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Pregnancy Termination and Contraceptive Failure in Viet Nam

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If more couples were to use effective contraception, the proportion of women receiving pregnancy terminations could be drastically reduced

The report of the recent Demographic and Health Survey of Viet Nam indicates that in the northern part of the country, 59 per cent of married women aged between 15 and 49 years currently use contraception. The majority of these women are using IUDs.[1/] This estimate of the contraceptive prevalence rate does not account for reporting errors, and therefore exaggerates the level of effective contraceptive practice, which is probably between 30 and 40 per cent.[2/]

The Vietnamese Government recognizes that the family planning programme cannot rely upon a single method to achieve its goals of increased contraceptive use and fertility reduction. Government policy encourages a variety of methods, and an effort is being made by senior health officials to promote a broader range of contraceptive methods including pills, condoms and sterilization.

The Government also provides menstrual regulation services and abortion at provincial and district hospitals. These services are intended for women who have experiences "contraceptive failure". In 1990, approximately 1.1 million pregnancy terminations were performed; about 60 per cent of these were terminations by abortion and the remaining 40 per cent were terminated by menstrual regulation.

Ministry of Health officials suspect that a substantial proportion of the women requesting pregnancy terminations may be using these services as a substitute for contraception. The Ministry is committed to reducing the number of terminations, and to promoting the use of modern family planning methods. Unfortunately, no information is available regarding the proportion of women who seek pregnancy terminations because of contraceptive failure. Furthermore, little is known about other factors contributing to the large number of terminations and the apparent non-use of contraception.

Despite the commitment of policy makers to contraceptive choice, most family planning service providers emphasize the use of IUDs. One reason for the lack of choice is that:

"in many places only a limited number of contraceptive methods are actually available. This is partly due to the expenses of importing contraceptives like the pill. But it is also due to a lack of recognition...of the importance of a wide variety of methods. For years too much emphasis has been laid on a few methods of contraception, mainly the IUD".[3/]

Most family planning workers are poorly informed about the full range of modern methods, and about women's potential interest in them. Improvements in the provision of contraceptives in Viet Nam are dependent on a better assessment of women's attitudes and practices. An accurate, empirical, user-based understanding of family planning services delivery is badly needed. This study contributes to such an understanding by estimating the proportion of women terminating pregnancy because of contraceptive failure, examining the causes of this failure, and describing the reasons for non-use of contraception among women seeking a pregnancy termination.

Methodology

The study was conducted in two phases. In the first phase, focus group discussions were held to identify reasons for contraceptive failure and non-use of contraception among women seeking pregnancy termination. The information obtained from these discussions was utilized to design questions for inclusion in the second phase of the study, a sample survey of women seeking pregnancy termination in rural and urban district hospitals in two areas of Viet Nam.

Focus groups

Four focus groups were conducted with women seeking pregnancy termination at district hospitals. Two of the hospitals were located in a rural area of Thai Binh Province; the other two hospitals were located in urban Hanoi. Within each area, one focus group was composed of women under age 30, and the other of women 30

years of age and older. The focus groups interviews were conducted by two teams. Each team consisted of two health workers, one acting as the moderator and the other as the recorder; these persons were selected from the staff of the Maternal and Child Health/Family Planning (MCH/FP) Department of the Ministry of Health. The teams were trained and supervised by the principal investigators.

The survey

Two provinces were purposively selected for the study: Hanoi (urban) and Thai Binh (rural). All nine district hospitals in Thai Binh were included in the study. In Hanoi, five hospitals were purposively selected for the study: the Gynecological and Obstetrics Hospital, and four maternity hospitals which are part of the same administrative system. Together, these hospitals account for an estimated 75 per cent of all pregnancy terminations performed in Hanoi. All women seeking pregnancy termination at the sample hospitals from July through September 1991 were interviewed. The total sample size was 2,088 cases: 1,012 cases in Hanoi and 1,076 cases in Thai Binh.

These particular areas and hospitals were selected for three reasons. First, it was important to account for urban and rural differences in reasons for contraceptive failure and non-use of contraception. Second, the hospital case load had to be sufficiently large to ensure that the desired number of cases could be obtained within the study time-frame.[4/] Third, with regard to the hospitals in Hanoi, it was necessary to work within one administrative system to ensure that the study was well-coordinated.

The interviews were conducted by attending physicians in each hospital. The physicians routinely interview women seeking pregnancy termination as part of their regular duties. For this particular study, they were trained for three days to familiarize themselves with the interview schedule and to improve their interview techniques, in order to ensure a uniformity of interview skills for the entire group.

Data collection was supervised by two staff from the Ministry of Health's MCH/FP Department; one person was responsible for the urban hospitals and the other was responsible for the rural hospitals. The supervisors observed interviews and assessed the quality of the interviews and the data collection. Their tasks included checking and editing the interview schedules and a follow-up of 10 cases from each hospital for re-interview to assess the reliability of the responses.

Characteristics of the sample[5/]

Over 80 per cent of the women sampled are married and living with their husbands (see table 1). In Hanoi, around 7 per cent of the women were unmarried, compared with less than 1 per cent in Thai Binh. Women seeking a pregnancy termination in Hanoi were generally younger than those in Thai Binh, with about 18 per cent being under the age of 20 in Hanoi, which is more than double the proportion in thai Binh. Less than 30 per cent of the women surveyed in Hanoi were 35 years of age or older; in Thai Binh the proportion was slightly over 40 per cent.

