater returns when combined with education investments. And in countries where there is resistance to direct family planning activities, investing in the education of girls may be the principal, if not the only, path available for managing population growth.