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**The Promotion of Family Planning  
by Financial Payments:  
The Case of Bangladesh**

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Payments: The Case of Bangladesh**

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## Abstract

The Government of Bangladesh and the World Bank commissioned a Compensations Payments Study, carried out in 1987, to assess the merits and demerits of payments for sterilizations to clients, medical personnel, and intermediaries who motivate and refer clients. The study conclusively shows that the decision of Bangladeshi men and women to undergo sterilization is a considered and voluntary act, taken in knowledge of the nature and implications of the procedure, and in knowledge of alternative methods of regulating fertility. There is a high degree of client satisfaction among those who have been sterilized, although among clients who had fewer than three children, 25 percent expressed regret that they had been sterilized. Money may be a contributing factor to the decision to become sterilized in a large majority of cases, but a dominant motive for only a very small minority. Payments to referrers have fostered a large number of unofficial, self-employed agents--particularly men who recruit vasectomy cases. These agents provide information about the procedures for being sterilized, particularly to the poor. They also concentrate on sterilizations to the exclusion of other methods, and are prone to minimize the disadvantages and exaggerate the attractions of sterilization.

The use of financial payments as an instrument of reproductive control is one of the most controversial and divisive aspect of population policies in developing countries. Few other areas of population policy have generated so much discussion, such a wide range of opinion, and such large shifts in the attitude of donor organizations. Although international opinion regarding the use of reproductive incentives has become increasingly hostile, cash payments to acceptors of sterilization are still a common feature of Asian family planning programs (e.g. Bangladesh, India, Nepal, Pakistan, Sri Lanka, Republic of Korea), and similar payments to acceptors of intrauterine devices are made in a smaller number of countries (Bangladesh, India, Vietnam). However, compensation for the direct and opportunity costs of undergoing a contraceptive procedure, rather than inducement or incentive, is the typical government justification for these client payments. As we shall see, the distinction between compensation and incentive is one of the critical issues in the payments controversy.

While client payments have attracted most attention, payments on a case-by-case basis to intermediaries who motivate and refer clients have also aroused concern because they may jeopardize the principle of informed consent and free contraceptive choice. Furthermore, the operation of worker rewards in conjunction with targets, whereby family planning staff are expected to recruit a specified number of new clients per month, may lead to methods of persuasion that border on coercion.

The Bangladesh family planning program, which makes use of client payments and (until recently) worker incentives and targets, became a magnet for both domestic and international criticism, perhaps because of the extreme poverty of the population and a reliance on external financial support.<sup>1</sup> Although attacks were strongly repudiated,<sup>2</sup> there was every prospect that the damaging debate concerning the ethical and practical consequences of family planning payments would continue indefinitely because of the lack of sound evidence on many of the key issues. Accordingly, the Government of Bangladesh and the World Bank commissioned a Compensation Payments Study that, it was hoped, would permit

polemic to be replaced by informed discussion and might perhaps even resolve the disagreements.

The organization of the study was entrusted to the National Institute of Population Research and Training (NIPORT), and the present authors proposed the design of the studies and prepared the summary report. The investigations were carried out in 1987 by four Dhaka-based research organizations. The main findings became available in December 1987<sup>3</sup> and final reports were published in 1988 and 1989.<sup>4</sup>

The study is a unique attempt to assess empirically the merits and demerits of financial payments to promote contraceptive adoption. While many of the findings and interpretations apply to the specific context of Bangladesh, the implications for program management and for the understanding of reproductive decisionmaking are much wider. The purpose of this paper is to report the main findings of the study and to elaborate their implications.

#### BACKGROUND

The successive Governments of Bangladesh, like those of India, have shown a serious and sustained commitment to the reduction of population growth by the promotion of family planning, despite widening realization that success would not be achieved easily or quickly. Government involvement in family planning dates from the crash program of the 1965-69 era. This phase was followed by the disruptions of the war of independence and the severe famine of the early 1970s. The foundations of the present program were created in 1976, with the introduction of a new cadre of female outreach worker, the family welfare assistant, and male field supervisor, the family planning assistant. By 1980 there were 12,000 assistants (male and female) and plans are currently underway to recruit an additional 10,000, giving a ratio to population of 1:5,000.

Family welfare assistants are typically literate married women who work in their locality of residence. Their task is to provide family planning and health education, to supply nonclinical

contraceptives, and to recruit individuals for sterilization and IUD insertion. Despite several attempts at integration, the provision of family planning and health services remains polarized at the grass-roots level. Family planning workers perform rather little health work. Their counterparts in the health service, health assistants and assistant health inspectors, do even less family planning work.<sup>5</sup>

Sterilizations (tubectomies and vasectomies) are usually performed at the upazila (or subdistrict) health complex, which serves a population of just under 200,000 and is staffed by medical, public health, and administrative officers. One of the major achievements of the family planning program is the creation of this extensive network of medical centers where surgical sterilizations and other operative procedures are routinely available. Most of the rural population lives within two hours' traveling time of the nearest health complex; in urban areas sterilizations are also performed at numerous nongovernmental clinics. Steps to improve the quality of sterilization services were taken in the early 1980s, and the program is currently monitored by teams of World Health Organization and local consultants. A midterm evaluation in 1984 noted a marked decline in tubectomy-related deaths, from 19 per 100,000 operations in 1979 to 4.5 in 1983. Deaths associated with vasectomy were at a lower level: 2 per 100,000 in 1979 and 1.7 in 1983.<sup>6</sup>

The present system of compensation payments was started in 1976, and the sums to clients were increased from about Taka 100 at the beginning to Taka 175 in October 1983. When adjusted for inflation, however, Table 1 indicates that, even after the 1983 rise, the purchasing power of the payment was less than in 1976. Today Taka 175 (the equivalent of about U.S. \$5.50) represents a week's earnings (without food) for an unskilled rural laborer.<sup>7</sup> In addition, female patients are provided with a saree and men with a lungi; the current market values of these items are Taka 90 and 50, respectively. They are intended to be used as surgical garments to reduce the risks of infection and are needed for this purpose.

TABLE 1. Client compensation payments in 1976 prices

COMPENSATION PAID TO CLIENTS  
(in constant 1976 Takas)

Date	<u>Vasectomies</u>	<u>Tubectomies</u>	Price Index <sup>a</sup>
1976-77	96	108	100
1977-78	87	98	110
1978-79	80	90	120
1979-80	68	76	142
1980-81	64	72	151
1981-82	52	59	185
1982-83	49	55	196
1983-84	80 <sup>b</sup>	80 <sup>b</sup>	220
1984-85	70	70	249
1985-86	67	67	260

<sup>a</sup> Rural consumer price indexes (CPIs) are reported for 1978-79 and afterwards in terms of 1973-74 prices. Values for years between 1973-74 and 1978-79 were interpolated, and CPIs were recalculated using 1976-77 as the base year.

<sup>b</sup> Compensation was increased to Taka 175 per client in October 1983.

Referrers' payments were also altered in 1983. Formerly, dais (traditional midwives) received Taka 45 for each sterilization client recruited, while other types of recruiters received less. This system of differential payments was open to falsification and thus was changed to a fixed sum of Taka 45 for all types of referrer. In the following year, the government attempted to restrict canvassing to certain, rather broad, categories of persons and to register them. But the instructions were not properly enforced, and, as we discuss later, a large and miscellaneous category of unofficial referrers or agents arose.

The restructuring of the payments system was part of a two-year emergency program that started in December 1982. Among many measures taken to strengthen family planning services during this time was the introduction of a target of two sterilization cases and one IUD case per month for each family welfare assistant. This

target system was dropped in 1987, because of concern that it distorted priorities.

The emergency program produced a remarkable surge in the number of vasectomies performed and IUDs inserted and more modest increases in the acceptance of other methods (Table 2). Since fis-

TABLE 2.

Estimated numbers of acceptors/users of contraception by method, 1975-76 to 1986-87, based on Service Statistics (numbers in thousands)

	Sterilization and Modern Reversible Methods <sup>a</sup>	STERILIZATION			Pills &		
		Total	Vasec.	Tubec.	Injecti- ons <sup>b</sup>	IUDs	Condoms <sup>c</sup>
1975-76	-	84	35	49	-	78	380
1976-77	777	116	69	47	357	59	245
1977-78	1148	77	24	53	576	41	445
1978-79	1078	107	20	87	548	23	400
1979-80	1113	199	28	171	486	224	406
1980-81	1414	252	27	225	526	38	598
1981-82	1687	302	69	223	615	83	644
1982-83	1921	363	88	275	658	118	728
1983-84	2493	548	214	334	776	301	824
1984-85	2753	480	258	222	889	431	921
1985-86	2603	268	151	117	991	369	944
1986-87	3007	351	210	141	1165	420	1036

<sup>a</sup> Vaginal methods are included in totals but are not shown separately.