Table 1: Socio-economic and demographic characteristics of women seeking pregnancy termination in Hanoi and Thai Binh

(per cent)

Characteristics	Hanoi (N = 1,012)	Thai Binh (N = 1,076)	Total (N = 2,088)
Marital status			
Married and living together	81.8	88.6	85.3
Married and living apart	10.1	19.9	10.5
Unmarried and living with partner	0.7	0.2	0.4
Unmarried	7.1	0.3	3.6
Widowed	-	0.1	0.1
Divorced	0.3	-	0.3
Total	100.0	100.0	100.0
Age (years)			
<20	1.7	0.1	0.9
20-24	15.8	7.1	11.3
25-29	22.7	22.2	22.4
30-34	32.0	29.6	30.7

35-39	17.5	24.9	21.3
40-44	7.9	14.0	11.0
45+	2.4	2.1	2.3
Total	100.0	100.0	100.0
Occupation			
Farmer	4.1	59.7	32.8
Government employee	62.3	29.9	45.5
Non-state employee	33.7	10.4	21.7
Total	100.0	100.0	100.0
Education			
None	0.4	0.3	0.3
Elementary	2.5	4.0	3.3
Secondary	26.1	58.2	42.7
High school	55.4	34.2	44.5
University	15.6	3.3	9.2
Total	100.0	100.0	100.0
Number of living children			
None	13.6	0.9	7.1
One	39.5	22.0	30.5
Two	34.3	44.9	39.8
Three	9.3	22.8	16.3
Four+	3.3	9.4	6.3
Total	100.1	100.0	100.0

As expected, the majority of women (59.7 per cent) seeking pregnancy termination in Thai Binh were agricultural workers. In Hanoi, slightly over 60 per cent were working as government employees, and another one-third were working as non-state employees.

The observed difference between the educational levels of the women in Hanoi and Thai Binh reflects a country-wide difference in educational attainment levels between urban and rural areas. The proportion of women in Thai Binh with only a secondary-school education or less was more than double the proportion in Hanoi. Over 70 per cent of the women in Hanoi had at least a high school education, while only 38 per cent of the women in Thai Binh had completed high school.

The average family size of the women surveyed in Hanoi was considerably smaller than that of the women surveyed in Thai Binh. Over half of the women in the Hanoi sample had either one or no children. More than three-quarters of the women from Thai Binh had two or more living children, compared with less than half of the women in Hanoi.

Results and discussion

Slightly over half of the women seeking pregnancy termination in Hanoi were classified by an attending physician as eligible for menstrual regulation.[6/] The remaining women were classified as eligible for an abortion. In Thai Binh, almost two-thirds of the women seeking a pregnancy termination were eligible for menstrual regulation and one-third were eligible for abortion (see table 2).

Information on the number and type of prior pregnancy terminations among the women surveyed is presented in table 3. More than half the women in Hanoi and slightly less than half the women in Thai Binh had had at least one prior pregnancy termination. Approximately one-fifth of the women in each area had had at least two prior pregnancy terminations. Menstrual regulation accounted for three-fifths and three-fourths of prior terminations in Hanoi and Thai Binh, respectively. Furthermore, a group of about half the women in the study had a total of 1,660 prior terminations, or an average of 1.6 terminations per woman.

The high proportion of women having repeat terminations suggests that menstrual regulation, and to a lesser degree abortion, is being used as a substitute for family planning methods (it also suggests repeated method failure). Women undergoing repeat pregnancy terminations accounted for about half of the terminations performed in Hanoi and Thai Binh. These women warrant special attention by the MCH/FP programme. In view of the cost of pregnancy terminations to the government and the risk and inconvenience to the women

concerned, post-pregnancy termination counselling and IEC (information, education and communication) messages emphasizing the effective use of family planning methods should be improved. If these women became effective users of contraception, the proportion of women receiving pregnancy terminations could be reduced by half.

Table 2: Proportion of women classified as eligible for an abortion or menstrual regulation among women seeking pregnancy termination in Hanoi and Thai Binh

Type of termination	Hanoi (N= 1,012)	Thai Binh (N= 1,076)	Total (N= 2,088)
Abortion	46.3	35.1	40.6
Menstrual regulation	53.7	64.9	59.4
Total	100.0	100.0	100.0

Table 3: Number and type of prior pregnancy terminations reported by women seeking pregnancy termination in Hanoi and Thai Binh

(per cent)

Number and type of prior terminations	Hanoi	Thai Binh	Total
One	32.4	29.3	30.8
Two	12.8	12.1	12.4
Three+	7.6	6.0	6.8
Total	52.8 (N= 1,012) *	47.4 (N= 1,076) *	50.0 (N= 2,088) *
Abortion	39.1	25.8	32.7
Menstrual regulation	60.9	74.2	67.3
Total	100.0 (N= 854) * *	100.0 (N= 806) * *	100.0 (N= 1,660) * *

Notes: * N = Number of women.
* * N = Number of prior terminations.

