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INDIA'S POPULATION POLICY: Critical Issues for the Future

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The Indian birth rate has started to decline as a result of socioeconomic progress and the family-planning effort. About 19 percent of couples of reproductive age are practicing contraception. Recent official pronouncements on population policy neglect several critical issues. Approximately 52 million couples—half of all couples of reproductive age—remain desperately poor. The family-planning delivery system is not geared to their needs. To engineer a demographic transition for this large segment requires policy innovations of a very high order: (1) an overhaul of administrative practices, mandates, and budget norms; (2) a combined rural development and family-planning program; and (3) a recognition of regional diversity and the adoption of a sequential strategy.

India's brief flirtation with coercive family planning is over. The program suffered a major setback during the 1975–1977 Emergency when many political rights were abridged. It will be some time before new initiatives can be mounted. Meanwhile, it is important to analyze past experience in order to identify the major issues and options that confront the policy maker in the population field. This is the primary purpose of this article, which is concerned mainly with fertility rather than with mortality, migration, or other topics that might conceivably fall under the heading of population policy. Its object is not to add to the large volume of scholarly research on past trends in the birth rate or to make future projections. It takes for granted the need to reduce Indian fertility in the interest of economic and social development; this point has been argued convincingly in many places. Given this objective, the present article

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focuses on the policy instruments deployed in the past and proposed for the future.

The first section of the article looks at the major demographic facts—the rise in marriage age and decline in marital fertility—that lie behind the decline in the birth rate during the last two decades. An attempt is made to analyze the contributions to declining fertility of the family-planning (FP) program and of socioeconomic changes at national, state, and household levels. The second section examines recent official statements of the Indian government on population policy and evaluates the feasibility and effectiveness of the pronounced policies. Finally, the third section takes up a number of important questions that have been neglected in these policy pronouncements. Now that the government and major political parties have reasserted the voluntary principle in FP, it is essential to examine all avenues of reform compatible with this principle that can help in rehabilitating India's FP program.

Fertility 1951–1971

Demographers agree that the crude birth rate fell from about 45 per 1,000 in 1951–1961 to about 40 to 42 in 1961–1971 (Adlakha and Kirk, 1974.) This decline started a new trend in modern Indian population history. There is reason to believe that much of the decline was concentrated in the second part of the 1960s and that it continued beyond the census year 1971. Unfortunately, data limitations do not allow a precise and up-to-date assessment of the situation. Two factors are important in comprehending the new trend, the rise in age at marriage and the decline in marital fertility, i.e., the number of births per 1,000 married women per year. Taking the overall intercensal decline in the birth rate to be 3 points (from 45 to 42 per 1,000), changes in age structure and marriage patterns accounted for one-third and the change in marital fertility for two-thirds, respectively.

Rising Marriage Age. In Europe, a sizable part of the population remains single. In India, by contrast, marriage is nearly universal, for there are hardly any social and institutional alternatives. The odd unwed person faces isolation and censure. This is particularly true for women, who also depend on marriage for economic support.

Although the proportion of the "never married" population has risen somewhat in the metropolitan cities in recent decades, the change is not quantitatively significant.

Early marriage was the common practice in traditional India; it is estimated that in 1900 the average marriage age for females was 13. This was part of a demographic picture in which mortality levels were high and the reproduction process had to start early for the family to survive. Early marriage was also seen as providing protection against immorality. The marriage ceremony did not lead immediately to cohabitation. For marriages below the age of 15, the average interval between the formal ceremony and consummation was 38 months, according to estimates derived from the National Sample Survey (Jain, 1975). The average age at "effective marriage" in rural India in the 1920s was 15.6 years. Hindus and Muslims tended to marry much earlier than the two small minority communities, the Sikhs and the Christians.

Not much change took place till 1950. By 1961–1962, the average effective marriage age for females had inched up to 16.1 years in rural areas and 17.4 years in urban places. In Kerala and Madras the statewide (urban and rural) average exceeded 18 years, but it lagged below 15.5 years in rural Bihar, Andhra Pradesh, and West Bengal as well as in the urban areas of Rajasthan. The pace of change accelerated in the 1960s and early 1970s. Data on effective marriage age for recent years are not available, but census returns are suggestive: the percentage of girls married in the 15 to 19 age group dropped from 75 percent in 1951 to 70 percent in 1961 and further to 56 percent in 1971. Why is the Indian marriage age increasing? No definite answer can be given. Among the broad determining influences, however, are educational advances and the opening up of employment opportunities for females in cities. It has been suggested that even in the countryside, parents tend to delay marriage if a girl has the prospect of earning good wages or contributing to the family farm. For example, the average marriage age for females in the Khanna district of the Punjab rose from 16 years in 1945–1949 to 20 years a decade later. This was a period of intensive agricultural development (Mamdani, 1973).

Not all these factors were important everywhere. The process of change can be illustrated in microcosm. Several villages in rural Varanasi in Eastern Uttar Pradesh were surveyed in 1967 (Chatter-

jee, 1971). The mean age for recently married girls in this backward area was only 11.9 (see Table 1). There was little evidence of a time trend; in fact, the average age of males married recently was slightly lower than the corresponding figure for their fathers. The most accessible village, Umraha, had a somewhat higher average, but variations in communication facilities did not seem to exercise any large or consistent impact. Intercaste differentials were substantial and they were not of recent origin. The mean marriage age of high-caste girls was nearly 50 percent higher than for girls at the bottom of the caste hierarchy. Equally dramatic was the gap in

Table 1. RURAL VARANASI DISTRICT: MEAN AGE AT MARRIAGE

	Male respondent	*Son of respondent*[a]	*Daughter of respondent*[a]
Caste:			
Upper	18.7	17.1	14.9
Backward	14.6	14.9	10.8
Scheduled castes and tribes	13.4	12.5	10.0
Education:			
Above primary	17.4	18.6	15.1
Up to primary	17.2	15.4	17.9
Illiterate and barely literate	14.4	14.1	9.8
Landholding:			
Above 15 acres	16.3	15.8	13.3
Between 5 and 15 acres	15.1	16.0	14.4
Up to 5 acres	14.8	13.9	10.3
Landless	13.4	14.3	11.5
Villages ranked by accessibility:[b]			
Umraha	15.3	16.1	12.6
Bicchia	16.0	14.8	12.4
Jagapur	13.6	13.4	10.9
Shamsherpur	15.2	15.0	11.9
Total	15.0	14.8	11.9

[a] These figures relate to recent marriages close in time to the 1967 survey.

[b] The source of modernization is the district headquarters, Varanasi. Villages are listed in order of ease of communications via road, bus service, etc., with Varanasi.

SOURCE: Chatterjee, 1971.

marriage age between those who had received some formal education and those who had not. The difference between the landed households—those owning more than 5 acres—and the rest was not so large, but it was far from trivial. The traditional fear of having an unmarried adolescent daughter was receding in the face of educational advance, especially among high-caste and relatively affluent groups.

Declining Marital Fertility. Not only is marriage nearly universal in India, not only does it occur at a young age, but the desired family size also tends to be large by contemporary Western standards. Over half of the sampled parents surveyed in the 1950s wished to have four or more children and of these 25 to 33 percent desired five or more. There was substantial agreement between the results of these "attitude" surveys and actual behavior recorded in the 1961 census. More than a third of the married women had four or more living children and nearly one-fourth had five or more children, although many of these women were far from the end of their reproductive period. Starting from this high level, marital fertility has declined, presumably as the combined result of socioeconomic progress and the FP program. Although the underlying causes cannot be established precisely, analysis at the national, state, and household levels helps to identify the relevant factors.