<sup>b</sup> (Thousand of cycles of pills)/(13)+(thousands of injections)/(4)

<sup>c</sup> Thousands of condoms divided by 144.

cal year 1983/4, the annual number of sterilizations has generally fallen in contrast to estimated use of reversible methods, which has continued to grow. The reasons for these fluctuations remain uncertain but a slackening of program impetus may account for the decline since 1985. As a consequence of more recent attempts to integrate health and family planning, the financial autonomy of the upazila-level family planning officer was removed in 1985 and budgetary control transferred to the medical officer in charge of

the upazila health complex. This loss of status and power among family planning officers may have resulted in a slackening of effort.<sup>8</sup>

The unspectacular but steady rise in contraceptive practice has been monitored by a regular series of national surveys. Over the period 1975-89, the proportion of married women reporting current use has risen from 8 to 31 percent (Table 3).

TABLE 3.  
Contraceptive Users By Method, 1975-89

Contraceptive Method	Percent of Married Women Aged 15-49					BFS 1989
	BFS 1975	CPS			BFS	
	1975	1979	1981	1983	1985	1989
Sterilization	0.8	3.3	4.8	7.4	9.4	9.7
Tubectomy	0.3	2.4	4.0	6.2	7.9	8.5
Vasectomy	0.5	0.9	0.8	1.2	1.5	1.2
Modern Reversible	3.9	5.6	6.2	6.4	9.0	13.0
Pills	2.7	3.6	3.5	3.3	5.1	9.3
Injections	-	0.2	0.4	0.2	0.5	1.4
IUDs	0.5	0.2	0.4	1.0	1.4	0.6
Condoms	0.7	1.5	1.6	1.5	1.8	1.6
Vaginal	-	0.1	0.3	0.3	0.2	0.1
Traditional	3.0	3.8	7.6	5.4	6.9	7.6
Total	7.7	12.7	18.6	19.1	25.3	30.8

BFS = Bangladesh Fertility Survey; CPS = Contraceptive Prevalence Survey.

Among users in 1989, nearly half (42 percent) were using modern reversible methods, a further 31 percent were sterilized, and the remainder employed traditional methods. The actual level of use may be somewhat higher than suggested by these survey findings, because women appear to underreport contraceptive practice, particularly use of male methods.<sup>9</sup>

Fertility in Bangladesh has certainly declined from historic levels in excess of seven births per women. The precise level of current fertility is not known with certainty but total fertility

is probably about five births per woman.<sup>10</sup> When set against the official goals of the program or the demographic needs of Bangladesh, this decline may seem modest. Yet it has confounded the pessimistic views of several commentators that radical social and economic change was a necessary precondition for fertility decline.<sup>11</sup> To be sure, Bangladesh is not a static society. School enrollment ratios are rising slowly and there is a wide range of development activities, including the spread of transport, communication, and credit facilities into rural areas. In more subtle ways, it is likely that social values and attitudes have shifted. Nevertheless, Bangladesh possesses none of the characteristics that are believed to be conducive to fertility transition. The country remains predominantly agricultural and rural. Levels of adult literacy and female wage employment are low.<sup>12</sup> Childhood mortality remains high. Living standards for the vast bulk of the population have not improved. Indeed in rural areas, there is evidence of increased landlessness, underemployment, and declining real wages.<sup>13</sup> In these circumstances, it is remarkable that any fertility decline has occurred. Perhaps extreme poverty, as well as rising living standards and aspirations, can act as a powerful motive for reduction in family size. Alternatively, it may be argued that the decline is primarily the result of a government program that has placed excessive and unfair pressure on individuals. These are some of the important underlying issues that can be illuminated by the Compensation Payments Study and to which we shall return. First, however, we outline the objectives and methods of the study.

#### OBJECTIVES AND METHODS OF THE COMPENSATION PAYMENTS STUDY

The debate on cash payments to promote family planning has been plagued by the use of imprecise concepts. Payment systems are frequently discussed solely in terms of voluntarism and described as lying somewhere on the continuum from complete individual freedom at one extreme to coercion at the other.<sup>14</sup> This one-dimensional approach is an oversimplification that ignores, for

instance, the possibility that genuine cost barriers may be removed and freedom of action enhanced by cash payments to acceptors. In our view, payments raise four distinct issues: informed consent, motive, access, and satisfaction.

Informed consent describes the extent to which individuals decide to accept a contraceptive procedure with pre-knowledge of its nature, consequences, and possible alternatives and do so in the absence of coercion or undue pressure from others.

Motive concerns the reasons for adopting a method. Two main motives can be identified--the desire to postpone or terminate further childbearing; and the financial profit motive that may exist insofar as any cash payment or other reward is thought to exceed costs. The existence of a financial motive need not be condemned absolutely, but its encouragement is clearly unethical if it overshadows the reproductive motive and threatens longer term welfare. Note that a financial motive is not necessarily incompatible with a high level of informed consent.

The concept of access represents the extent to which all major methods of contraception are readily available at an affordable cost and with information about their effectiveness and side effects and with adequate medical follow-up. This topic addresses one of the major concerns about payment systems, namely that they tilt services toward methods that are eligible for payments.

Satisfaction refers to acceptors' post facto subjective assessment of contraceptive decisions. This dimension is particularly important in the case of irreversible methods. Whatever the level of informed consent or whatever the mixture of motives that led to sterilization, it is important to know the extent to which individuals are content with their decision and conversely the extent to which they regret it.

The aims of the study were defined in terms of these four themes. What were the positive and negative effects of the Bangladesh system of client and worker payments on informed consent, motive, access, and satisfaction? Were modifications or

alternatives to the system needed, and if so, what form should they take?

We now describe the methods of the study. Time was a severe constraint on the choice of research designs. Because of its political importance, the entire study had to be completed in about eight months. This limitation precluded long-term prospective studies or experiments. A second major influence on the scope of empirical work was the existence of a substantial body of relevant evidence. This included a series of national surveys on knowledge and use of contraception; another series of acceptor surveys in which sterilized individuals were interviewed a few months after the operation to examine short-term satisfaction and related matters; and a number of small-scale, intensive investigations of sterilization clients and family planning workers. Also available from routine reporting systems were monthly numbers of sterilizations performed, together with demographic characteristics of clients. The priority of the Compensation Payments Study was to complement this substantial body of evidence.

One critical flaw of all client follow-up surveys in Bangladesh is their relatively poor contact and response rate. Typically 30 percent of clients are not traced, and there is every reason to suspect that this substantial minority is different in key characteristics from those successfully interviewed. To overcome this problem, it was decided to undertake a survey of sterilization clients before discharge from the clinic. A representative sample of all government and nongovernment centers performing sterilizations was selected. A two-person interviewing team (one man, one woman) paid unannounced visits to each selected center and interviewed all persons who were sterilized over the subsequent four days. In the case of vasectomy, this strategy meant interviewing clients a few hours after the operation. Tubectomy clients remain overnight in the clinic and were usually interviewed on the morning after their operation. There are obvious limitations to this approach. Of necessity, the survey had to concentrate on the antecedents to sterilization (e.g., informed consent, motive, and

cost) and could not attempt to measure satisfaction. Interference by clinic staff was a danger but pilot work indicated that privacy could be obtained and the experience of the main fieldwork confirmed this prognosis. Changes in clinic admission procedures in response to the presence of the research team was another possibility to be borne in mind. But comparisons of the number of sterilizations performed in the four days preceding the observation period with the number performed during the observation period showed no appreciable difference; thus there is no reason to believe that screening of sterilization cases was affected by the study.

This clinic-based survey was conducted by the Associates for Community and Population Research in August to October 1987. This period coincided with a severe flood, and the possibility that this event affected results cannot be ruled out. A total of 638 sterilized men and 674 women were interviewed and the response rate was 98 percent.

While a wealth of information about reasons for seeking sterilization can be obtained by focusing exclusively on individuals who have adopted this method, more penetrating insights into the circumstances that underlie the decision can be derived from careful comparisons of sterilized and nonsterilized couples. The problem of finding a suitable sampling frame for such a comparative study was solved by making use of the national contraceptive prevalence survey conducted in late 1985 and early 1986. This survey identified 640 married rural respondents who had been tubectomized. It was decided to attempt to trace and reinterview these couples together with a control group of nonsterilized respondents, matched by village of residence, number of living children, and reported desire for no more children. Urban respondents were excluded because of anticipated difficulties of re-contact; vasectomized couples were excluded because their number was too small to justify their inclusion in the study.

The main objective of this case-control study was to make a careful comparison of the circumstances and characteristics of

sterilized and nonsterilized couples and thereby deduce the main motives (or in epidemiological terms, risk factors) for sterilization. A further important aim was to examine long-term satisfaction with sterilization, thus complementing the relatively abundant evidence on short-term satisfaction.

The study was conducted by Mitra and Associates in mid-1987. A total of 587 sterilized women were successfully contacted and interviewed, together with an equal number of controls. A remarkable response rate of 91 percent was achieved, which demonstrates the huge potential of well-documented national samples for subsequent intensive sub-sample inquiries.