Pregnancy termination and contraceptive failure

Women seeking pregnancy termination because of family planning method failure were identified by asking if they had used any family planning methods since the time of their last menstruation. The proportion of women seeking a termination because of failure of a modern method of contraception was low (see table 4). Only 23 per cent of all women seeking a termination were practising a modern method, 18 per cent in Hanoi and 28 per cent in Thai Binh.

About 37 per cent of all women reported using traditional methods. The proportion of women using these methods in Hanoi was more than twice the proportion using them in Thai Binh. The proportion of women seeking pregnancy termination who did not practise modern or traditional methods was 38 per cent. These women were using pregnancy termination as a substitute for family planning methods.

IUDs and condoms were used in almost equal proportions in Hanoi. However, the proportion of women in Thai Binh using IUDs was more than three times greater than the proportion whose partners were using condoms.

Women who had been practising modern methods of contraception were asked about the reasons for the failure of the method[7/] they used (see table 5). "Irregular use" was the reason given for failure by about 63 per cent of women whose partners used condoms. The proportion reporting irregular use was 29 points higher in Thai Binh than in Hanoi. "Poor quality" or breakage of the condom during use was given as the reason for failure by about 28 per cent of the women whose partners were using this method. A higher proportion of women in Hanoi than in Thai Binh mentioned "poor quality" as the reason for condom failure.

About three-quarters of the women using IUDs indicated that their IUD had failed even though it had been retained. Slightly less than one-fifth of the women said that their IUD had been expelled. The proportion of women in Thai Binh whose IUD had been expelled was twice that of women in Hanoi.

Researchers attempted to establish whether there were different reasons for failure among the different types of IUD. As seen in table 6, the Copper T and the Dana were the IUDs used most frequently; the Multiload was

used by only 11 women. A higher proportion of women using the Copper T had expulsions than women using the Dana, but a higher proportion of women using the Dana retained the device but missed having their menstruation on time. Among women who used the Copper T, the proportion who had experienced an expulsion was almost two and one-half times higher in Thai Binh than in Hanoi. This finding may reflect a difference in the quality of the IUD-insertion service in Hanoi compared with Thai Binh.

Table 4: Percentage of women seeking pregnancy termination in Hanoi and Thai Binh who used family planning methods since time of their last menstruation

Family planning methods	Hanoi (N= 1,012)	Thai Binh (N= 1,076)	Total (N= 2,088)
IUD	9.2	20.4	14.9
Oral pills	0.6	2.0	1.3
Condoms	8.4	5.8	7.0
Total modern methods	18.2	28.2	23.2
Withdrawal	21.8	13.8	17.7
Rhythm	13.8	2.5	8.0
Withdrawal and rhythm	19.1	3.6	11.1
Total traditional methods	54.7	19.9	36.8
Breast-feeding	1.4	2.0	1.7
No methods used	25.7	49.9	38.3
Total (all methods)	100.0	100.0	100.0

Table 5: Reasons given for contraceptive failure by women seeking pregnancy termination in Hanoi and Thai Binh who used modern methods of family planning since time of their last menstruation (per cent)

Methods and reasons for failure	Hanoi	Thai Binh	Total
Condom			
Poor quality, broke	32.9	21.0	27.9
Used irregularly	50.6	79.0	62.6
Not sure	16.5	-	9.5
Total	100.0 (N = 85)	100.0 (N = 62)	100.0 (N = 147)
IUD			
Expelled	9.7	21.8	18.3
Retained but still missed menstruation	65.6	78.2	74.3
Not sure	24.7	-	7.4
Total	100.0 (N = 93)	100.0 (N = 219)	100.0 (N = 312)
Oral pills			
Forgot to take	-(1)	-(4)	-(5)
Used irregularly	-(5)	-(18)	-(23)
Not sure	-	-	-
Total	- (N = 6) *	- (N = 22) *	- (N = 28) *

Note: * = The number is too small to calculate percentages.

Table 6: Type of IUD used and reasons for its failure among women seeking pregnancy termination in Hanoi and Thai Binh

(per cent)

Reasons for IUD failure	Type of IUD		
	Copper T	Dana	Multiload
Hanoi			
Expelled	10.5	-	-
Retained but still missed menstruation	89.5	-	-
Total	100.0	100.0	100.0

	(N = 57)	(N = 13) *	
Thai Binh			
Expelled	25.9	12.3	-(3)
Retained but still missed menstruation	74.1	87.7	-(8)
Total	100.0 (N = 147)	100.0 (N = 57)	100.0 (N = 11) *
Total			
Expelled	21.6	14.3	-(3)
Retained but still missed menstruation	78.4	87.7	-(8)
Total	100.0 (N = 204)	100.0 (N = 70)	100.0 (N =11) *

Note: * = Number is too small to calculate percentages.

Reasons for non-use of contraception

Women who were not using modern methods of contraception and women who were using traditional methods were asked about their reasons for non-use of modern methods. Table 7 presents the reasons given by these women for not using oral contraceptives.

None of the side-effects attributed to pills during the focus groups, such as weight gain or loss, nausea, or loss of energy, were offered as important reasons for non-use of pills. The proportion of women giving any one of these reasons did not exceed 4 per cent.

The most important reason given for non-use of pills was that the women did not know how to use them. Almost half of the non-users of modern methods and slightly over two-fifths of users of traditional methods indicated that they did not know how to use pills. This lack of knowledge demonstrates the limits to the Government's effort to introduce the full range of modern family planning methods in Viet Nam.