At the all-India level, the slight decline in marital fertility can be ascribed to limited improvements in health, education, per capita income, and, of course, the progress of the FP program that had been started in 1951. Infant and child mortality declined dramatically with the control of communicable diseases. Life expectancy at birth rose from 27 years in the 1930s to 46 years in the 1960s. Given the higher chances of survival of the children, parents could be expected to reduce the number of births to some extent. A relevant measure of educational advance was female literacy; this rose from 3 percent of the total female population in 1921 to 18 percent in 1971. Education could be expected to reduce fertility by (1) changing values and attitudes; (2) improving access to information, including that provided by the FP program; (3) increasing the cost of child rearing; and (4) raising the marriage age. The expansion of health and education services took place during a period of very slow improvement in the average standard of living of the Indian people. On a per capita basis, gross domestic product in constant prices rose

by 16 percent in the 1950s and 13 percent in the 1960s. Unfortunately, even this slow pace could not be sustained during the early 1970s. Nevertheless, looking at the last quarter century, some slight improvement in average living standards is noticeable, despite the pressure of population. It can be argued that this improvement was conducive to a decline in fertility, although the point is questionable, considering the small magnitude of the income expansion over a very low initial level.

Superimposed on all these socioeconomic changes was the impact of the FP effort, which has grown enormously in concept and in magnitude since the early 1950s, when it was modest, clinic-based, and confined to urban centers. A major departure was made in 1963 with the adoption of the "extension" approach and the beginning of the attempt to expand coverage in rural areas. By 1975, there were nearly 39,000 health subcenters in rural India supplying FP information, materials, and medical expertise to 83 million couples (Government of India, 1975/76). In addition, the government decided in 1968 to use the commercial distribution network of major private firms to retail condoms, which are called Nirodhs. By 1976 there were eight private and three public firms with 250,000 retail outlets participating in the scheme; Nirodhs are also distributed through 7,400 post offices. The main result of the FP program, according to official statistics, was that by March 1976 19 percent of couples of reproductive age were protected against the risk of pregnancy. Of these, sterilization accounted for 14 percent, the intrauterine device (IUD) for 1.5 percent, and conventional contraceptives (condoms, etc.) for the remaining 3.4 percent. It is no easy matter to translate these figures into an estimate of the net impact of the FP program on fertility. Many couples might simply have substituted contraceptives offered by the program for traditional techniques such as abstinence, the rhythm method, withdrawal, and abortion. Others might have adopted fertility control as they gained in socioeconomic terms, even if there had been no official FP program. Many of those counted in the 19 percent figure were very nearly at the end of their reproductive period and would not have produced additional children in any case. Notwithstanding all these reservations, it can be concluded with reasonable assurance that the FP program has helped significantly in reducing marital fertility, even though its precise contribution defies measurement.

An analysis of interstate differentials in FP performance and fertility tends to confirm the interaction of socioeconomic variables and FP inputs. Table 2 lists fourteen Indian states in descending order of the proportion of couples protected against the risk of pregnancy. This proportion varies from 25 to 32 percent in five "leading" states to 9 to 11 percent in three "lagging" states, with the remaining six states in the middle. The numbers shown are indices, with the all-India average of 19 percent (row 1) equal to 100. Column 4 shows FP program expenditure per couple and can be taken as a proxy for the intensity of the delivery system in each state. The five leading states seemed to have relatively strong FP programs; outlays per couple were 114 to 126 percent of the national average of Rs. 7.80 (1 rupee equalled $0.13 in 1972–1973). FP centers catered to a population that was appreciably smaller than in the lagging states and presumably could provide more intensive coverage. Also the work of centers in the leading states was much less hampered by staff vacancies than in other states.

Most of the leading and middling states had relatively lower fertility than the lagging ones, although the correspondence was weak in a few cases. Column 5 shows the best available data on fertility variations by state. Some of these figures are suspect, however, and the estimated all-India rural average fertility rate is distinctly on the low side. The leading states are relatively further ahead in terms of socioeconomic indices listed in columns 6 to 9. Their rural infant mortality rates are considerably lower than the national average except in Gujarat. Female literacy appears to be much more widespread; Kerala's rate is 2.8 times the Indian average. Also, the leading states are much more urbanized, and their per capita incomes are substantially higher. The contrast with the lagging states is compelling. Obstacles posed by socioeconomic backwardness in these areas are compounded by very weak FP programs. An unpublished study by Srikantan estimates that social and economic factors explain approximately one-half of interstate differentials in FP performance, taking into account both the direct impact of these factors on household behavior and their influence on the state government's capacity to mount and implement a large-scale program. The remaining differential is attributed to variations in FP program inputs (Freedman and Berelson, 1976).

When attention is focused on the household level, the elements of

Table 2. SOCIOECONOMIC INDICATORS AND FAMILY-PLANNING PERFORMANCE AT STATE LEVEL

(Index for individual states: all India=100)

(1) States	*(2)* Number of couples at risk (million)	*(3)* Couples protected as % of column 2 March 1976	*(4)* FP expenditure per couple at risk, 1972–1973	*(5)* Total rural fertility rate, 1971–1972	*(6)* Rural infant mortality rate	*(7)* Per capita income, 1970–1971	*(8)* Female literacy rate, 1971	*(9)* Urban population as % of total, 1971
All India	*104*	*19%*	*Rs. 7.80*[a]	*5.74*[b]	*131*[c]	*Rs. 352*[d]	*18%*	*20%*
Leading:								
Maharashtra	10	169	122	88	82	118	137	155
Punjab	2	154	114	NA	84	134	137	120
Kerala	3	142	117	80	50	79	284	80
Gujarat	5	137	121	112	127	121	132	140
Tamilnadu	8	130	126	83	98	103	142	150

Middling:								
Andhra	9	106	105	83	99	86	84	95
Orissa	4	106	98	85	104	75	74	40
West Bengal	8	94	52	NA	133	96	116	125
Karnataka	5	87	119	88	75	89	111	120
Assam	2	87	32	99	113	76	100	45
Madya Pradesh	9	78	106	125	109	77	58	80
Lagging:								
Utter Pradesh	17	58	76	130	138	78	58	70
Rajasthan	5	55	86	122	130	87	42	90
Bihar	11	46	44	104	NA	59	47	50

[a] 1972–1973 prices.

[b] Number of live births per woman over the entire reproductive period.

[c] Deaths under 1 year of age per 1,000 live births during late sixties and early seventies.

[d] Expressed in 1960–61 prices; 1 rupee equalled $0.21.

SOURCE; Government of India, *Family Welfare Programme* in India Yearbook, 1975–76; Government of India, Registrar General, *Sample Registration Bulletin*, Vol. IX, No. 3, July 1975.

the picture remain largely unchanged; both socioeconomic parameters and FP inputs play a part in determining variations in contraceptive use and family size. Reviews of socioeconomic studies by Jain (1975) and Pareek and Rao (1974) suggest the following conclusions:[1]

The lower the level of per capita household consumption expenditure, the higher the birth rate. For example, rural households at the very bottom of the income pyramid with per capita expenditures up to Rs. 11 per month had a birthrate of 44.3 per 1,000; households spending more than Rs. 44 per capita per month had a birthrate of 32.3.

Urban residents have more information and more favorable attitudes toward FP than those in the countryside. The small-family norm has many more adherents in urban places than in villages. Birthrates are lower for urban households than rural ones at comparable levels of per capita expenditure, although this is not always the case.

For urban women with more than a limited amount of schooling, the fertility rate declines with every increase in the level of education. Apparently the wife's education is more important than the husband's. Education is of considerable importance in explaining variations in knowledge regarding FP. It tends to make people receptive to new ideas such as small-family norms and expands the choice of contraceptive methods.

There is not much difference in the fertility of Hindus and Muslims, but fertility is lower for Christians and higher for Sikhs. Lower-caste Hindus have a significantly higher fertility.

Landless laborers tend to have a higher resistance to FP than other occupational groups.

Young people show a greater preference for small families than old people.

Those living in joint families tend to be less inclined toward FP than members of nuclear families. This tentative conclusion is based on a rather limited set of studies.