These two surveys--the clinic-based survey and the case-control study--provided the main results, but a number of additional inquiries conducted under the aegis of the Compensation Payments Study should be mentioned. Focus group discussions were held with various types of contraceptive users and nonusers and with family planning workers. A survey of workers was conducted to document their views on the payments system and alternatives. Finally, the regular quarterly follow-up survey of recently sterilized clients was modified in design and content.

## FINDINGS

### Informed Consent

As defined earlier, informed consent in the present context denotes a decision to undergo sterilization that is taken in knowledge of its nature, consequences, and possible alternatives and in the absence of undue pressure or coercion from others. In view of the sustained effort by government and voluntary agencies in Bangladesh to popularize family planning, it is not surprising that awareness of the main contraceptive options and their supply sources are very widely known. For instance, the 1985-86 national contraceptive prevalence survey indicates that 99 percent of respondents were aware of the pill, 75 percent had heard of the condom and of injection, and 65 percent of the IUD. In the clinic-based survey, 94 percent of respondents knew at least one

supply source for a modern reversible method. There appears to be much less chance in Bangladesh than, for instance, in India that family planning is equated with sterilization in the minds of potential users.<sup>15</sup>

Of course, superficial awareness is an inadequate measure of knowledge, and the lack of more detailed information on this topic is a failing of most family planning surveys. By early 1986, however, one in ten couples had been sterilized and one in six had tried a modern reversible method. With this level of experience, it is most probable that the overwhelming majority of couples have an effective understanding of the nature and consequences of both irreversible and reversible methods: sufficient knowledge, at least, upon which to base an informed decision. Certainly, all clients in the clinic-based survey knew beforehand that the procedure implied a permanent end to childbearing, and all but 0.2 percent of women and 1.5 percent of men were aware that it involved a surgical operation. Rare exceptions to this level of knowledge have been reported,<sup>16</sup> but in a country as populous as Bangladesh, these are inevitable.

More-detailed information on decisionmaking from the clinic-based survey indicates that the hallmarks of informed consent are present. The issue of undergoing sterilization is typically discussed with a wide range of people, including friends and relatives (who have no vested interest), and with individuals who have undergone sterilization, most of whom also have no vested interest but do have specially relevant knowledge to impart. Only 5 percent of men and women said that the decision to be sterilized was primarily the outcome of persuasion by others. About 95 percent claimed to have considered sterilization for at least one month before undergoing surgery.

It is sometimes claimed that men who are looking for work and are far from their families are particularly vulnerable to the persuasive tones of self-employed referrers and liable to make hasty and ill-considered decisions to undergo sterilization. Indeed, the role of vasectomy referrers is cause for concern. This

issue will be discussed more fully later. But the results reported above, together with the claim by most vasectomy clients in the clinic-based survey that they had discussed the matter with their wives (90 percent), had informed their wives (85 percent), and had waited at least one day before implementing their final decision (82 percent), indicate that unilateral and sudden decisions to be vasectomized are not the norm. Nor was there any hint of coercion in any of the other research conducted as part of the Compensation Payments Study.

The conclusion regarding informed consent may be stated in simple and emphatic terms. The decision of Bangladeshi men and women to undergo sterilization is a considered and voluntary act, taken in knowledge of the nature and implications of the procedure, and in knowledge of alternative methods of regulating fertility. Exceptions are rare and their number should diminish further, as detailed knowledge of contraceptive methods increases.

#### Motive

The central issue addressed in this section is whether the payment to sterilization clients of Taka 175 (plus surgical apparel) exceeds its official purpose of compensation by acting as a positive inducement and, if so, whether it overrides reproductive wishes. The equally important and closely related issue of whether the payment overcomes cost barriers that would otherwise impede contraceptive sterilization will be considered in a later section.

Before embarking on the notoriously difficult task of disentangling motives, it is necessary to establish the actual costs to a client of undergoing sterilization. Unless these costs are (or are perceived to be) appreciably below the compensation offered, the possibility of incentive can be dismissed. Given that compensation is the justification for making client payments in Bangladesh and elsewhere in Asia, it is surprising that there have been no serious empirical studies of the actual costs incurred. The clinic-based study remedied this defect by collecting detailed

information at a time when the subject was still fresh in the minds of clients.

While the sterilizing operation itself is free of charge in Bangladesh, there are nevertheless associated costs to clients of travel, food to be purchased, and, for women, child-care arrangements. These out-of-pocket expenses are estimated to be Taka 55.8 for women and Taka 21.5 for men. The difference reflects the fact that women are usually accompanied to the clinic by relatives and remain overnight.

Calculation of opportunity costs is more contentious. One approach is to take the average daily wage for unskilled laborers --about Taka 30<sup>17</sup>--and multiply this sum by the recommended recuperation period (about four days for vasectomy and ten days for tubectomy).<sup>18</sup> However, this method fails to take account of levels of underemployment, which is typically estimated at between 20 to 35 percent, and thus probably overestimates wage loss.<sup>19</sup>

A preferable method is to obtain from clients detailed information on actual daily earnings (in cash and kind) from all sources in the 15-day period preceding the sterilization and to assign this sum to the recovery period. When this calculation is performed, the mean estimated wage loss for vasectomy clients is Taka 76, implying daily earnings of only Taka 19.

Because so few Bangladeshi women work outside the home, a similar calculation of wage loss for tubectomy clients amounts to only Taka 15. But this tiny sum is a grotesque underestimate of the economic value of a woman's time. Women work longer hours than men in Bangladesh, on tasks such as rice husking, care of animals, and preparation of cooking fuel.<sup>20</sup> A more realistic, but nevertheless arbitrary, representation of economic loss is to assume the value of a woman's time at half the earnings of vasectomy clients, which gives an opportunity cost of about Taka 100 for tubectomy.

Should other costs be taken into account? Side effects are commonly reported by patients who have been sterilized,<sup>21</sup> and the case-control study indicates that a minority spend rather large sums on medical care. However, it is inappropriate to add this

element into the calculation of average costs, because it affects only a minority and is highly variable. Ideally, clients should be reimbursed on a case-by-case basis but this strategy is administratively very difficult, and probably impossible. Some would argue that the psychic and social costs of undergoing sterilization legitimately can be taken into account. We accept the contention that fear and, to some extent, shame may deter individuals from contraceptive sterilization in Bangladesh but reject the view that this should invoke financial compensation, not least because it would be impossible in practice to distinguish from outright inducement to people to sacrifice their reproductive rights.

To sum up, our estimate of the cost to a vasectomy client is Taka 97. For a tubectomy client, it ranges from Taka 71 to Taka 156, depending on whether a strict or liberal definition of opportunity cost is used. The average sterilization client thus has a small positive balance from the cash compensation of Taka 175. The profit may seem far too trivial to act as an inducement for a lifetime decision. But the possibility cannot be dismissed when the sum involved is set against the extreme poverty and daily struggle to survive of much of the population. There is also considerable variation around these average estimates, such that the compensation may be insufficient for some but handsome for others. Finally, the extent to which families take into account opportunity costs, particularly for tubectomy, is uncertain.

Having established that the cash payment, plus suree or lungi, may act as an inducement, we consider now the clients' own perspectives on the matter. An open-ended question in the clinic-based survey on reasons for being sterilized elicited spontaneous mention of money from only 3 percent of tubectomy clients, but from rather more vasectomy cases (12 percent). The much more pointed question--"What was the most important reason for your having the sterilization at this time? Was it because you needed some money badly, or because you wanted no more children or both?"--gave the following results (in percent):

	tubectomy	vasectomy
No more children	63	47
Money	6	7
Both	31	46

Such survey responses should be regarded with great skepticism. Their credibility in this instance, however, is enhanced by examining variations in response by client characteristics. For instance, there is a large difference in the percentages stating that money was the main reason or part of the reason between those in the top and bottom quartiles of household income. The figures for vasectomy clients are 45 and 65 percent, respectively, while those for tubectomy clients range from 24 to 47 percent. This increase is exactly the pattern that might be expected on the assumption that the question is understood and answered with a degree of truthfulness.

The tentative conclusion from the clinic-based survey is that money may be a contributing factor to the decision to be sterilized in a large majority of cases (disproportionately men) but a dominant motive for a very small minority. This interpretation is supported by a remarkably revealing series of 16 detailed case studies conducted by Fatima Allaudin and her associates.<sup>22</sup> In four instances, the financial motive appears particularly strong and we reprint excerpts from two of the transcripts.

#### The case of Shakhina

"Shakhina is aged 29 with two sons. The husband is a landless laborer. Total household income is about Taka 450 a month. The family budget runs at a deficit and survives on loans. Her decision for getting operated on was triggered by

her extreme poverty. Both she and her husband thought that it would not be possible for them to provide food and clothing for the family members if they have more children.

"A long time ago, a family planning worker from a far off place told her about the operation. Then she talked to her brother's wife, also a family planning worker, about the operation. Though she first heard of the operation about one year back, she made up her mind to get operated on only 3/4 months back.