Women using traditional methods cited health concerns as the main reason for non-use of modern methods. Over one quarter of these women reported personal health problems as their reason for non-use of pills, and about 36 per cent of women using traditional methods indicated that pills were "bad for women's health". This proportion was three times greater than the proportion of non-users who reported health concerns as their main reason for non-use of pills.

The proportion of women reporting the unavailability of pills as their reason for non-use was higher in Thai Binh than Hanoi by approximately 9 per cent. The reason given by the largest proportion of women for not using IUDs was bleeding (see table 8). One-fifth of non-users of modern methods and users of traditional methods in both Hanoi and Thai Binh cited bleeding as the main reason for non-use of IUDs.

Table 7: Reasons given for non-use of oral pills by women seeking pregnancy termination in Hanoi and Thai Binh who used no methods of family planning or who used traditional methods since time of their last menstruation

(per cent)

Reasons for non-use of oral pills	**Used no methods**			**Used traditional methods**		
	Hanoi (N= 260)	**Thai Binh (N= 537)**	**Total (N= 797)**	**Hanoi (N= 553)**	**Thai Binh (N= 214)**	**Total (N= 767)**
Oral pills cause:						
Weight gain	1.3	1.1	1.1	1.2	0.1	0.9
Weight loss	3.2	0.2	1.4	3.4	1.2	2.6
Nausea	0.6	1.1	0.9	0.7	0.3	0.6
Loss of energy	2.2	2.1	2.2	2.8	1.8	2.5
Don't know how to use	51.4	44.7	47.4	38.7	49.3	41.8
Too old	2.2	25.5	16.2	13.4	32.8	19.1
Personal health problems	6.3	14.9	11.5	20.1	40.2	26.0
Forgot to take	8.9	9.1	9.0	5.5	10.3	6.9
Unavailable	16.2	25.5	21.8	12.8	21.7	15.4
Bad for women's health	16.8	8.9	12.1	29.4	51.6	35.9

Husband away	3.5	14.0	9.8	2.3	5.6	3.3
Other	24.1	59.6	45.4	21.6	36.4	25.9

Table 8: Reasons given for non-use of IUD by women seeking pregnancy termination in Hanoi and Thai Binh who used no methods of family planning or who used traditional methods, since time of their last menstruation

(per cent)

Reasons for non-use of IUD	Used no methods			Used traditional methods		
	Hanoi (N=260)	Thai Binh (N=537)	Total (N=797)	Hanoi (N=553)	Thai Binh (N=214)	Total (N=767)
IUD causes:						
Infection	4.8	4.9	4.8	7.7	7.0	7.5
Lumbago	7.6	21.9	16.2	9.4	32.0	16.0
Discharge	11.1	17.2	14.8	10.4	20.2	13.3
Bleeding	19.0	20.6	20.0	20.7	19.2	20.5
Loss of energy	8.6	18.1	14.3	12.9	26.4	16.9
Headache	9.8	19.6	15.7	8.5	26.1	13.7
Dizziness	6.0	14.0	10.8	14.0	22.9	16.6
Abdominal pain	12.1	14.9	13.8	10.4	15.2	11.8
Physique not appropriate	7.9	12.6	10.7	10.5	18.2	12.7
Other	56.5	66.2	62.3	49.3	62.5	53.2

Between those women who used no methods and those who used traditional methods, the differences in the proportion of women reporting the remaining reasons for non-use of IUDs were negligible. However, within each of these groups there were substantial differences between women from Hanoi and Thai Binh. The proportion of non-users of modern methods in Thai Binh who gave lumbago, loss of energy, headache and dizziness as reasons for non-use of the IUD was at least twice as high as the proportion of women from Hanoi who gave these reasons. Similarly, the proportion of traditional method users in Thai Binh who reported lumbago, discharge, loss of energy and headaches as their reasons for non-use of IUDs was at least twice as high as the proportion in Hanoi. About one-third of these women gave lumbago as their reason for non-uses with slightly over one-quarter giving loss of energy and headaches as their reasons.

Table 9 presents the reasons given for the non-use of condoms. Slightly over three-fifths of the women who used no methods and half of the women who used traditional methods reported that they did not use condoms because their husbands disliked them. Women's dislike of condoms is also a major reason for non-use of the method. Half of the women who used no methods and two-fifths of the women who used traditional methods reported dislike of the condom as their reason for non-use. The proportion of women reporting their husband's dislike and their personal dislike of the condom was about 50 per cent higher in Thai Binh than in Hanoi.

Despite the low popularity of the condom, over a fifth of the women in Thai Binh who used no methods and about two-fifths of those who used traditional methods gave the unavailability of condoms as their reason for not using the method.

Slightly less than one-third of the women in Thai Binh who used traditional methods indicated that they did not use condoms because they shared their bedroom with their children. Women who participated in the focus groups expressed concern and embarrassment that, with children sharing their bedroom, it was inconvenient to use a condom. Children might be awakened during the fitting of the condom, and/or might see the used condom if it was not properly disposed of.

Non-use of condom because of poor quality and wrong size -- reasons frequently expressed in the focus groups -- were not very important in the survey. These reasons were given by less than 10 per cent of the women using no methods or using traditional methods.