The importance of socioeconomic parameters can be illustrated also by analyzing the variation in contraceptive use at the household

[1] Many of these studies are based on National Sample Survey data for the early and mid-sixties.

level. A survey conducted by the Baroda Operations Research Group (see Table 3) found that the incidence of contraceptive use in 1970 was 2.4 times higher than the overall national average for the tiny minority in India that enjoyed high incomes, college education, and city living. For the population living in grim poverty, the rate of contraceptive use was well below the national average. FP performance, however, varied considerably even within this category of pov-

Table 3. INDIA: HOUSEHOLD CHARACTERISTICS AND CONTRACEPTIVE USE, 1970

	Current users as percentage of couples at risk		
	All methods[a]	*Modern methods*[b]	*Terminal methods*[c]
Family income (Rs. per month):			
Below 100	10	6	5
101– 200	12	8	5
201– 500	20	15	9
501–1,000	29	23	11
1,001 and above	39	31	12
Education level of wife:			
Illiterate	10	7	5
Primary school	21	15	10
Secondary school	34	25	12
College	56	38	9
Location by population size of settlement:			
Rural:			
Below 5,000	10	7	5
5,001 and above	18	13	9
Urban:			
Below 100,000	24	18	10
100,001 to 500,000	29	22	12
500,001 and above	32	26	10
All-India average	14	10	6

[a] Consists of both modern methods and traditional ones, i.e., withdrawal, rhythm, and abstinence.

[b] Consists of terminal methods and loop, pill, condoms, diaphragm, and jelly plus foam tablets.

[c] Male and female sterilization.

SOURCE: Operations Research Group: Family Planning Practices in India.

erty households, perhaps because of differences in the quality and quantity of the FP intervention. Suitably designed, the FP program might be able to hasten the acceptance of contraceptives and thereby the process of fertility decline even in poor households.

Critique of New Population Policy

Population policy was given a new twist in April 1976 and then again in April 1977. The statements that announced the two policy changes must be read against the long and controversial history of FP in India, which has been marked by many experiments and many failures. The April 1976 policy had three new features: a strong political commitment, a prominent concern for the problem of demand for FP, and the attempt to incorporate the age at marriage as an instrument for changing fertility. The 1977 policy endorsed these features, making it convenient to discuss the two statements together in the context of earlier history. Notwithstanding this common ground, there was a major difference between the two policies. The 1976 pronouncement opened the door to a "compulsory approach" to FP, as we explain below. But this posture could not be sustained; it had to be reversed, even before national elections in March 1977 led to the defeat of Mrs. Gandhi's Congress party. A month after the election the new Janata government issued a revised population policy that rejected compulsion in no uncertain terms.

National Commitment. Political support for FP has been lukewarm at best during the 25-year history of the program. The Gandhian tradition supported FP based on sexual abstinence but disfavored modern contraceptives. Jawaharlal Nehru felt that FP was a diversion; the main commitment of government must be to raise the standard of living of the masses. Shastri's views on this topic are not generally known. During the first decade of her prime ministership, Mrs. Gandhi gave little attention to FP. The Congress party did not formally list FP as a political objective until its Chandigarh session in 1975. The 1976 population policy underscored the goal of reducing fertility as a major national commitment and associated the Prime Minister personally with this effort. The Youth Congress, under the leadership of Sanjay Gandhi, adopted FP as a major plank in the

program for national reconstruction. Chief ministers of state governments echoed this emphasis. They vied with each other to commit themselves to very ambitious FP targets and promised to mobilize the entire government machine to realize these goals.

The immediate quantitative result of this high-powered campaign was astonishing, but it had to be balanced against the protests, the resistance, and the concern felt by many segments of the population. With the relaxation of the Emergency and announcement of elections in January 1977, the volume and strength of opposition to the FP campaign became evident. To cope with this outburst of public dissent, many of the coercive FP measures, described below, were withdrawn. The electoral defeat suffered by Mrs. Gandhi and her party reinforced the impression that the FP program had aroused the wrath of the people. Not surprisingly, the Janata government quickly shut the door on compulsion, changed the name of the programme to "family welfare," and, at the same time, expressed its total commitment to achieving the underlying objectives. In practice, however, it will not be easy to maintain the momentum on a voluntary basis. The abandonment of the 1976 crash program has left a tremendous void, and the campaign is now running in low gear.

Demand Stimulation. For at least the first dozen years, the Indian FP program was supply-oriented. It adopted as its major mission the expansion of the availability of contraceptive materials. The results of surveys of knowledge, attitude, and practice together with the widespread existence of abortion were taken to mean that a ready demand for FP already existed. Disappointment with the results of the program prompted the government to initiate an extension effort, including household visits and face-to-face motivation. This was supplemented in 1966 by the use of the mass media to create awareness and mold public opinion. India became one of the first countries to use monetary payments as a means of promoting FP. The practice started as early as 1958 in Tamilnadu and spread to Maharashtra and elsewhere. In 1966 the government of India allocated 20 percent of the FP budget for such payments. The funds could be divided, at the discretion of state governments, among canvassers, doctors, and acceptors of IUD or sterilization. In principle, the payments to acceptors aimed at compensating them for loss of wages, incidental expenses, and inconvenience. They were not

intended to be incentives. By 1968, these payments for vasectomy varied from Rs. 10 to Rs. 30 in different states (Visaria, 1976). Later, mass vasectomy camps raised these amounts steeply; Rs. 86 was paid in the first Ernakulam camp and Rs. 114 in the second one. Later still, payments on the order of Rs. 100 became standard practice in states such as Tamilnadu and Maharashtra. These are big sums for poor households and cannot be realistically described as compensation. They serve as monetary incentives and are viewed as such by persons contemplating sterilization. How effective they have been in promoting behavioral change is not easy to establish conclusively. They seem to have played a not insignificant role in the mass vasectomy camps, particularly in obtaining acceptors from very low-income groups (IBRD, 1974).

The concern with demand for FP dominated the 1976 policy statement, and this emphasis was maintained in the 1977 version as well. The approach to the problem was many-sided. First, a new multimedia motivational strategy geared especially to rural areas was planned. Second, monetary incentives were expanded, and a measure of fine tuning was introduced; Rs. 150 was paid to those who had two or fewer living children and accepted sterilization, Rs. 100 to acceptors with three children, and Rs. 70 to those with four or more. Third, "group incentives" pitched at the level of village, district, and professional organizations were advocated to supplement incentives for individual acceptors. Fourth, center-state relations were tilted in a distinctly antinatalist direction by freezing representation in legislatures and allocation of federal revenues to states on the basis of 1971 population figures. Furthermore, 8 percent of central aid to states was to be geared directly to their performance in FP. The states would no longer gain political or financial leverage through population growth; in fact, reduced fertility would be rewarded financially. Fifth, special measures were proposed to improve female education and organize child nutrition programs in an attempt to stimulate demand for fertility reduction and FP. These were imaginative initiatives which partly extended and elaborated the program and partly broke fresh ground.

The 1976 policy not only tried to stimulate demand for FP but it also opened the door to what may be described as the compulsory approach. Without citing any evidence, the policy statement asserted that ". . . public opinion is now ready to accept much more stringent

measures for family planning than before."[2] It ruled out nationwide compulsory sterilization "at least for the time being," but only because the medical and administrative infrastructure was inadequate. It permitted state governments to go ahead, however, if they felt they were ready to cope with the problems of implementation. State governments were also permitted to introduce rules making employee benefits—e.g., housing, loans, medical care—conditional on the sterilization of one parent after having two children. Furthermore, the use of administrative pressure in securing adherence to the two- or three-child norm derived its sanction, albeit implicitly, from the spirit of the 1976 policy. Given the near universality of the government presence in India as employer, creditor, landlord, and also as the giver of licences, permits, ration cards, and the like, the scope for the exercise of such pressure was very large. Moreover, the distinction between "civilized pressure" or conditionality and "coercion" tended to become academic, particularly when the citizen had little recourse to the courts in the case of executive arbitrariness.

The big expansion in the number of sterilizations, if it really took place, could be understood only as the result of the widespread application of administrative pressure or coercion. Official figures claimed that the sterilization target for April 1976 to March 1977 was exceeded by 91 percent. More than 8.1 million men and women were sterilized during these 12 months compared with 2.7 million in the previous year. The increase was particularly striking in Bihar (573,000 versus 167,000), Madhya Pradesh (1,001,000 versus 112,000), Rajasthan (364,000 versus 86,000), and Uttar Pradesh (838,000 versus 129,000). The new measures for stimulating demand for FP could not have yielded such a quick payoff. The results also could not be attributed to changes in legislation; the Maharashtra compulsory sterilization bill was passed by the state legislature in August 1976 but never received the assent of the President of India. Other states that were contemplating similar legislation, such as Punjab and Haryana, held back, awaiting the outcome in the case of the Maharashtra law.