"In the month of Katrik (October), both she and her husband faced extreme economic crisis for want of work. During this time, they get work for 2/3 days in a week and earn only 8 to 15 Taka per day. Moreover, the only saree worn by her was torn a few months back but she was not in a position to purchase a new one. When she heard that she would be given a saree and some cash if she undertakes the operation, she decided to have it. She thought that the money paid as compensation will help her to reimburse the loans taken from others and the saree will give her service for not less than one year. As the family was under extreme economic hardship during the month of Katrik, the knowledge of compensation payment played a vital role in her decision for getting operated on at this time."

#### The case of Khairul

"Khairul is a day labourer, with a wife aged 25 and three children. He earns Taka 20-25 per day. If he fails to find employment for a single day he has to borrow money from neighbors to buy food.

"He heard of sterilization from various sources. About three months ago, one of his relatives who is a referrer (agent) suggested to him that if he would like to accept sterilization, he could help him. But Khairul did not yet decide to do so. But for the last one month he began to think of it seriously.

"Two days before the operation, Khairul had no job and no food for the family. He sold a piece of aluminum utensil (a pot for cooking rice) for Taka 20 and bought four seers of rice which kept him surviving for two days. Then, in desperation, he accepted the sterilization to save himself and the children. He requested his wife to undergo the operation but she refused.

"Extreme poverty which threatened his and his children's existence triggered the decision to accept sterilization. But the immediate problem of survival did not obscure his thoughts for the future of the children. He explained that the most important consideration for having the sterilization was the future of the children. If he would have more children he would not be able to give them food. They would have to beg from others. So he has decided to accept the procedure. He thinks that two children are enough."

The common thread of these poignant stories is the presence of a latent desire to stop childbearing. The advent of a particular economic crisis not only strengthens the feeling that something must be done to limit family size but increases the allure of the payment (and garment). The availability of the payment clearly influences at least the timing of sterilization.

The case studies raise the general issue of the relationship between poverty and sterilization in Bangladesh. Are the poor the most likely to become sterilized? And, if so, does this link constitute further indirect evidence of financial motive? Or are there other possible explanations?

Of the existence of a strong link between poverty and likelihood of sterilization, there can be no doubt. The case-control study demonstrates a very large difference in economic status between tubectomized and matched nontubectomized couples in rural areas. The key differences, shown in Table 4, tell a clear story.<sup>23</sup> However, there are a number of possible explanations for this link, quite apart from the thesis that the attraction of

**TABLE 4.**  
**Selected Characteristics of Rural Sterilized and**  
**Matched Nonsterilized Women (case-control study)**

	<b>Sterilized</b>	<b>Nonsterilized</b>
<b>Demographic</b>		
Mean age	33.7	33.8
Mean living children	4.0	4.2
Mean living sons	2.2	2.2
Percent of children dead	28	29
<b>Economic Status</b>		
Mean size of land owned/used (in acres)	0.88	2.43
Index of dwelling construction	0.4	0.7
Mean number of household possessions	1.3	2.1
Livestock score	3.9	4.9
Perceived inadequacy of income (%)	79	61
Severe food shortage in last five years (%)	74	52
Mean percentage of sons aged 5-12 years who are earning	6	3
<b>Education (in percent)</b>		
Some schooling	21	31
Able to read	11	22
Husband, some schooling	40	54
Husband able to read	33	46
Mean percent of sons aged 5-12 years who have ever attended school	28	34
Mean percent of daughters aged 5-12 years who have ever attended school	28	31

compensation payment is greatest among the poor. Before jumping to hasty conclusions, the full range of explanations should be considered. The main alternatives are: (1) the poor in Bangladesh feel the greatest need to limit family size; (2) the poor prefer sterilization to reversible methods because of its convenience and

cheapness; (3) poverty releases couples from religious and social sanctions against sterilization; (4) family planning workers concentrate their efforts on promoting sterilization among the poor. These are all plausible factors that may act in concert to produce a strong link between poverty and sterilization. We now assess the evidence for each of them.

The thesis that poverty rather than rising living standards and aspirations can provide the motive for family-size limitation has been made for Brazil, Indonesia, and Kerala<sup>24</sup> as well as for Bangladesh.<sup>25</sup> There is no sound theoretical reason why this should not be so. Indeed, the earlier applications of neoclassical economic theory to households suggested that fertility should rise with income on the simple grounds that the rich can afford more children.<sup>26</sup> Moreover, at least one time-use study in Bangladesh concluded that children are of greater utility among landed families than among the landless.<sup>27</sup>

These interpretations, however, do not accord with the stated preferences of individuals. The 1985-86 contraceptive prevalence survey shows little difference in desire for more children by landholding status. However, it remains possible that intensity of feeling differs. This hypothesis was examined further in the case-control study. Obviously, it is impossible to compare directly the intensity of desire to limit family size of those who have already undergone sterilization with those who have not. But it is possible to ask both groups whether their last child was wanted and whether or not they consider their present family size to be excessively large; strength of reproductive motivation may be inferred from these retrospective statements. The results, shown in Table 5, indicate little difference between sterilized and nonsterilized couples.<sup>28</sup> There is thus no support here for the view that poor couples in Bangladesh are sterilized because they feel particularly strongly about the need for small families.

Do poor, uneducated couples prefer sterilization to reversible methods because of its lower cost, ease of use, and convenience?

TABLE 5.

Comparison of Reproductive Attitudes of Rural Sterilized and Nonsterilized Women, controlling for number of living children (case-control study).

	Number of living children			
	0-2	3	4	5+
Percent who did not want another child before advent of last child				
Sterilized	10	35	60	71
Nonsterilized	17	45	53	78
Percent who think existing number of children is too many				
Sterilized	1	8	26	47
Nonsterilized	2	9	31	39

There is certainly no international evidence to suggest that sterilization is the natural preference of lower socioeconomic strata. The wide-ranging review by Philliber and Philliber identified 17 studies in which the relationship between the prevalence of sterilization and socioeconomic status was found to be positive and an equal number in which the relationship was negative.<sup>29</sup> Similarly, Hollerbach and Nortman found no consistent relationship between education and sterilization in nine national data sets.<sup>30</sup>

In Bangladesh, reversible methods are distributed free of charge by female workers or may be purchased at subsidized prices from shops and stalls. Both sources of supply have serious drawbacks. Home visits are irregular and fall far short of a true domiciliary service.<sup>31</sup> Commercial supply services not only involve a recurrent cost but also pose problems of access for women, who typically lead secluded lives, largely restricted to their homesteads. Furthermore, evidence suggests that use-effectiveness for methods such as the pill is low.<sup>32</sup>

Here, then, is a cluster of reasons that may go some way toward explaining the link between poverty and sterilization. But

there are two pieces of evidence that damage the credibility of this thesis as a central explanation. First, survey questions on intentions to use contraception do not reveal a disproportionate preference in favor of sterilization among the poor. Indeed, sterilization does not emerge as a popular choice among any socioeconomic group. Second, nearly three-quarters of sterilized individuals in the clinic-based survey had never even tried a modern reversible method. These results lend no support to the view that poor, uneducated couples have a preference for sterilization based on perception of the costs or other drawbacks of alternatives, nor that they try reversible methods, find them unsatisfactory, and then opt for surgical contraception.

We consider now a more subtle alternative, namely that extreme poverty may force innovation in a way that removes social and psychological barriers to sterilization. The argument rests on the assumption that sterilization in Bangladesh and perhaps in other Islamic countries still incurs a moral and social stigma. The very poor may be forced to break the rules of respectable conduct in other ways, for instance by allowing wives to work among strangers, and thus have nothing more to lose by being sterilized. Indirect support for this argument comes from the work of Shah and Bulatao in Pakistan and of Zeitlyn and Islam in Bangladesh. Both studies found that women with primary schooling are stricter in the observance of Islamic rules concerning purdah than uneducated women.<sup>33</sup> Modest affluence may have the same effect in this regard as a modest exposure to formal schooling. The possibility was further explored in the case-control study, using a battery of questions on religious and social attitudes. Differences between the sterilized and nonsterilized groups, after controlling for education, were small and not statistically significant. These negative results, while not definitive, do not support the argument that the poor accept sterilization because they are emancipated from social and religious constraints.

The last alternative explanation for the poverty-sterilization link to be examined concerns the possibility that fieldworkers

concentrate their recruitment efforts among the poor. We found no empirical support for this in the case of tubectomy. Landless and uneducated women were no more likely to have been visited by family planning workers than the landed and the educated. In the case of vasectomy, it is almost certainly true that the poor receive greater attention from self-employed agents, who play a major role in referral. This factor may help to account for the socioeconomic variations in sterilization among men but not among women.