Table 9: Reasons given for non-use of condoms by women seeking pregnancy termination in Hanoi and Thai Binh who used no methods of family planning or who used traditional methods since time of their last menstruation

(per cent)

Reasons for non-use of condoms	Used no methods			Used traditional methods		
	Hanoi (N=260)	Thai Binh (N=537)	Total (N=797)	Hanoi (N=553)	Thai Binh (N=214)	Total (N=767)
Wife dislikes	32.4	62.1	50.2	29.1	64.2	39.4
Husband dislikes	38.4	76.2	61.0	41.5	72.7	50.7
Poor quality (breaks easily)	7.3	5.3	6.1	12.3	3.5	9.7
Poor quality (no lubrication)	5.1	5.3	5.2	8.9	4.4	7.6
Wrong size	2.5	2.8	2.7	9.1	2.3	7.1
Unavailable	14.9	22.1	19.2	21.1	39.0	26.3
Husband away	2.5	13.0	8.8	2.7	6.2	3.7
Difficult to use because children share same bedroom	5.1	4.7	4.8	3.9	29.3	11.4
Other	29.8	51.7	42.9	24.6	39.6	29.0

Table 10: Reasons given for non-use of sterilization by women seeking pregnancy termination in Hanoi and Thai Binh who used no methods of family planning or who used traditional methods since time of their last menstruation

(per cent)

Reasons for non-use of Sterilization	Used no methods			Used traditional methods		
	Hanoi (N=260)	Thai Binh (N=537)	Total (N=797)	Hanoi (N=553)	Thai Binh (N=214)	Total (N=767)
Fear of operation	27.9	82.3	60.5	25.8	87.1	45.5
Disrupts bodily functions	4.1	33.6	21.8	11.7	43.4	21.0
Produces male characteristics	4.4	2.6	3.3	4.4	3.5	4.1
Husband disapproves	22.5	78.5	56.1	23.3	73.6	38.0
Desire another child	42.9	32.3	36.6	35.2	22.3	31.4
Other	23.2	17.0	19.5	23.0	19.4	21.9

As seen in table 10, women's fear of surgical operation and husband's disapproval were the major reasons for non-use of sterilization. The proportion of women in Thai Binh who used no methods or traditional methods who gave these reasons was three times higher than the proportion in Hanoi.

Among these two groups, the proportion of women reporting that they did not use sterilization because it disrupts bodily functions was about 34 per cent and 43 per cent, respectively. The bodily functions referred to most frequently by women in the focus groups were a declining sex drive and the ending of menstruation. Approximately one-third of all women indicated they were not sterilized because they desired another child. The proportion of women wanting another child was higher in Hanoi than in Thai Binh.

Summary and conclusions

The objective of this diagnostic study was to identify the proportion of women terminating a pregnancy because of contraceptive failure, the causes of this failure and the reasons for non-use of contraception among women seeking pregnancy termination. The study was conducted through focus groups and a sample survey.

Focus groups were conducted among women seeking a pregnancy termination to determine the reasons for termination and non-use of modern contraception. This information was utilized to develop questions for an interview schedule, which was used to survey all women seeking pregnancy termination in selected hospitals of Hanoi and Thai Binh during a three-month period. The total number of women in the sample was 2,088.

The most important findings of the study include the following:

- Repeat pregnancy terminations are common, as illustrated by the finding that a group comprising *half* of the women seeking a termination had already had a total of over 1,600 prior terminations, which is an average of 1.6 terminations per woman. These women represent an important target group for MCH/FP programme activities. A reduction in repeat terminations could have a dramatic effect on the total number

of terminations performed. If only half of these women had become effective users of modern contraceptive methods, the number of terminations performed during the three months of this study would have been reduced by 25 per cent. The MCH/FP programme should, therefore, emphasize post-pregnancy termination counselling, IEC activities regarding effective contraception, and the provision of a variety of contraceptives to reduce further unwanted pregnancies.

- A substantial proportion of women are using pregnancy termination as a substitute for modern and traditional family planning methods. Slightly over 38 per cent of women seeking a pregnancy termination had not used a modern or traditional method of family planning since their last menstruation. The relatively high proportion of women seeking pregnancy termination who were traditional method users (37 per cent) suggests that they may have been unaware of the higher effectiveness of modern methods. Reasons for non-use of modern methods among traditional method users tend to support this assertion. Among the women who had used a modern method, the reasons given for the failure of the condom included irregular use and poor quality. About three quarters of the women using an IUD indicated that it had been retained, but their menstruation had still not occurred. Another 20 per cent had experienced an expulsion.

- Reasons for non-use of modern family planning methods were obtained from the women seeking a pregnancy termination who were non-users of modern methods and who were users of traditional methods. The main reason for non-use of oral pills among both urban and rural women was the lack of knowledge about how to use them. Rural traditional method users cited personal health problems and health problems for women in general as reasons for non-use; the unavailability of pills was also given more often among rural than urban women as their reason for non-use. Bleeding was the reason given more often than any other reason for non-use of IUDs by both rural and urban women. A host of physical symptoms attributed to IUD use, such as lumbago, discharge, energy loss, headaches and dizziness, were given as reasons for non-use by a greater proportion of rural than urban women. Dislike of the condom by both husbands and wives was the major reason for non-use of this method; this reason was given by a greater proportion of rural than urban women. However, even with the condom's low popularity, a substantial proportion of rural women said they were not using them because they were not available.