[2] A survey based on 1,000 interviews with literate people in Bombay, Calcutta, Delhi, and Madras concluded that ". . . public opinion even in metropolitan cities has yet to acquire the kind of momentum which alone can make compulsion a viable proposition." A very high proportion (94 percent) favored FP, but only 36 percent of those favoring FP agreed with a policy of statutory compulsory sterilization. Another 11 percent favored economic disincentives against large families (Indian Institute of Public Opinion; Monthly Public Opinion Surveys, Vol. XXI, No. 5: Blue Supplement).

The emphasis on quick results through rough and ready administrative pressure and semicompulsory tactics proved to be costly in terms of both the injuries to those directly affected and the ill-will generated for the entire FP effort, including the regular program based on the idea of voluntary acceptance and extension. The backlash against the compulsory approach not only discredited FP but soured the basic relation between government and people, making it difficult to implement other social or economic policies. This episode ended with the defeat of Mrs. Gandhi's government, but the task of rehabilitating the integrity of population policies remains. The question of stimulating demand for FP is critical; we take it up again in the next section.

Minimum Marriage Age Law. An innovation in recent population policy statements is the proposed legislation to raise the minimum marriage age for girls to 18. Starting with the Sarda Act of 1929, there is a history of social legislation in India aiming at the removal of "maladjustments" (child widows, premature child births) and the modernization of the system of marriage. The minimum age for girls was set at 14 in 1929 and raised to 15 in 1955. The objectives of the proposed law go further: to help safeguard the health of the mother and the child, to lead to a more responsible parenthood, to enable women to play their proper role in the country's socioeconomic and cultural life, and finally to "have a demonstrable demographic impact."

A measure of scepticism about this component of policy is in order for two reasons. First, if history is any guide, the proposed law is not likely to be effective. The average marriage age for females did increase slowly over the last half century or more, but it is doubtful if legislation per se played any significant role, except perhaps in influencing the attitudes of the urban avant-garde. The previously cited survey of rural Varanasi in 1967 indicated that (1) two-thirds of recent marriages took place in violation of the law, about the same proportion as a generation ago; (2) the number of respondents who said they knew the legal minimum age varied from 6 percent of the total in the least accessible villages to 26 percent in the most accessible ones; (3) the number of respondents who had accurate knowledge of the law varied from zero to 3 percent of the total; (4) "general apathy or indifference regarding law and legal matters and their enforcement seem to characterize . . . this group of villages."

Surveys conducted in Maharashtra also suggest that laws regarding the age of marriage had little impact (K. Dandekar, 1974). Recent policy statements recognize that "the present law has not been effectively or uniformly enforced." Nevertheless, new legislation is contemplated, and the authorities are considering "the question of making registration of marriages compulsory. . . ."

Second, even if the proposed law is totally effective in raising the minimum marriage age to 18, the demographic consequences are not likely to be so large as they might at first thought appear. Instead of reducing the reproductive span, the increased age of marriage is likely under Indian conditions to shorten the gap between marriage and effective marriage, and between consummation and the first birth. Surveys confirm the well-known phenomenon of "adolescent sterility." Many years pass before a girl who is married young conceives. This interval tends to diminish as age at effective marriage rises (Jain, 1975).

Nevertheless, some reduction in fertility will result if the minimum marriage age rises to 18. The incidence of childlessness[3] tends to increase with marriage age and also that of secondary sterility (incapacity to conceive additional children after bearing some). Surveys show some reduction in total fertility rate as marriage age increases; of course the drop is much more impressive above the marriage age of 20 (Jain, 1975). It is questionable whether these declines should be attributed solely to rising marriage age; the combined effects of improvements in women's education, socioeconomic status, and employment opportunities are presumably also important. But even if there is no drop in the total fertility rate, the postponement of marriages will bring about a relatively large temporary decline and a smaller but perceptible permanent decline in the birth rate.

Issues and Options

Did the April 1976 population policy exhaust all relevant issues and explore all available options? The Maharashtra health minister is reported to have said, "We have tried every trick in the book and

[3] S. P. Jain (1975) reports the following findings, for example: for cohorts marrying below age 18 in rural Punjab, 2.9 percent of couples remained childless. The incidence of childlessness rose ro 4 percent for cohorts marrying at 18 to 22 years and to 7.6 percent for those marrying at 23 or above.

now we have come to the last chapter," i.e., compulsory sterilization.[4] Had the government indeed tried every possible approach? Now that coercive measures have been rejected by the Janata government and by major opposition parties, it is important to examine once again the validity of the minister's plaintive plea. Unfortunately, the 1977 policy paper does not do so. Three questions need to be raised. First, are resources presently available to the FP program being used to the best advantage? This is the narrow issue of management. Second, is there a case for diverting more budgetary resources to FP? This is the wider issue of allocation. Finally, what policies and programs, FP or others, can reduce the fertility of the very poor households who constitute the bulk of the Indian population? This is the widest and most complicated strategic issue. Naturally, the three questions are closely interrelated. If present resources are badly mismanaged, one can scarcely make a case for pumping extra funds into FP until the existing inefficiency is eradicated. Wasteful deployment, however, may in part be the result of the fact that the volume of available resources falls short of the critical minimum necessary to do a reasonably good job. Similarly, a positive answer to the second question may depend on how the third is resolved; additional allocations to FP may be justified only if it is determined that the FP delivery system has the capacity to cater to poor households and that their fertility can be reduced b some combination of FP and other policy instruments.

Better FP Management. Government expenditures on FP have risen steeply but they have never reached even 2 percent of total development outlays. These resources, however, are not being used efficiently, because there is (1) a lack of consensus on goals, (2) a leadership vacuum at the field level of administration, and (3) a gnawing cultural gap between the village clientele and the program staff.

Targets. Until 1966 the goal of the Indian government was to reduce the birth rate to 25 per 1,000 as soon as possible; no date was specified. When the Central Department of FP was established in April 1966 it set 1975–1976 as a target. This was later postponed to 1978–1979, and most recently to 1983–1984. Using these overall objectives and a series of mechanical calculations, the Department

[4] Interview reported by William D. Hartley, *Wall Street Journal*, July 7, 1976.

assigns targets for each year and for each FP method to individual states. In turn, targets are allocated to districts, primary health centers, health subcenters, and finally to individual FP workers. The flow of instructions is from the top of the administrative pyramid to the bottom, with very little information or analysis flowing in the reverse direction. In fact, very little relevant information is kept up to date at the primary health center or health subcenter. "Target Couple Registers" were found to be poorly maintained in many cases in a study of eight primary health centers in Karnataka, and even the limited information available was not used (Gopalkrishnayya, 1975). A similar conclusion emerges from a detailed study of North Bihar; the author found the available record so hopelessly inaccurate that he devoted 6 months to building a reliable factual picture of the prevailing situation (Blaikie, 1975).

Understandably, field staff feel little commitment to targets which are imposed on them and which are based on minimal information. These targets bear little relation to community demand for FP or the available resources. The establishment of targets for acceptors and their allocation to FP workers lead to some demoralization within the program and the recruitment of "demographically marginal" couples. A survey in Uttar Pradesh showed that FP staff were punished with nonpayment of salary, threat of dismissal, or actual firing if assigned quotas were not met (Elder, 1974). In turn, FP workers responded, it seems, by abandoning the principles underlying extension education. They passed on the bare minimum of information to the client—how, when, the where to obtain contraceptives—but did not explain the basic rationale of FP for the household or the side effects of contraceptive use. ". . . the image of the FP workers in rural areas is that of persons who use coercion and other kinds of pressure tactics and offer bribes to entice people to accept vasectomy or tubectomy" (Banerji, 1973). Since revenue officers and staff controlling credit and agricultural inputs can exercise greater leverage on villagers than FP workers, the former acquire prominence at the expense of the latter. Furthermore, couples actually recruited tend to be demographically marginal. A survey of seven Uttar Pradesh districts conducted over 10 months in 1968–1969 showed that 62 percent of those vasectomized had wives aged 38 or over, five or more children, or both (Elder, 1974). A 1966 survey by Ranbir Singh in one Uttar Pradesh district had shown

equally disappointing results and revealed significant distortions in records; although official data indicated that 14 percent of those vasectomized were over 50 years, an on-the-spot verification suggested that the actual figure was 49 percent.