To conclude, none of the alternative explanations for the disproportionately high level of sterilization among the poor in Bangladesh can muster more than partial support. In our interpretation it is therefore highly probable that a major reason, though perhaps not the sole one, for the link between poverty and sterilization is the attraction of the compensation payment. Consideration of trends and seasonal fluctuations in the number and type of sterilizations performed serves to strengthen this view. The massive rise in vasectomies following the October 1983 increase in compensation payments is consistent with evidence from the clinic-based survey, and from other countries, that men are more responsive to financial incentives than women.<sup>34</sup> Similarly, the regular October peak in the number of sterilizations performed coincides with the lean inter-harvest period, when employment is low and money short.

If the prospect of a small financial gain influences the decision to undergo sterilization, a further critically important question is raised. Does the financial motive override the reproductive motive and result in a "tragic choice" between short-term gain and the longer term desire or need for children. To some commentators it has seemed unbelievable that individuals might sacrifice future reproduction for such small amounts. But the possibility cannot be dismissed. Short time horizons and extreme poverty may accentuate the universal tendency for people to place immediate considerations over longer term ones.

The evidence from direct testimony of clients is clearcut. A review of many focus group discussions and case histories on this

topic failed to reveal any instance of reproductive sacrifice. Even for individuals who acknowledged the compensation payment as a factor in decisionmaking, the belief that family size should be limited was also present. The results of the clinic-based survey, shown in Table 6, support this view. The dominant impression is one of over-reproduction rather than under-reproduction. Perhaps more importantly, there is little evidence of a link between monetary motive and family size.

TABLE 6.

Reproductive and Financial Motivation for Acceptance of Sterilization by Number of Living Children (clinic-based survey)

	Tubectomy					Vasectomy				
	No. of living children					No. of living children				
	0-2	3	4	5	6+	0-2	3	4	5	6+
Percent who did not want last pregnancy	7	25	51	79	85	21	29	47	71	85
Percent who think family size is excessive	4	11	33	78	84	5	13	40	68	79
Percent who were motivated mainly or partly by money	42	41	36	24	30	49	58	52	54	43

If the need for money were a dominant motive, it is likely that a shift in the demographic characteristics of sterilized clients would be observed at times of hardship or following the October 1983 increase in payments. Younger people with smaller families would come forward in greater numbers than at other times. This expectation is not borne out. The proportion of sterilization clients with fewer than three living children is the same after the

1983 payment increase as before, nor is there any seasonal pattern in ages or family sizes of clients.

This indirect, but nevertheless convincing, evidence supports the interpretation based on direct client testimony that the prospect of financial gain does not override reproductive motivation. Rather, money acts as an additional spur to action, though only when there is a background or latent desire to stop having more children. The "tragic choice" between money and children does not arise in Bangladesh. Indeed, it is possible that the compensation payment merely hastens a decision that would be taken eventually. Well over 90 percent of clients interviewed in the clinic-based survey, and in similar surveys, claimed they would have undergone sterilization even had there been no payment. However, literal interpretation of answers to this hypothetical question would be unwise as it runs counter to the main body of evidence: such evidence suggests that many poor people would never overcome the barriers of cost, conservatism, and fear without the prospect of a small cash benefit.

### Access

Access was defined earlier as the extent to which all major methods of contraception are made available to individuals at an affordable cost, with information on effectiveness and side effects and with adequate medical back-up. We will not attempt here to assess how close Bangladesh has come to this ideal state of affairs. Our major concerns are more restricted. First, we examine the importance of client compensation in enhancing effective access to sterilization. Then we ascertain whether the system of referrers' compensation introduces a bias toward sterilization and away from health work and provision of reversible methods that are not eligible for any compensation.

The actual out-of-pocket and opportunity costs of being sterilized in Bangladesh have already been described. Do these amounts represent a genuine barrier? The answers of clients themselves to direct questions on this topic are inconsistent. On

the one hand, large majorities say that they would have sought sterilization in the absence of any payment. On the other hand, a large follow-up survey of tubectomy clients conducted in 1984 found that 42 percent of respondents could not have afforded the cost, and an additional 15 percent said that they would have had to save up the money.<sup>35</sup> These proportions varied in the expected manner according to economic status and traveling time.

In the clinic-based survey, no such direct question was used but a similar conclusion may be reached by inference from information on the economic background of clients. Few have cash savings or a food stock; many are in debt and had to borrow money in the past 15 days. One-third of tubectomy clients and almost as many vasectomy cases borrowed money before setting out for the clinic, and appreciable minorities secured loans from a family planning worker or agent to meet the travel costs. Nearly a quarter of all tubectomy cases borrowed money to buy food for themselves or their family at the clinic.

It is well known that very poor people have an astonishing ability to raise funds when the need is great, for instance for a wedding or festival. However, sterilization is another matter. It is regarded with great fear and perhaps some shame. In this situation, the existence of an appreciable financial cost is likely to act as a critical added disincentive to seeking the operation, particularly among the poor.<sup>36</sup> We have no doubt that reimbursement of expenses removes a serious barrier to acceptance of sterilization and thus greatly increases access to this method.

This interpretation brings us to a central dilemma. Cash payments to sterilization clients almost certainly perform a valuable function in removing cost barriers that would otherwise deter the very poor from making use of this method of birth control. At the same time, in many instances they exceed actual or perceived costs and act as an incentive. Because the payment takes the form of a fixed sum regardless of individual circumstances, it is impossible to offer a genuine compensation without introducing an element of inducement for some.

We now consider the impact of the referrer's payment, which amounts to Taka 45 payable in cash to the person who refers a client for sterilization. To place the discussion in perspective, Table 7 shows the relative importance of different types of referrer, as revealed by clinic registers and by the regular quarterly

TABLE 7.

Type of referrer recruiting sterilization clients, according to clinic register and as reported in follow-up survey for the period April to June 1987 (in percent)

Type of referrer	TUBECTOMY		VASECTOMY	
	Clinic Register	Survey	Clinic Register	Survey
Government field worker	54	40	25	15
NGO field worker	30	25	32	26
Dai	5	9	1	1
Self-employed agent	11	24	42	43
No one/other	0	1	0	16

follow-up survey of sterilization cases for the period April to June 1987. The table's most striking feature is the major role of self-employed agents, who account for nearly half of all vasectomy cases and about one-quarter of tubectomy cases. It is also clear that the clinic register gives a somewhat exaggerated impression of the number of referrals made by government workers. No doubt a certain amount of "trading" occurs, whereby government workers claim credit for referrals but split the payment with unofficial motivators.

In many cases, referral actually implies traveling with the client to the clinic. Among tubectomy clients interviewed in the clinic-based survey, 54 percent said that a government or NGO fieldworker or a dai accompanied them. An additional 15 percent were accompanied by a self-employed agent. The corresponding

proportions for vasectomy clients are 18 percent for fieldworkers or dais and 37 percent for self-employed agents. These figures are relevant because the main justification for the referral fee is compensation for traveling and related costs incurred by the referrer.

No doubt government fieldworkers can make a profit from referral fees, but it is unlikely that this factor distorts their priorities. Even for a highly successful worker, income from this source would amount to only about 10 percent of regular salary. The impression that referrers' payments are a minor matter among full-time salaried staff is supported by evidence from group discussions and surveys of such workers. Naturally workers defend their entitlement to payment but a majority would prefer its replacement by a regular travel and subsistence allowance.

A much more likely source of bias toward sterilization among government workers is the system, introduced in 1983, of monthly worker targets of one IUD and two sterilization referrals. The scheme was implemented at the local level with varying degrees of severity, and, in some areas, failure to achieve targets resulted in suspension of salary and threats of dismissal. In recognition of the distortions caused by method-specific targets, the government abandoned this system in 1987; this change of policy helps to account for the continuing decline in the number of new sterilization cases relative to users of reversible methods.

The real significance of referral fees in Bangladesh lies in the fact that they have fostered a large and often ignored army of unofficial, self-employed agents--particularly men who recruit vasectomy cases. Little is known about the background or working methods of these agents. No doubt some operate on a part-time basis among networks of friends and relatives. Others work full time and specialize in the recruitment of strangers in public places.<sup>37</sup> One such agent was interviewed as part of the Compensation Payments Study, and we give below excerpts from the interview as an illustration of working methods.

### The case of a vasectomy agent

"The agent, Aziz, was aged about 40 years and had no formal schooling. He was formerly a tailor but failing eyesight forced him to give up this occupation and he became a street vendor. One day he complained to a fellow vendor, who was selling prayer mats, about lack of capital and, as a result of the ensuing conversation, decided to have a vasectomy. He already had three children and wanted no more.

"A member of the clinic staff told him about the referral fee and suggested that he consider recruiting other people and in this way supplement his income. He took the advice. His first income as an agent came on the fifth day after his operation, when he convinced two men of their need for vasectomy. For the following month, he combined his job as a vendor with that of a sterilization agent. The latter proved lucrative, and accordingly he decided to devote himself full time to this new occupation.