Women's fear of and husbands' disapproval of sterilization were given as the major reasons for non-use of sterilization, followed by the belief that sterilization disrupts bodily functions. All of these reasons were given by substantially higher proportions of rural than urban women.

Implications

Several implications for family planning programme efforts in Viet Nam can be derived from the above findings. First, identification of reasons for non-use of specific methods provides the family planning programme with information that can be used in IEC campaigns and training curricula for health workers. The challenge which remains for the family planning programme is to develop an IEC strategy, including pre- and post-acceptance counselling/motivation, which would effectively address these reasons for non-use, and thereby motivate more couples to practise contraception. The apparent method-specific nature of the reasons for non-use strongly suggests that a programme strategy should be developed to expand the choice/mix of methods and their availability in order to increase acceptance of contraception. This could be implemented through IEC efforts focused on the various methods available for use in the country.

An additional challenge for the programme will be to integrate effective the information on method-specific reasons for non-use into the training curricula of health workers, including those who conduct the post-pregnancy termination counselling. This training should be aimed at familiarizing health workers with the potential reasons for non-use, and the explanations which they could use in responding to these reasons for both prospective and current contraceptive acceptors. This should contribute to the workers' effectiveness in alleviating the fears and concerns of potential users regarding selected contraceptive methods during the both their motivational and their follow-up activities.[8/]

Footnotes

1. National Committee for Population and Family Planning, *Vietnam: Demographic and Health Survey, 1988*, Hanoi, Socialist Republic of Vietnam, November 1990:45.

2. Vu Quy Nhan and Robert Hanenberg (1989). "The 1988 Demographic Survey of Viet Nam", *Asia-Pacific Population Journal*, 4(3):10.

3. Vu Quy Nhan (1989). *Knowledge and Attitudes of Grassroots Family Planning Workers about Contraceptive*

Methods, Asian Population Studies Series No. 89-D, (Bangkok, ESCAP), p. 15.

4. The calculation that 2,000 cases could be obtained in three months was based upon the number of pregnancy terminations performed at the selected hospitals over the previous year. In Thai Binh, seven out of the nine hospitals performed about 500 terminations each in the previous year, which is approximately 42 per month. In three months, these hospitals were expected to perform a total of 875 terminations (42 terminations/month x 7 hospitals x 3 months). The remaining two hospitals performed approximately 700 terminations each in the previous year. They were expected to perform a total of 350 terminations over three months (58 terminations/month x 5 hospitals x 3 months). In Hanoi, the five hospitals performed approximately 1,000 terminations each during the previous year. Their expected three months performance was approximately 1,250 (83 termination/month x 5 hospitals x 3 months).

5. The two groups of women, i.e. those seeking menstrual regulation and those seeking abortion, had similar characteristics.

6. A woman was classified as eligible for menstrual regulation if her menstruation was late by two weeks or less.

7. The number of women who were using pills was insufficient for meaningful analysis of the reasons for failure.

8. It should be noted that among the relatively high proportions of women who gave "other" as a reason for non-use of pills, condoms and sterilization, more than 60 per cent gave at least one specific reason for non-use and 30 per cent or more gave two or more reasons. This illustrates that the majority of women had multiple reasons for non-use of these methods and that questions on non-use generally reflected this. Among the women who gave "other" as a reason for non-use of the IUD, however, only about 25 per cent gave one specific reason and about 15 per cent gave two or more reasons. This indicates that the questions used to obtain reasons for non-use of IUDs were too limited and need to be improved.

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Language, Videos and Family Planning in the South Pacific

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Programme managers must be aware that language may be a substantial barrier to the diffusion of reproductive health knowledge

The provision of information, education and communication (IEC) on family planning has two major objectives: to inform people of the existence of family planning and to educate acceptors on the proper use of methods (Coeytaux and others, 1987). This article looks at the importance of language in IEC activities in the South Pacific, and particularly at the use of language in videos and the development of a lexicon of reproductive health terms in the Melanesian societies of Fiji and Papua New Guinea, and the Polynesian ones of Samoa and Tonga. It also looks at the need to involve community women in the development of an appropriate lexicon of reproductive health terms.

Watkins (1991:191), drawing on European research, suggested that linguistic, cultural and religious factors can influence the speed of the fertility decline in developing countries. Family Planning Australia's work in the South Pacific supports a view that the socio-cultural milieu, and the linguistic expression of it, have an important role to play in influencing family planning practice in countries at different stages of the demographic transition. In Papua New Guinea, there is little evidence of a decline in fertility, and contraceptive prevalence is low. In contrast, Fiji, Samoa and Tonga all have crude birth rates (CBRs) of 30 or less. (McMurray and Lucas, 1990).

Watkins (1991) commented that diffusion of fertility control involves copying behaviour, and can occur from person-to-person contact, as well as from a central source such as the media or family planning clinics. One view is that "linking mass-media approaches with face-to-face contact and readily available services may offer the most effective and efficient approach to increase use of family planning" (Church and Geller, 1989:2). Language is important in both contexts.