The history of target setting is dismal, and the anxiety to obtain quick results through administrative pressure during 1976 has further undermined the morale of FP workers and managers. It will take time to rehabilitate the voluntary principle and the integrity of extension education. Once this is accomplished, the process of setting goals, monitoring implementation, and evaluating the results will need to be reconstructed on the basis of reliable information and the genuine involvement of frontline FP workers and their immediate supervisors. The hierarchical, bureaucratic principle of organization will have to be replaced by a much more participative style of operation consistent with the innovative mission of FP and its experimental nature.

Field Leadership. The key field managers of the Indian program are the directors of the primary health centers and the attached rural family welfare centers. Each director is responsible for health and FP activities covering about 100,000 people. The directors supervise staff involved in curative and preventive medicine, epidemic disease control, basic health education, environmental sanitation, and maternal and child care services, including FP. A part of this staff is located at health subcenters, each of which covers about 10,000 people. These executive heads of the primary health center are physicians with a Bachelor of Medicine degree and some practical experience. They have an extremely difficult role to play, given the incompatability between the large size of their task and the very limited staff and material resources at their command. Given also their professional training, which emphasizes curative medicine on the Western model, it is scarcely surprising that these doctors have not proved to be effective managers. They tend to emphasize their functional role as healers and to ignore their administrative or supervisory duties (Gopalkrishnayya, 1975). They have little patience with extension education and some regard FP as immoral (Blaikie, 1975).

If this picture is a fair representation of the situation, some hard questions must be asked. At the very least, a serious examination of the curriculum and training of doctors destined to be FP managers

in rural settings is required. We may also ask whether the search for executive leaders of the primary health centers should be confined to the ranks of physicians only; perhaps people in other professions with experience in rural areas should also be considered. After all, FP is not simply a medical activity. It requires a multidisciplinary approach; perhaps the most important attribute of a health and FP manager in a rural environment is knowledge of and work experience in this environment. Officials who have exercised executive responsibilities in some field of rural development can make successful FP managers. They would, of course, be able to draw on the expertise of the medical as well as other relevant professions.

The Cultural Gap. The doctor-manager and most of his FP and health staff tend to have an urban orientation in terms of family ties, residence, education, and value system. When introducing new ideas or techniques in the village setting, they operate in an alien environment. This cultural distance can undermine the quality of the interaction between the change agent and the client population, unless the former is extremely well prepared and works with dedication under expert supervision. Under Indian conditions, the cultural gap has proved to be an important impediment to the spread of FP, given the limitations of staff training and the absence of executive leadership at the primary health center level.

In a 1971–1972 survey of 120 villages in the Allahabad Division of Uttar Pradesh, very little contact between field workers and villagers was reported; the latter spoke negatively of such contact as did take place (Misra et al., 1976). The low contact was attributed among other factors to (1) absenteeism, irregular attendance, and malingering on the part of the workers; (2) disinterestedness of supervisory staff in field work; and (3) poor motivation and lack of training of workers. Two-thirds of the village wives were aware of FP methods, and nearly half did not want additional children; but only 14 percent were practicing contraception. In another study, FP workers were said to be high-handed and unresponsive; the auxiliary nurse-midwife plus the Lady Health Visitor were described as inaccessible to ordinary villagers (Banerji, 1973). Users of Nirodh complained that they could not get supplies from FP centers, which were said to be selling them illegally to commercial retailers.

The failure of urban-oriented frontline FP workers to be sensitive to the rhythm of peasant societies is after all not too surprising. The

same difficulty has been experienced in agricultural extension, education, and rural development generally. The change agent tends to be ethnocentric. His air of superiority is likely to be resented by villagers steeped in tradition and suspicious of outsiders trying to change things quickly without comprehending the totality of village life. What is perhaps more surprising is that even the architects of the FP and health programs have approached the problem without much understanding of village resources, attitudes, and beliefs. Instead of building on the prevalent traditional system of health care, policy makers in Delhi and the state capitals seem determined to displace the village regime by modern imported techniques and by personnel trained in cities on the basis of curricula designed abroad. This approach has generated a lot of friction and unnecessary tension.

For example, the FP program throughout its history has suffered from a severe shortage of expert staff—doctors, particularly female doctors, and auxiliary nurse-midwives. The passage of time has not relieved this problem. Vacancy rates are higher in places far away from urban centers and short of basic infrastructure and recreational facilities. Meanwhile, large numbers of Indian doctors and nurses migrate to the United Kingdom and the United States after finishing their medical studies. Viewed from the standpoint of these individuals, the prospect of moving from the metropolitan cities of India to those of Western countries appears to be much more attractive than filling vacancies in the alien cultural context of the remote village. Despite this chronic difficulty, policy makers have not turned to the readily available alternative, the pool of indigenous health manpower that has always provided the bulk of medical care in the villages—the ayurvedic and unani doctors, *shamans* and *bhagats*. These people are in tune with the village environment, they are highly respected, and they could play a valuable complementary role in the official health and FP program (Mandelbaum, 1974). The Western-educated Indian doctor, however, has tended to regard these medical men with considerable contempt and typically describes their approach as nonscientific and obsolete. Although the government has recognized their existence by registering some of them and funds have been advanced for research in these schools of medicine, it has made no serious attempt to incorporate these indigenous doctors in the official health and FP network. The idea was

put forward in an official paper in 1972 and was mentioned again in 1977, but the probability of effective implementation remains low (Qadeer, 1977). Several attempts have been made to train the village midwife or *dai* but with disappointing results.[5]

Yet another manifestation of the cultural gap separating policy makers from villagers is the fact that the former have shown little appreciation of traditional values that tend to limit fertility. Periodic sexual abstinence resulting from the observance of customary taboos, coitus interruptus, and the rhythm method are used widely. The Operations Research Group survey reveals that these traditional methods account for 29 percent of all current practitioners of FP (see Table 3). The rhythm method was a favorite of the FP authorities during the early 1950s but long ago ceased to receive their attention. Custom reinforced by peer group pressure against pregnancies in quick succession or after the woman has entered grandmotherhood are powerful forces that could have been exploited by the FP program. In fact they have been ignored. Those using coitus interruptus have not found encouragement or counsel from FP workers who regard this practice as falling outside their purview. Abortion, another widespread practice in rural areas, remained outside the FP scheme till 1972, when it was legalized. Even today most FP centers are not equipped to perform abortions.

The sharp dualism that separates modern from traditional India has proved to be an obstacle in managing health and family-planning activities. Those responsible for the basic strategy cannot afford to be doctrinaire about particular schools of medicine or specific technologies. To obtain maximum results from very scarce available resources, a search must be made for all relevant solutions, taking account of the economics and the sociology of rural India.

A Bigger Budget for FP? A great deal of emphasis should be placed on improved management of the FP program. Still, at some point further progress will not be possible without a relaxation of the resource constraint faced by field managers. The nature of this constraint can be illustrated by a variety of indices—availability of vehicles, drugs, audio visual equipment, and the like—but perhaps

[5] Rogers and Solomon (no date) cite the following reasons for disappointing outcome: (1) the *dai* has a low social status in the village; (2) the incentive offered by the government to the *dai* for FP work was too low to offset the loss of earnings resulting from fewer deliveries. A Government of India report (1976–77) stated that state governments had assigned a low priority to the *dai* training scheme.

the most instructive story relates to the auxiliary nurse-midwife. She is the frontline worker in rural areas, and on her performance hinge the results of the overall programme. What is she expected to do and, is her assigned workload realistic?