"His main method of recruitment is to visit places where day laborers wait for jobs. He can judge from appearance who is a likely candidate for sterilization. He chats to the men and perhaps offers them a cup of tea or a bidi. In the course of conversation he introduces the topic of vasectomy. If the person has three or four children, Aziz tries to convince him not to have more children and tells him of the compensation payment. He usually succeeds in convincing a proportion of contacts. Most make their mind up and have the operation on the same day; others think it over and/or consult their wives before taking the final decision. According to Aziz, most 'had the decision in their minds already' but did not want to go to their local clinic for social reasons.

"Once he has obtained the agreement of an individual, Aziz usually takes him to a washroom and conducts a quick physical examination to check, as best he can, that the client will not be rejected at the clinic. He then accompanies the client, waits until the operation is over, and ensures that

he finds a rickshaw for the journey home. In addition to the Tk 45 referral compensation, the agent is often given a small share of the client's own compensation. Satisfied clients sometimes bring friends or colleagues to Aziz for vasectomy. When he visits one of his usual recruitment spots, he is surrounded by former clients who are glad to see him.

"He has been working in this way for about three years and claims to have recruited over 2,000 vasectomy cases. He knows of about 30 other full-time agents in Dhaka city, though he was not prepared to speculate in any detail about their working methods or the size of their clientele."

More can be learned indirectly about agents by comparing the characteristics of clients who were recruited in this way with those of persons who were not. Two distinct profiles emerge from analysis of the clinic-based survey. Those recruited by agents came from poorer families and were more likely to report an inadequate food supply in the past two weeks and to state that money was a part of the reason for sterilization.

It needs no research to prove that self-employed agents concentrate on sterilization to the exclusion of other methods, nor that they are apt to minimize the disadvantages and exaggerate the attractions of sterilization, including the compensation payment. It is also clear that they operate among the poorest sectors of the population, who are likely to be most vulnerable to their methods of persuasion. Thus they represent a constant threat to the principles of even-handed access to all major methods and of fully informed consent. Total condemnation of their activities, however, would be an overreaction. As already stressed, knowledge of the nature of sterilization is nearly universal in Bangladesh, and there is no evidence either of coercion or of the sterilization of individuals who want more children.<sup>33</sup> Moreover, agents are active primarily among the male population, which is ill-served by government workers. Although there are male grass-roots health workers, they do little or no family planning work, a reflection

of the historical polarization of health and family planning services in Bangladesh. It can also be argued that, in a society where poor and illiterate individuals are reluctant to approach any bureaucracy, including hospitals and health centers, intermediaries, in the form of agents, are a necessity.<sup>37</sup> Whether these positive features, together with safeguards that exist at clinics against sterilization of inappropriate candidates, are sufficient justification for allowing agents to continue is a matter of delicate judgment.

### Client satisfaction

In some ways, client satisfaction is the most important issue. It can be argued that, if men and women who undergo sterilization remain content with their decision, their precise motives or mode of recruitment do not matter much. We first review the evidence from surveys that have examined short-term satisfaction by interviewing clients within a few weeks or months of the operation. We then discuss longer term satisfaction and regret, based on the results of the 1987 case-control study.

Despite the rather high incidence of side effects following sterilization reported in several surveys, there is little evidence of short-term regret or dissatisfaction, with the exception of one study of vasectomy clients conducted in the 1970s.<sup>38</sup> The 1984 follow-up survey of tubectomy clients found that 98 percent were satisfied; that 47 percent had already recommended sterilization to others; and, of the remainder, that all but a tiny minority would recommend the procedure. Similarly, the quarterly follow-up surveys have consistently found that over 90 percent of tubectomy and vasectomy cases already have recommended or would recommend sterilization to others. In the quarterly survey for March-May 1987, a direct question on satisfaction or regret was included. Over 95 percent of women and men said that they were satisfied.

A wider range of indicators of satisfaction was included in a national follow-up survey of 336 tubectomy and 180 vasectomy cases conducted in 1986 by the Planning Commission.<sup>39</sup> Again, well

over 90 percent of men and women said that they would recommend sterilization to others and that they were satisfied with their decision. On some of the more specific indicators, a divergence between male and female clients was apparent. Men were more likely to report hostility from friends, neighbors, relatives, and religious leaders and decline in marital relations and sexual satisfaction. On an aggregated index of satisfaction, 16 percent of men but only 1 percent of women had a low score of five points or less.

As might be expected from other studies,<sup>40</sup> the levels of longer term satisfaction found in the case-control study are rather lower. About three-quarters (77 percent) said that they had recommended or would recommend the procedure to others. While a large majority said they were satisfied with their decision, an appreciable minority of 68 women (11.6 percent) reported that they now regret it. Of these, about half said they would opt for reversal if that were possible.

How does this result compare with international findings? Because of the irreversibility of sterilization and its huge popularity, there has been much interest in the extent to which acceptors later come to regret their decision. Unfortunately there is no standard definition or measure of regret. Partly for this reason, wide variations have been reported in the proportions of persons expressing regret, ranging from less than 1 percent to almost 50 percent. The majority of studies, however, report levels of regret of less than 10 percent.<sup>41</sup> Thus the result from the case-control study suggests that the proportion of women regretting their sterilization is somewhat higher than typically found elsewhere but not alarmingly so.

The main reasons for regret in the Bangladesh study were desire for more children, deteriorating health, religious beliefs, child death, and social criticism. A clearer insight into the factors that lead to regret is achieved by comparing this response among different types of couples. The very poor and the illiterate are slightly more likely to express regret than the not so poor and

the literate, but these differences are overshadowed by the influence of family size and by the death of a child since the operation. As shown in Table 8, women who have fewer than three living children or who have lost a child are more likely to regret their decision than those with three or more children and those without loss. These results parallel those of many other studies that show higher levels of regret among younger couples with small families.

TABLE 8.

Percent of women in the case-control study who regret sterilization, by current number of living children and whether a child has died since sterilization

Child death	Number of Living Children				All
	0-2	3	4	5+	
Death	38 (21)	27 (11)	13 (15)	25 (12)	27 (59)
No Death	21 (89)	8 (134)	9 (120)	6 (181)	10 (524)
All	25 (110)	9 (145)	10 (135)	7 (193)	12 (583)

Note: Denominators are in parentheses.

Only 50 women in the case-control study declared that they had a financial motive for being sterilized. This small group is also much more likely to express regret (36 percent) than those who claim they were not motivated by money (8 percent). Similarly, women who experienced medical complications are more likely than others to regret their decision. These relationships are difficult to interpret because of the danger of post facto rationalization. It is likely that women who regret their sterilization for whatever reason may be more apt to misstate their original motives and exaggerate medical complications. To establish a causal link between the motive for accepting irreversible contraception and the probability of later regret would require a prospective study.<sup>42</sup>

The case-control study merely suggests the possibility of a link between motive and regret.

### IMPLICATIONS

The aim of the Compensation Payments Study was to assess the merits and demerits of the system of financial payments to clients and referrers in Bangladesh and to recommend alternatives if any were deemed necessary. As with most research projects, it is not a simple matter to leap from results to practical policy recommendations. In this instance, the situation is further complicated by ethical considerations concerning which there can be a diversity of valid beliefs.

With regard to the client payment, the evidence strongly suggests that it exceeds its official purpose of compensation for costs associated with the procedure and that it acts as an inducement, particularly for men and the very poor. But this element of inducement only operates when there is an underlying strong desire to limit family size. The immediate allure of money is thus an additional spur to action but does not overshadow longer term consideration of future reproduction. There is little evidence that the prospect of money entices poor couples into hasty, ill-considered actions they later regret.

One policy option is to accept the powerful influence that cash payments can make to reproductive decisionmaking in poor countries and correspondingly to raise the payment level according to some cost-benefit criterion. It is clear from the survey of family planning workers that an overwhelming majority of them would favor this course of action. On the basis of past trends, an increase in client payments would probably result in an appreciable rise in the number of sterilizations performed. On the other hand, the longer term consequences of an incentive-driven sterilization program would be seriously damaging for the wider prospects of family planning in Bangladesh. The experience of the Emergency period of India is a clear warning in this regard. The higher the incentive, the greater the danger of falsification, sterilization

of demographically ineligible couples,<sup>43</sup> and excessive reliance on a single method of birth control.

Ethical considerations are even more important than impact on program prospects. While the present level of payment in Bangladesh does not induce reproductive sacrifice, there is no guarantee that this benign feature would hold for larger payments. The threat to individual welfare, of course, lies in the irreversibility of sterilization. In many ways, the use of incentives for reversible methods is much more attractive. Not only is the possibility of permanent loss of reproductive potential eliminated, but continued successful use of the method requires commitment and endorsement by individual users.