Apart from IEC, language is important in KAP (knowledge, attitudes and practice) studies (Ware, 1977). The assumption borrowed from family planning surveys is that knowledge of family planning is a pre-requisite of use. This is implicit in the questionnaire designs for two major series of sample surveys: the World Fertility Survey and the Demographic Health Survey. In both cases, respondents are asked if they have heard of a specific contraceptive method. Only if the answer is "yes" are they asked about use of that method.

Experience in family planning health promotion and education has shown that many factors contribute to contraceptive use, including logic, appeal, incentives and facilitation. Although knowledge about contraceptives and family planning is important, it is not enough to bring about initial contraceptive use or to maintain contraceptive practice.

Successful use of contraceptives requires more than knowledge, it requires talk and action (ESCAP 1974:25-45). Words are necessary to gain access to contraceptives. Clients have to discuss contraceptive method choice with community-based distributors, ask pharmacists for pills, and talk to health workers about sterilization. In addition the way health workers treat clients has an impact on clients' willingness to follow advice and return if they have problems (Liskin and others, 1989:27). A large part of the procedure of treating clients is tied up in communicating with them. Talk between health workers and clients must therefore be understood and acceptable.

Although some contraceptives such as injectables and IUDs can be used without the knowledge of, or discussion with, the male sexual partner, others such as the ovulation method, or natural family planning method, clearly require considerable communication. Successful use of barrier methods requires that sexual partners talk to one another and share responsibility for decision-making (Liskin and others, 1989:26). However, in Papua New Guinea only about half of the respondents in a 1979/80 survey stated that there was actual or possible communication between spouses on the subject of contraception (Agyei, 1988:109).

For a family planning message to be effective, it must be appropriate, that is, noticed, acceptable,

believable, comprehensible and relevant. It must also be appropriate for the context in which it is used. It must suit the channel through which it is delivered, whether those channels be interpersonal, mass media or health service ones. The message must suit women's channels as well as men's.

Appropriate family planning language not only allows for an increase in contraceptive knowledge, it can have an effect on family planning attitudes as well. It can reduce negative opinions and increase supportive ones. It can help to make a taboo subject legitimate for public discussion. It can also assist behavioural goals by increasing discussion between partners about the links between family planning and sexuality, and by fostering the correct use of contraceptives.

Language impinges on and helps to define the tone, approach and emotional setting for the educational message. It can foster many things including fear, which is traditionally used in education about STDs (sexually transmitted diseases) and AIDS (acquired immunodeficiency syndrome); responsibility, which is commonly used in family planning education; pleasure; empowerment; and consensus. The language of reproductive health, which includes the language of family planning and sexuality, needs to foster a range of responses. The choice of reproductive health term used and the manner in which it is used can significantly help or hinder family planning education efforts.

Church and Geller (1991:25) state that, in a television, video or film project, a thorough understanding of the audience is needed to develop an effective message, and this includes gauging rumours. Seniloli (1992:199) noted that, in her Fijian field study, village women heard gossip about the harmful effects of contraception while waiting in the health clinic: thus, they were unlikely to be motivated by the medical personnel to adopt contraception.

One of the factors that hinders successful family planning education is the lack of agreement about what constitutes an acceptable language for that education. Because family planning education requires discussion about things related to sexuality, it is often fraught with linguistic difficulty.

Rogers (1971:102) stated that the "range of discussability" of family planning terms needs to be known; for example, in some cultures, husband and wife could not talk about the condom. Experience in the South Pacific suggests that women want to talk about family planning and sexuality, and want to share contraceptive and sexual decision-making with their sexual partners. At the same time they are inhibited by a culture which places numerous socio-religious strictures on sexuality, which views much sexual behaviour as unnatural and shameful, which discourages an interest in acquiring or publicly discussing sexual knowledge and which has a limited sexuality lexicon. As a consequence, South Pacific women often feel they do not have the confidence, the permission, or the words to initiate a discussion of sexuality. Without an ability to talk freely about reproductive health matters, many women are not obtaining the information and services they want.

To assist these women in the South Pacific, Family Planning Australia undertook a project which, in conjunction with local island communities (and in particular with local island women), assembled a culturally acceptable vocabulary in the Tongan, Samoan, Fijian, Fijian-Hindi and Papua New Guinea Pidgin languages. The resultant lexicon, the *Booklet of South Pacific Reproductive Health Words and Phrases* (Family Planning Federation of Australia, 1992) was used to provide linguistic guidance for the translation of a series of reproductive health education videos and in face-to-face education classes.

It is expected that this development of a lexicon of appropriate reproductive health words and phrases and their use in IEC materials, will have a positive impact on family planning "talk" and ultimately on contraceptive use.

Background to the video project

In 1984,a reproductive health needs assessment was undertaken in Tonga, Fiji, Kiribati and the Solomon Islands. This study of *Women's Reproductive Health Needs in the South Pacific* showed that women throughout the subregion wanted culture-specific, educational resources on a number of subjects including sexuality, family planning, contraception, reproduction and STDs. Pacific women also wanted resources that could be used by themselves, in their own villages, and would therefore not be dependant on health-care worker initiative (Winn and Lloyd, 1985a:81).