According to the original design drawn up in 1966 by the Mukherji committee, the auxiliary nurse-midwife is expected to serve a population of 10,000 living in ten or more villages situated at varying distances from the health subcenter. In these villages, she is usually the sole worker for (1) immunization; (2) antimalarial and TB measures; (3) health and nutrition education and child health services; (4) FP information, contraceptives, and follow-up; and (5) record maintenance. Clearly, this is an impossible workload for any individual no matter how well motivated and how well supervised. The auxiliary nurse-midwife spends 25 percent of her working time traveling on foot from village to village; four to five days each month are absorbed by registration and record-keeping duties (United Nations, 1969). There is general recognition that an auxiliary nurse-midwife cannot perform adequately for a population larger than 3,000 to 5,000. Nevertheless, the administration of the program has continued on the basis of a patently unrealistic norm, presumably because a revision would have implied a major expansion in the FP budget.[6]

The present norm of one auxiliary nurse-midwife for a population of 10,000 is a suboptimal level and is undoubtedly responsible for some of the lapses of the delivery system. This can be seen, for example, in the case of the IUD campaign. The number of new IUD acceptors peaked in 1966–1967, very soon after this method was introduced into the Indian program, and then declined. The decline was partly because of shortcomings in preinsertion scrutiny and counseling, faulty insertion procedures, and inadequate detection

[6] There is talk of a multipurpose health worker's scheme under which workers who now specialize in malaria, smallpox, trachoma, and FP will be retrained to deliver services in an integrated package. The ultimate plan is to have one male and one female multipurpose health worker for a population of 5,000. It is recognized, however, that these targets will not be fulfilled for a considerable period, owing to shortages of training facilities. In 1975–1976 Rs. 30 million was earmarked for this purpose; only 33 percent of this was spent. Meanwhile, new job specifications laid down recently for the auxiliary nurse-midwife state that she "... is expected to cover a population of 10,000 of which 3,000 to 4,000 will be her intensive area and the remaining will be the twilight area. In the intensive area she will be responsible for all the activities and in the twilight area only on request" (Brochure entitled "Job Responsibilities of Health Workers and Supervisors," issued by Department of Family Planning). The brochure carries no date but is believed to have been issued in 1976. See also Government of India, 1976–77.

and treatment of side effects (Estimates Committee, 1972). These supply lapses generated a "whispering campaign" by dissatisfied users that discouraged potential acceptors. It is instructive to note that while this retreat was taking place at the all-India level, the IUD losses in Gandhigram, an experimental area in Tamilnadu, were relatively light and quickly made up (Hauser, 1970). The experimental delivery system in Gandhigram was much superior in both quality and intensity. Women were told in advance that there might be complications after the IUD insertion and what they should do to obtain relief.

Table 4 compares the performance of the delivery system based on the official model (one auxiliary nurse-midwife for a population of 10,000) as it works in the Reddiarchatram and Dindigul blocks on Gandhigram with that of the Athoor model (one auxiliary nurse-midwife for a population of 5,000). What emerges from this rough picture is the pitiful inadequacy of service provision under the official model. The vast bulk of pregnant mothers has little or no access to the program before, during, or after childbirth. By contrast, coverage under the Athoor model is markedly better, although about half of the pregnant mothers remain out of reach. Nevertheless, frequent contact with at least half of the relevant women enables the auxiliary nurse-midwife to undertake concentrated FP activity during the period in which potential acceptors tend to be most receptive. This contact results in higher levels of knowledge and acceptance of FP.

The nationwide delivery system in India today is much less intensive then in Egypt, Taiwan, Thailand, or Tunisia (IBRD, 1974). The contrast with mainland China is also instructive. There a major effort has been made to expand the supply of medical personnel in rural areas. In 1966 the physician-population ratio in rural areas was 1:8,000 (Teh-wei Hu, 1974). Since then urban doctors have been relocated in rural areas, Chinese traditional physicians have been tapped to complement the Western-trained doctors, and a corps of 1 million "barefoot doctors" and 3 million public health workers has been trained. The barefoot doctor is a peasant trained for 3 to 6 months who is capable of treating most diseases common in rural areas, administering immunization plus birth control devices, and supervising public health workers. The average barefoot doctor to population ratio is now 1:1,520; this figure allows for the fact that

Table 4. EVALUATION OF DELIVERY SYSTEMS FOR HEALTH AND FAMILY PLANNING

		Official model[b]	
	Athoor model[a]	*Raddiarchatram block*	*Dindigul block*
Percentage of ante-natal cases registered.	97	72	56
Percentage of cases (including those not registered) receiving five or more ante-natal visits.	51	20	16
Percentage of deliveries (including those not registered) performed by auxiliary nurse-midwife.	49	18	6
Percentage of cases (including those not registered) receiving three or more post-natal visits within ten days after delivery.	47	8	1
Percentage of FP acceptors in sample[c].	13	7	
Percentage of sample women with knowledge of one or more FP methods.	92	84	84
Percentage of cases in which register is incomplete for key item.[d]	7	44	55
Percentage of children administered three doses of DTP immunization.	8	4	3

[a] One auxiliary nurse-midwife for 5,000 population.

[b] One auxiliary nurse-midwife for 10,000 population.

[c] Sample was of women whose pregnancies were registered during 1970.

[d] Key item was "nature of termination of pregnancy." Similar gaps existed for other items of information.

SOURCE; Table is adapted from D. Narayanan Namboothiri and P. Ramankutty. Evaluation Report (Interim) of the MCH and Family Planning Programme in Athoor—January 1972; *Bulletin of the Gandhigram Institute of Rural Health and Family Planning,* Vol. 6, No. 2, January 1972.

the barefoot doctor is a half-time peasant. His presence in the rural areas assures the bulk of the Chinese people easy access to basic health care and FP facilities.

This article is not the place to make a full case for allocating larger sums to health and FP in the Indian budget. Nevertheless, the issue is important, given that the present allocation is less than 2 percent of total public expenditures, that the norms underlying the official model—e.g., one auxiliary nurse-midwife for a population of 10,000—are suboptimal, and that some relaxation in the resource constraint will give FP managers more confidence to carry out their mandate.

Poor Households and FP. A large part of the FP program's potential clientele consists of very poor households which are difficult to reach and which tend to have many children. So far the FP delivery system has ignored this segment of the population, except for the mass vasectomy camps. To engineer a demographic transition for this group will require policy innovations of a high order. Perhaps intensive and redesigned FP components combined with substantial social and economic investments in selected regions are required. There are no sure and tried solutions, no international experience to draw on. To pursue these issues, the government must be willing to experiment and to learn from the outcome.

Many attempts have been made to measure the extent of dire poverty in India based on a government definition of a bare minimum standard of living.[7] According to Bardhan (1973), about half of the rural population was below this poverty line in 1969. Using roughly equivalent norms, Dandekar and Rath (1970) estimated that the comparable proportion in urban areas was also about half. Assuming no trend change in proportions since 1969, the implication is that roughly 52 million couples out of a total of 104 million of reproductive age in 1975–1976 were desperately poor.

Approximately 41 million of these very poor target couples live in rural areas. Most of these families are dependent on agriculture. Perhaps half or more are cultivating holdings of less than 5 acres. In many cases demographic pressures and other factors have led to intense fragmentation and a holding may consist of six to eight

[7] The bare minimum standard of living was established in 1962 by a distinguished study group appointed by the government. It was set at a per capita consumption of Rs. 20 per month in 1960–1961 prices. Outlays on health and education are excluded; they are assumed to be provided free by the state. Bardhan uses a conservative estimate of Rs. 15 to allow for relatively lower rural prices and shows that it is consistent with a minimum diet of 2,100 calories and 55 grams of protein, which is necessary to maintain life processes of an average adult in moderate activity (Srinivasan and Bardhan, 1974).

separate parcels situated in different parts of the village (Minhas, 1970). These households may not own all or any of the land they work on, and their tenancy arrangements can be highly uncertain. Another third of these poor families are landless; they work as agricultural laborers. The rest are artisans or sell their labor in miscellaneous service activities.

These target groups are not only at the bottom of the income pyramid, but many also belong to the lower castes, who for long have been victims of discrimination. Their legal rights under the constitution of independent India could not be enforced in many instances. To enforce these rights against the high-caste landed groups might have meant eviction, denial of work for wages, and the sudden drying up of credit (Epstein, 1973). Rather than face these risks, the poor opted for a continuation of traditional subservience and minimal security.