It seems to us that the payment of incentives for individuals to try reversible methods can be justified on the grounds that they may overcome initial barriers of fear and inertia and lead to a full internalization of the principle and mechanics of contraception.<sup>44</sup> These arguments do not apply to sterilization. Indeed, payments for sterilization may induce ill-considered decisions, with no subsequent development of positive attitudes.<sup>45</sup> This observation may help to explain the slow progress of the family planning program in Bangladesh and in India. Despite decades of government activity and the fact that appreciable proportions of married couples have been sterilized, there is little sign of the spontaneous spread of contraceptive behavior that has characterized much of Latin America and other parts of Asia.

In our view, then, the deliberate use of incentives to promote sterilization not only raises ethical problems but also retards the longer term goal of popularizing contraception in general. The only way to ensure that financial gain plays no part in sterilization decisions in Bangladesh would be to abolish the client payment altogether. But for reasons that we have already discussed, abolition will discriminate against the poor by raising a financial barrier. The ideal solution would be to reimburse actual costs on an individual basis, but this policy would be impossible to administer fairly. Nor can we envisage any practical way in which

the government could provide free transport and food to those seeking sterilization. In short, there is no readily available alternative to paying compensation in the form of a fixed cash sum.

We are more swayed by the discrimination argument than by the dangers of allowing an element of inducement to continue. The best policy is to continue the client payment but to allow inflation to erode its value so that the financial motive for becoming sterilized is gradually weakened.

We consider now the payment to referrers. This issue is inextricably linked to the existence of self-employed agents. The decision to abolish, retain, or increase referrer payments is tantamount to a decision to discourage or encourage their role in family planning provision. As already made clear, this role has both positive and negative aspects. Ideally, one would wish to preserve the contribution of part-time motivators who operate in their own locality and act as a bridge between potential clients and an alien and perhaps forbidding world of government hospitals. This type of agent cannot afford to cheat and mislead. But one would also wish to eliminate the activities of the "professional" agent operating among vulnerable strangers in cities and towns, because of the constant threat to the principle of informed consent. In practice, however, it is impossible to enact regulations that would distinguish between these two types of motivators. The policy choice is a stark one: elimination of all agents by withdrawal of the referral fee, or implicit endorsement of their role in the program by continuation of the fee. On balance, we recommend elimination.

In some ways, the most disturbing feature of the research conducted under the aegis of the Compensation Payments Study is evidence that about one-quarter of women who were sterilized when they had only two children came to regret their decision. In recent years this group has accounted for one-fifth of all sterilization clients. There is no sound reason to believe that this level of regret is related to the client compensation scheme, but

it is sufficiently high to warrant a serious reconsideration of current policy.

A total ban on sterilizations for couple with small numbers of children would be an overreaction. Evidence suggests that about one-third of couples with two children are content with this size of family. Among those with three children, a large majority want no more. To deny such women access to sterilization would be unjust and harmful to their families and the country.

There is no easy solution to this dilemma. In principle it is clear what should be done: vigorous promotion of reversible methods among young couples with small families, and thorough counseling and screening before a request for sterilization is granted. But it is not simple to give effective, practical expression to such a policy. It demands very high standards of clinic staff, who at present have a small financial interest in sterilization and are under some pressure to achieve high family planning performance in their area. Perhaps the checks at clinics should be intensified (though this would imply abolition of sterilization fees to medical officers), but the dangers of creating opposition and disunity between clinic and field staff are great. While we are convinced of the need for a change in emphasis, we have no more than the usual exhortations to offer.

A further upsetting feature is the finding that 10 percent of women in this same rural sample had experienced the death of a child since their sterilizing operation. Understandably, the feeling of regret was three times as common among this group as among the majority who had not lost a child. This result underlines the inescapable flaw of irreversible birth control in a country with high infant and child mortality. The government already has a ruling that discourages sterilization of individuals with only two children of whom the last-born is under one year old. The ruling is followed conscientiously. Possibilities of extending such restrictions should be considered.

The Compensation Payments Study also has implications for understanding fertility behavior in Bangladesh, regarding which

there is a wide range of opinion. What insights can be gleaned concerning the causes of fertility decline in one of the poorest and least educated countries in the world? Two conclusions can be stated emphatically. First, the overwhelming majority of Bangladeshi couples do not want, or feel that they need, large families. Surveys have consistently shown desired family sizes to be in the range of two to four children, and the evidence of unwelcome childbearing adduced in this study is totally consistent. More-intensive anthropological studies have come to much the same conclusion.<sup>46</sup> Perhaps there is ambivalence in these attitudes, leading to what has been termed a fragile demand for fertility regulation;<sup>47</sup> but, at the very least, the conviction among Bangladeshis that family interests are best served by large numbers of children appears to be completely absent

The second conclusion comes more directly from the present study. The spread of contraceptive practice in Bangladesh cannot be attributed to a government program that has placed undue pressure on couples to regulate fertility. No doubt there have been isolated incidents in the past, but the abandonment of the target system, the more recent abolition of referral fees following the findings of this study (see below), and the trend toward reversible methods all point in one direction--namely to a program that relies little on high-pressure tactics of persuasion. In this regard, the finding that client payments do not influence couples who would otherwise want more children is extremely reassuring.

There is little support for the view that poverty is the prime motive for fertility reduction. There has been a long debate in Bangladesh concerning the link between fertility and size of landholding.<sup>48</sup> Our reading of the evidence suggests that there is little difference in fertility aspirations between the poor and the more well-off, nor much difference in overall levels of contraceptive use or reproduction itself. The major difference lies in the choice of method. For reasons that have been discussed at length, the poor are particularly likely to accept sterilization rather than reversible methods. Because the effectiveness of steriliza-

tion is so high, a small positive association between economic status and fertility is to be expected, but this relationship should be interpreted as an incidental side effect of the nature of fertility planning services rather than as a reflection of an underlying difference in the reproductive needs of rich and poor.

In our view, the main constraints to further fertility reduction in Bangladesh stem from a deep moral and social ambivalence toward the principle and techniques of birth control, exacerbated by a tradition of female seclusion that complicates appropriate provision of health and family planning services. One striking theme in the focus group discussions with family planning workers was the continued existence, though on a diminishing level, of religious opposition to family planning and, in particular, to sterilization. This fact may explain the growth of regional differentials in contraceptive use and fertility. The eastern sector of the country, generally acknowledged as the most conservative region, has markedly higher fertility than other regions. Perhaps the greatest need in Bangladesh is the equivalent of Thailand's great populizer of contraception, Mr. Mechai, in campaigns directed as much at men as at women.

#### POSTSCRIPT

The United States Agency for International Development (USAID) has provided substantial support to the Bangladesh family planning program for many years. One component of that support has been reimbursement to the government of Bangladesh for compensation payments, subject to a verification procedure. However, US law prohibits payments that lead to coercion, and there has been concern within USAID that incentives might involve coercion. Accordingly, USAID does not provide payments for the acceptance of family planning methods, such as sterilization, that exceed actual costs. Upon reading the Cleland and Mauldin report (1987), USAID interpreted the results as evidence that the compensation payments exceeded actual costs (and, therefore, that these were incentives) and that these might lead to coercion. USAID promptly notified the

Government of Bangladesh that it would no longer provide reimbursement for compensation payments. Other donor governments share USAID's concern and have not provided funds for payments to clients for adoption of sterilization. Despite this financial loss to the Government of Bangladesh, compensation payments to clients have been continued.

In 1988 the Government of Bangladesh decided to discontinue payments to referrers.

## Notes

1. W. M. O'Reilly, The Deadly Neo-colonialism (Washington, D.C.: Human Life International, 1985); B. Hartmann and H. Standing, Food, Sars and Sterilization (London: Bangladesh International Action Group, 1985).
2. W. Robinson, Some Reflections on Recent Attacks on the Population Program in Bangladesh (Dhaka: United States Agency for International Development, 1985); Ministry of Health and Population Control, Voluntarism in the Bangladesh Population Control Programme (Dhaka, 1985).
3. J. Cleland and W. P. Mauldin, Study of Compensation Payments and Family Planning in Bangladesh: Main Findings, and Recommendations (Dhaka: World Bank and NIPORT, 1987).
4. Altogether seven reports were published by the National Institute of Population Research and Training (NIPORT). The most important are: G. M. Kamal, A. U. Ahmed, and M. Khan, Clinic-based Survey of Sterilization Clients (1988); B. e-Khuda, T. Hasan, and S. N. Mitra, Follow up Survey of Tubectomy and Matched Cases (1988); and M. N. Huq and S. Ahmad, Study of Compensation Payments and Family Planning in Bangladesh: A Synthesis (1989).
5. A. Hussain, S. Clark, Y. Hasan, and M. Koblinsky, "The household delivery of maternal and child health and family planning services in Bangladesh: An 18 month longitudinal assessment during 1984 and 1985," paper prepared for the fifth annual conference of the Indian Society for Medical Statistics, Srinigar, September 1987.
6. A. Rahman et al., "Prospective study of complications and deaths from sterilization," in A. R. Khan and A. Mia (eds.), Contraceptive Practice in Bangladesh: Safety Issues (Dhaka: PIACT, 1984).
7. Wage rates are published in the Monthly Statistical Bulletin of the Bureau of Statistics, Dhaka.
8. An alternative explanation is that demand for sterilization has been met. In our view, this is unlikely because of the large proportions of couples with four or more children who are using no effective method of contraception.
9. G. Ahmed, W. P. Schellstede, and N. E. Williamson, "Underreporting of contraceptive use in Bangladesh," International Family Planning Perspectives 13 (1987), pp. 136-140.
10. The preliminary results of the 1989 Bangladesh Fertility Survey indicate total fertility of 4.5 births per woman.