These power relations within the village are basic to an understanding of the attitudes and value characteristics of the rural poor. The situation varies a great deal, but in general the pattern of change in recent decades has accentuated the polarization. Many progressive measures adorn the Indian statute book and the successive five-year plan documents. The history of implementation, however, is dismal: ". . . regardless of intentions, the economic policies adopted have, in the Indian social and political context, by and large, benefited the upper income groups. And those policies . . . which could have benefited the poor have been successfully evaded or neutralised" (Srinivansan, 1974). This record of stagnation or deterioration in socioeconomic conditions plus a climate in which government has been unable to tip the balance in favor of the poor has become part and parcel of the psychological makeup of the poor. They have seen prosperity come to the high-caste landed groups while their own situation remained the same or became more desperate.

How do the poor cope with their poverty? They spend nearly all their earnings on the cheapest foods; yet many do not get a diet that sustains life processes at even moderate levels of activity. In some cases male adults from these families have had to turn down heavy manual jobs, because such occupations demand too much physical energy (Dantwala and Visaria, 1974). Malnutrition and lack of access to potable water make these households especially vulnerable to

infection. Their morbidity and mortality rates, particularly for infants and children, are much higher than the national average. Large numbers of births are required for ensuring the survival of some of the children. Just as these households cannot afford health investments—wells, latrines, medical care—so also their capacity to use schools is limited. Children perform valuable economic roles within these families, and their enrollment in school implies a heavy opportunity cost for parents who can ill afford to bear it. In addition, parents must also pay for books, transportation charges, and other miscellaneous items even if tuition is free. Superimposed on these considerations that apply to all children are the special factors affecting girls. The likelihood of a girl's finding a lucrative job that will compensate parents for investing in her education is lower than for a boy. Moreover the payoff from investing in female education stops at marriage. A survey in West Bengal carried out in 1964–1965 illustrates the phenomenon (Maitra et al., 1974). School attendance in rural areas as a proportion of the male population aged 6 to 14 was 31 percent for the bottom income decile compared with 83 percent for the top decile. The corresponding figures for females were 12 percent and 67 percent, respectively. These differentials are not peculiar to West Bengal; they are found in most parts of the country (Bhagwati, 1973).

Given this rough profile of poor rural households, it is hardly surprising that the FP delivery system has ignored them. Superimposed on the rural-urban cultural gap impeding program implementation, there is the "poverty curtain" separating FP workers from this population characterized by hunger, illiteracy, ill health, and physically segregated mud huts. Till 1977 FP workers had been assigned targets for obtaining acceptors, and no distinction was made between acceptors with different socioeconomic characteristics. It was natural for these workers to concentrate on relatively affluent groups who were much more predisposed to birth control than the very poor households (Blaikie, 1975). The process of persuading the impoverished small farmer or landless worker to limit his family is likely to be protracted at best, and the chances of success at the end of it cannot be rated very high. Meanwhile, intensive and repeated contact with these households can jeopardize the FP worker's relations with the rest of his clientele if caste factors are at all important. For these and other reasons, the main contact of the FP program so

far with the poor has been in the mass sterilization camps that were held for limited periods outside the village setting. There, the camp organizers set out to obtain acceptance under the extraordinary festive atmosphere of the *melaa* (carnival) and through the use of incentive payments that were large compared with the budget of poor households. These high-pressure tactics succeeded in raising the count of sterilizations performed, but in many cases the acceptors regretted their decision afterward (Blaikie, 1975). However useful the mass vasectomy camp might be for obtaining quick results, it does not seem like a good solution in the long run.

A long-term strategy must be based on an understanding of why poor households tend to have large families. Is this simply the result of a time lag in their perceptions of social change, such as the sharp decline in infant mortality? Alternatively, is there a real conflict between the private interest of the poor household and the unequivocal national interest in controlling population growth? Unfortunately, these questions cannot be answered easily or convincingly. Yet an attempt must be made, however speculative it may be.

Robert Cassen (1976) has outlined a framework for stressing the economics of children viewed as investments: ". . . the child's asset value to parents is a negative function of rearing costs, opportunity cost in parental earnings, children's earning age, mortality and the discount rate; and a positive function of employment and earnings prospects and the share of earnings over and above consumption that parents are likely to receive." It is instructive to pursue this line of reasoning in the case of very poor small farmer households in India. Let us assume that the household consists of parents, two sons, and one daughter (all under 5 years of age); this size, according to the celebrated family-planning slogan, should not be exceeded. What are the pros and cons of an extra child viewed from the standpoint of such parents?

On the artificial assumption that the small farmer and his wife wish to make a calculated decision, they will confront the following facts and risks:

1. One or more of their children may not survive. This risk is much reduced in recent decades but it is still significant. The average probability of surviving beyond age 8 is 0.75; it is much less for children from very poor households. Childhood mortality may

undermine the family's provision for social security against the risks to parents of sickness, accident, old age, and widowhood. In the absence of institutional mechanisms, villagers must lean on their own private sources, i.e., children, for support in times of difficulty.

2. The option of saving through financial instruments for use in future crises is also largely absent in much of rural India. In these circumstances, the poor parents may view their children as a form of saving (Chernichovsky, 1976). The cost of rearing an extra child consists basically of additional food, and the quantity consumed is much less than for an adult. Very little will be spent on new clothing or shelter or anything else. Rearing costs will add somewhat to daily outlays; no lump-sum indivisible amount is required. This is a convenient form of saving for a very poor household.

3. Very little extra parental time will be diverted to the rearing of the newborn child. In the rural setting most child feeding or caring duties can be combined easily with work on the family farm or wage employment. As the eldest child grows older, he will take over an increasing number of motherly functions.

4. At a very early age, perhaps 6 or 7, the extra child will begin to contribute to the household economy. He will look after animals, collect fuel material, and join in fetching drinking water, sometimes from long distances.

5. Later, the extra child will start working on the family farm and for wages. A 1974–1975 survey of six villages in Aurangabad district recorded a labor force participation rate of 22 percent for the 6 to 18 age group among households owning up to 2.5 acres (Nadkarni, 1976). Another 35 percent of the males and 57 percent of the females in this age group were kept at home for housework. Only the remainder, i.e., 44 percent of the males and 22 percent of the females, from these poor households were attending school.

What value do parents attach to the extra child's labor services (items 4 and 5 above) given that the parents themselves are far from fully employed? If there were not the very sharp seasonal fluctuations in the rural labor market, it might not be rational for parents to value very much the labor power embodied in their extra child; he could work only by reducing their work opportunities. The extra pair of hands, however, proves very valuable in peak agricultural seasons, which are characterized by overemployment and wage rates

for hired labor that are a multiple of levels in the slack period. Workers may not be available even at peak rates during the busy season or they may be available only after a costly delay. The small farmer with his limited bargaining power is particularly vulnerable to this risk of not finding a hired hand at the right time. By contrast, the family worker's availability is ensured, without the necessity of paying out peak wages. If the family plot is too small, some or all household members can obtain jobs at seasonal peak rates on other village lands and thereby augment family cash earnings. At least during the busy season, extra labor power is an asset allowing the household to exploit the scarcity situation more than would otherwise be possible.

Basically, the parent-child relation in very poor households tends to be exploitative. This is implied in statements 2 to 5 above. Living on the desperate brink of survival, the household cannot afford to spend much on child nutrition, health, or education. The father has authority by virtue not only of his economic superiority but also because Indian tradition assigns respect for the head of a household and for age. If the child makes a positive contribution to household income, it may be appropriated to a large extent by the family creditor or for the father's outlay on liquor. In the case of a daughter, this phase comes to an end at her marriage, when she leaves the parents and joins the husband's household. In the case of a son, the joint family relationship with parents is likely to continue beyond his marriage and procreation. In anticipation of ultimately receiving the family land, the son is likely to continue to accept the father's authority and to continue to tolerate a share of family consumption smaller than his contribution to household income.

This is the rough perspective for the decision to have a fourth child if it is to be made rationally by a very poor small farmer and his wife. In the nature of the case, no neat and precise calculations of an economic kind are feasible. There are many different motives and much uncertainty. Superimposed on all these factors are peer group pressures, community norms, and plain, old-fashioned sentiments about children. In fact, most poor households exhibit a strong preference for a large number of children, certainly many more than the official FP norm of three. Given the considerations outlined above, it would be presumptuous to conclude that poor parents are not behaving rationally to promote their own interests.