Based on past experience with survey estimates, it is likely that this figure will have to be adjusted upward as more detailed analysis is performed.

11. M. Cain "Fertility as an adjustment to risk," Population and Development Review 9 (1983), pp. 688-702; W. B. Arthur and G. McNicoll, "An analytical survey of population and development in Bangladesh," Population and Development Review 4 (1978), pp. 23-80; P. Demeny, "Observations on population policy and population program in Bangladesh," Population and Development Review 1 (1975), pp. 307-321.
12. For the most current figures see Bangladesh Bureau of Statistics, Selected Statistics and Indicators on the Demographic and Socio-economic Situation of Women in Bangladesh (Dhaka, 1989).
13. World Bank, Selected Issues in Rural Employment (Dhaka: World Bank Report 4292, 1983).
14. H. P. David, "Incentives, reproductive behavior, and integrated community development in Asia," Studies in Family Planning 13 (1982), pp. 159-173.
15. Regarding knowledge of family planning in India see A. M. Basu, "Ignorance of family planning methods in India: An important constraint on use," Studies in Family Planning 15 (1984), pp. 136-142.
16. See for instance F. Allaudin, N. R. Sorcer, and A. Rahman, Voluntarism and Satisfaction: A Focus Group Study of Sterilization and IUD Acceptors (Dhaka: Family Development Services and Research, 1987) and N. R. Sorcer and F. Allaudin, Motivation and Decision Making in Voluntary Sterilization: A Focus Group Study (Dhaka: Department of Psychology, University of Dhaka, 1987).
17. Taken from the Monthly Statistical Bulletin of the Bureau of Statistics.
18. This approach is adopted by Huq and Ahmad, cited in note 4.
19. For estimates of underemployment, see the report of the 1980 Manpower Survey and the 1983-84 Labour Force Survey, both published by the Bureau of Statistics.
20. J. C. Caldwell, A. K. M. Jalaluddin, P. Caldwell, and W. Cosforth, "The changing nature of family labour in rural and urban Bangladesh," Canadian Studies in Population 11 (1984), pp. 165-198.
21. Rahma. et al., cited in note 6.

22. Allaudin et al., cited in note 16.
23. The comparison of demographic characteristics in Table 4 is also of interest. Contrary to expectations, sterilized couples are no more likely than nonsterilized couples to have a high proportion of sons or a low proportion of children who have died.
24. E. S. Berquo, "Algumas Indagacoes sobre a Recente Queda da Fecundidade no Brasil," Teresopolis: VI Reuniao do Grupo de Trabalho sobre o Processo de Reproducao da Populacao, CLACSO (1980); R. Freedman, S.E. Khoo, and B. Supraptilah, "Use of modern contraceptives in Indonesia: A challenge to conventional wisdom," International Family Planning Perspectives 7 (1981), pp. 3-15; and A. M. Basu, "Birth control by assetless workers in Kerala: The possibility of a poverty-induced fertility transition," Development and Change 17 (1986), pp. 265-232.
25. D. S. Freedman and R. Freedman, "Adding demand side variables to study the intersection between demand and supply in Bangladesh," World Bank, Population, Health and Nutrition Research Note, 86-28 (1986).
26. See for instance G. S. Becker, "An economic analysis of fertility," in Demographic and Economic Change in Developed Countries, National Bureau of Economic Research (Princeton: Princeton University Press, 1960).
27. Caldwell et al., cited in note 20.
28. The results also show a highly plausible pattern by family size, suggesting that these questions have been understood.
29. S. G. Philliber and W. W. Philliber, "Social and psychological perspectives on voluntary sterilization: A review," Studies in Family Planning 16 (1985), pp. 1-29.
30. P. E. Hollerbach and D. L. Nortman, The Determinants and Demographic Impact of Sterilization, A report prepared for the National Institutes of Health, National Institute of Child Health and Human Development in fulfillment of Grant 1 RO 1 HD19404-01, Volumes I and II, 1986, pp. 321.
31. M. Koblinsky, R. Simmons, J. E. Phillips, and M. Yunus, "Barriers to implementing an effective national MCH and FP program", in D. Kuge (ed.), Selected Papers of the 1984 Annual Conference of the National Council for International Health (Arlington, Virginia, 1984), pp. 195-207.

32. B. Seaton, "Noncompliance among oral contraceptive acceptors in rural Bangladesh," Studies in Family Planning 16 (1985), pp. 52-58.
33. N. Shah and E. Bulatao, "Purdah and family planning in Pakistan," International Family Planning Perspectives 7 (1981), pp. 32-36; and S. Zeitlyn and F. Islam, "Mother's education, autonomy and innovation," paper presented at an interdisciplinary workshop on explanations of the observed association between mothers' schooling and child survival (Ahmedabad, January 1989).
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35. S. N. Mitra, M. F. Karim, and B. e-Khuda, Female Sterilization Follow-up Study 1984 (Dhaka: Bangladesh Association for Voluntary Surgical Sterilization, 1986).
36. For evidence that costs of sterilization deter poor women in other countries, see B. Janowitz, J. Munez, D. L. Covington, and C. Colven, "Why women don't get sterilized: A follow-up of women in Honduras," Studies in Family Planning 16 (1985), pp. 106-112; and B. Janowitz et al., "Sterilization in the northeast of Brazil," Social Science and Medicine 20, 3 (1985), pp. 215-221.
37. Similar views were expressed about vasectomy agents in India. See, for instance, R. Repetto, "India: A case study of the Madras vasectomy program," Studies in Family Planning 31 (1969), pp. 8-16.
38. A. R. Khan, L. E. Svenson, and A. Rahman, "A follow-up study of vasectomy clients in rural Bangladesh," International Journal of Gynaecology and Obstetrics 17 (1979), pp. 1-14.
39. J. A. Miah and M. B. Rahman, Assessment of Satisfaction of the Sterilization Acceptors (Dhaka: Planning Commission, Population Development and Evaluation Unit, 1987).
40. In Puerto Rico and Panama, for example, dissatisfaction increased with time elapsed since the operation. See C. W. Warren, R. S. Monteith, J. T. Johnson, and M. W. Oberle, "Tubal sterilization: Questioning the decision," Population Studies 42 (1985), pp. 407-418.
41. Philliber and Philliber, cited in note 29.

42. In Sri Lanka, the very large variations in client payments permit a retrospective analysis of the link between probable motive and later regret. This analysis shows that women who were sterilized during a period of high payments were no more likely to regret their decision than those accepting at a time of low payment. See D. Hapugalle et al., "Sterilization regret in Sri Lanka: A retrospective study," International Family Planning Perspectives 15 (1989), pp. 22-28.
43. There is no evidence from the clinic-based survey that individuals who are ineligible on grounds of age, fecundity impairment, or marital status are sterilized. For contrary earlier evidence, see D. H. Huber, M. Rahman, and J. Chakraborty, "Sterilization clients in the national campaign: A follow up study in Matlab Thana," paper presented at the second national conference on voluntary sterilization (Dhaka, January 1978). For India, see K. Srinivasan and M. Kachivavan, "Vasectomy follow-up study," Bulletin of the Gandhigram Institute of Rural Health and Family Planning 3 (1968), pp. 12-32.
44. The use of introductory incentives to promote acceptance of reversible methods in South India appears to be a remarkably successful example of this approach. See J. R. Stevens, C. M. Stevens, R. Subramian, and C. Sivapragasm, The Ammanpettai Introductory Family Welfare and Child-spacing Program, Progress reports, March and November 1988. The great practical disadvantage is the possibility of falsification. This consideration precludes large-scale use of incentives to promote reversible contraception in many countries.
45. The idea that incentives may induce ill-considered decisions was first proposed by Everett Rogers. See E. M. Rogers, "Incentives in the diffusion of family planning," Studies in Family Planning 2 (1971), pp. 241-247.
46. C. Mahoney, K. M. A. Aziz, and P. C. Sarker, Beliefs and Fertility in Bangladesh (Dhaka: International Centre for Diarrhoeal Disease Research, Bangladesh, monograph no. 2, 1981).
47. J. E. Phillips, R. Simmons, M. A. Koenig, and J. Chakraborty, "Determinants of reproductive change in a traditional society: Evidence from Matlab, Bangladesh," Studies in Family Planning 19 (1988), pp. 313-334.
48. See M. Cain, "Landholding and fertility: A rejoinder," Population Studies 40 (1986), pp. 313-317 and the references therein.

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