Of course, the parents' interest may conflict with the longer-term welfare of their children. By having the fourth child, the poor small farmer is probably reducing the future per capita earning potential of his progeny, compared with what it would be if he stopped at three. The fourth child may mean that the already very small family plot will have to be split among three sons rather than two. It also implies a much larger number of job seekers 10 or 15 years hence, assuming that all small farmers decide to have the extra child, which may be reflected in higher underemployment or lower wage rates. Even if poor parents are aware of these sharp intergenerational conflicts, they can hardly be expected to adopt such a long-run perspective. Their present misery compels them to live from hand to mouth and to ask not what they can do for their children but what the children can do to relieve their acute deprivation. Furthermore, it must be recognized that it is not inevitable that the potential benefits of lower fertility adopted by poor small farmers will actually accrue to their progeny. Many events can intervene to disturb this progression from cause to effect. In the real world of political economy, it is likely that some socioeconomic group other than poor small farmers will appropriate the gain.

A strategy for reducing the high fertility of very poor households must deal with the implications of the analysis above. Even the best FP delivery system will not prove very effective if it is in the private interest of poor parents to have large families. Yet a policy of simply waiting for structural changes in the economy and society to reduce the advantages of having many children is unrealistic. Development may be the best contraceptive, but there may not be enough relevant development in the short or medium run, given the resource and other constraints, including high population growth itself, facing India. The key question, therefore, is whether it is possible to identify selected aspects of economic development which have a special significance for fertility reduction and which deserve emphasis for this reason. The April 1976 policy statement on population suggested that high priority should be assigned to child nutrition and to female education up to the middle level. Undoubtedly, these are relevant and important aspects of development, but it is difficult to maintain that they will reduce fertility on their own. As mentioned already, larger educational opportunities for girls may not be used if the household needs their services within the house or on the farm.

The attractiveness of female education will be much reduced if there is massive underemployment. Similarly, the impact of special child nutrition programs can easily be offset by diversion of household food allotments from the child to other family members. The search for the key element of development that will make the crucial difference in fertility is not likely to be very productive (Ridker, 1976). The many close interconnections among different aspects of household behavior, including fertility behavior, suggest that a holistic approach is necessary, i.e., an integrated and mutually reinforcing program consisting of rural development and FP.

The attempt to carry out such a program all over India at once would be hopelessly unrealistic, but a sequential pattern in which resources are deployed first in some selected regions and then successively in others may prove to be attractive and feasible. Of course, a basic minimum program must be carried on everywhere; it would be politically unacceptable to neglect any region altogether. But a concentrated intensive effort can be superimposed sequentially on the minimum program to generate the necessary critical mass in selected regions. Such a strategy implies a temporary increase in spatial inequality. This is the price that must be paid to eradicate absolute poverty and lower fertility simultaneously in one region after another all over India.

To spell out this sequential regional strategy fully is far beyond the scope of this article. Many important rural development issues would have to be resolved. There is great diversity in rural India not only at the state and district levels but even down to the block level. These differences in natural resources, social and physical infrastructure, and culture would have to be recognized and regions defined accordingly. As far as FP is concerned, categorizing regions into three groups might be useful:

First, regions in which (1) FP has already made substantial progress, (2) the process of income expansion is already under way and the number of very poor families diminishing rapidly, and (3) the infrastructure endowment is favorable

Second, regions in which (1) FP has made very little progress, (2) a large proportion of families falls below the poverty line, (3) the existing infrastructure is very limited, and (4) no concentrated intensive effort to promote rural development is visualized for the near term

Third, regions that have essentially the same characteristics as those in the second category, except that they are selected for the concentrated, intensive program.

The first category does not present a major problem. There the FP program will need to be continued and the management issues raised above will need to be resolved. If the demand for FP is really buoyant, there will be a strong case for budgetary allocations above present norms. Regions in the second category do not present a hopeful picture. No FP delivery system can be expected to produce results in such a context of widespread misery. The minimum government program should aim at providing health and FP services through mobile dispensaries and camps. The mechanical application of the usual norms—one auxiliary nurse-midwife for a population of 10,000—to motivate couples and secure new FP acceptors in such regions is likely to be wasteful; it would be best to conserve resources till the time comes to transfer the region to the third category.

Regions in the third category present a challenge. Large investments in land development, transportation, and social services will be required together with institutional and organizational changes. A very large effort on the FP front will also be necessary at levels far higher than the present norm. A precondition for success will be a willingness on the part of the powerful landed interests to share the benefits of massive public investments equally with the underprivileged. The latter must be mobilized as a group and they must participate actively in planning and monitoring the implementation of the integrated program. Fertility reduction must be incorporated as an important part of this effort. The scale of the public investment program could be varied, depending on fertility reduction objectives accepted by the community. To qualify for a larger public investment, the community would have to accept more ambitious targets for lowering the birth rate. The complexity of administering such schemes can pose major hurdles, and a pragmatic approach is essential. These ideas deserve further exploration and experimental testing under field conditions.

Conclusions

Toward the late 1960s the Indian birth rate started to decline, reflecting both socioeconomic progress—falling infant mortality,

female literacy, modernization—and the growing momentum of the FP effort. This welcome new trend is expected to continue. Yet despite falling fertility, the prospect is for the population to rise from 557 million in 1971 to 850 to 1,000 million by the end of the century. Given the existing pressure on land—reflected in very small plots, fragmentation of holdings, landlessness—and the massive incidence of underemployment, few will doubt the need to restrain future population growth as much and as quickly as possible. The main question is how to do it. Population policy in India has a long and controversial history; many tricks have been tried. The Emergency even opened the door to coercive methods that produced great human tragedy and astonishing official statistics. Fortunately, this phase is over, but the problem of population policy remains.

The FP program has succeeded in many places. In five states—Maharashtra, Punjab, Kerala, Gujarat, and Tamilnadu—containing 27 percent of the couples at risk, the record is reassuring. The practice of contraception has spread, particularly among middle- and upper-income groups. A quarter to a third of the population in these states is protected against the risk of pregnancy. The incidence of contraceptive use is 2.4 times higher than the national average for those enjoying high incomes, college education, and city living.

Roughly half of the population, however, is desperately poor, and a very large part is dependent on agriculture. Many continue to be victims of social discrimination as well as poverty, malnutrition, premature mortality, and illiteracy. These households tend to have many children, partly to offset the relatively low probability of their survival but partly also because villagers lean on children for support in times of difficulty in the absence of institutional social security mechanisms. Poor parents may also be convinced that an extra child adds to their income, whatever the truth of the matter. Given these conditions and attitudes, it would not have been easy to influence fertility, even assuming an ideal delivery system. In fact, the Indian FP program is ill-equipped to tackle the problems of this large segment of society. A cultural gap separates the urban-oriented doctor-manager and his badly trained staff from peasants steeped in tradition, particularly those at the bottom of the socioeconomic pyramid. Until recently, FP workers were assigned arbitrary targets for obtaining acceptors. It was natural for them to concentrate on

the relatively well-off households and to ignore the poor who also often belonged to the low castes. Given that the frontline worker of the system, the auxiliary nurse-midwife, has a patently unrealistic job of serving the health and FP needs of 10,000 people, it is inevitable that the underprivileged segment will get little of her time and attention.

Population policy statements made in 1976 and 1977 have extended and elaborated the FP program but they do not seem to recognize the key problem of poor households. To engineer a demographic transition for this large part of the society will require policy innovations of a high order. Household behavior concerning fertility is intimately tied up with questions of livelihood, education, health, and women's status and employment. Given these interrelations, a partial approach is likely to be much less rewarding than an integrated and mutually reinforcing program consisting of rural development and a redesigned FP component. Such an effort would be too expensive, both financially and in terms of human resources, to carry out simultaneously all over India. A sequential pattern is possible, however, based on the recognition of regional diversity. Essential preconditions for this strategy are (1) willingness on the part of the rich to share the benefits of development with the rest of the population, (2) tolerance for a temporary increase in spatial inequalities, and (3) openness in reexamining existing bureaucratic mandates, norms, budgets, and administrative procedures. All these are very demanding in political terms. Perhaps this is why recent government statements tend to dodge a number of the critical issues of population policy.

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