When asked what medium would be the most appropriate way to present information on these topics, the women strongly favoured video. They felt that video could present the information in a story-telling style that was in keeping with the Pacific tradition. Video could also overcome a reliance on over-stretched, geographically restricted health educators, whose presentation of topics, when constrained by sexual

taboos, has limited effectiveness (Winn, 1992a:19).

Although the distribution of video equipment within the region is uneven, video technology is generally available and accessible. This is in keeping with much of the developing world where the number of video cassette recorders had doubled or tripled in the late 1980s (Church and Geller, 1991:12). In the Pacific, video has the potential to reach wider audiences than television. Television is not available in Samoa or Tonga; in Papua New Guinea and Fiji, transmissions are mostly in English and do not reach the rural areas or smaller towns.

Urban households commonly have videos in their homes, and rural villages can obtain access if given sufficient notice. Even on remote outer islands without electricity, it is not uncommon to see a two-day video marathon, staged by a visiting travelling entrepreneur, with his own generator and audio-visual equipment.

Video technology is inherently interesting, particularly to people who are unfamiliar with it. Pacific people will spend many hours watching videos even if the programmes are in a language they do not understand (Winn, 1989:30). On popular demand, screenings can be repeated, providing audiences with information when it suits them. Video does not require communication between people and therefore can eliminate the embarrassment of having to interact with an educator. Video also has the advantage of reaching both a wide audience through mass screenings or a small private gathering, and all in an entertaining form.

Supporting Pacific women's requests for video resources, the 1984 Study recommended that a series of videos be produced by, for, and in consultation with Pacific women. Four videos were eventually produced: *Better Safe*, a drama about STDs, condom use and male sexual responsibility; *Taboo Talk*, a documentary about women's attitudes to menstruation, sex education and family planning; *AIDS and the South Pacific*, an information video about AIDS transmission and prevention; and *Down There*, a part animated, part documentary video on reproduction and methods of contraception. These videos were designed to be used throughout the Pacific subregion. Since there is only one *lingua franca* covering the whole target area, the videos were produced in English.

English is an official language in all the target countries, and education in English begins in primary school. Fiji, Samoa and Tonga have had universal primary education for decades, and their populations have considerable exposure to English. In Papua New Guinea, primary school enrolment rates are much lower and English is less widely spoken. Pidgin English has been gaining ground over other *lingua francas*, such as Police Motu, which are based on Melanesian languages. Pidgin is used widely in radio programmes. Papua New Guinea has over 700 distinct languages and "Each language brings a strong sense of regional identity, reflected in the wantok (one talk) system of rights and responsibility. While this diversity provides PNG with a rich and vibrant cultural life, it also presents some very real obstacles to national cohesion and development" (AIDAB, 1992:10).

The linguistic situation in Fiji has been described in the report of the 1974 Fiji Fertility Survey. The Bauan dialect of the Fijian language is used in the press and radio and is understood by most Fijians. For Indo-Fijians, there is greater linguistic diversity because the original Indian migrants came from different parts of the Indian subcontinent. A *lingua franca* had evolved: a simplified form of Hindustani, with a Latin as well as a Devnagari script (Fiji, 1976:15).

The project

The videos were filmed in Fiji so that they could most easily include, and thus be representative of, a wide cross-section of South Pacific people - Polynesian, Melanesian and Micronesian, urban and rural, educated and uneducated, young and old, religious and non-religious.

As the project approach was grounded in a "women in development" philosophy, women controlled all aspects of the production, from design to evaluation. Although women's concerns were paramount in content decisions, cultural and religious sensitivities in the subregion were also taken into account.

The position of women in the context of birth control varies considerably within the Pacific. In a field study of a Fijian village, Seniloli (1992:195-6) noted that for almost all the Fijian and Indian couples who had accepted family planning, the wives were the innovators in the decision-making process, often after receiving advice from a physician or nurse. In both communities there was almost total agreement that family planning was the responsibility of women. In Yap in Micronesia, traditional abortion practices were a secret that women did not reveal to men (Workman and others, 1992). For Papua New Guinea, McDowell (1988:20) cited a number of sources to show that men disapproved of women taking action to

avoid pregnancy.

When the videos were completed, they were distributed widely through indigenous Family Planning Associations and women's networks, and are now to be found in every South Pacific territory from Papua New Guinea to the Cook Islands.

An evaluation of the video project (Winn, 1989) showed that, although they were very well-received and widely used even by non-English speakers, the videos would have reached a far greater audience if they had been available in local languages. In response, it was decided to follow the same "women in development" approach and produce five vernacular versions (Tongan, Samoan, Fijian, Fijian-Hindi and Papua New Guinea Pidgin) of each of the four English-language videos, a total of 20 videos in all. To assist this major undertaking, the *Booklet of South Pacific Reproductive Health Words and Phrases* was developed, showing the equivalent of 88 English terms in the same five languages.

Throughout 1991, Pacific men and women undertook the long and complex task of debating and agreeing upon a translation for the list of reproductive health terms. These translated terms were chosen on the basis that they would be understood by and acceptable to a majority of language speakers. At the same time, the 20 culturally and linguistically appropriate video translations were developed.

The process used to develop the reproductive health terms and the video texts was novel. The usual practice is to develop the words and then test them on an assembled audience. This project did the opposite, it assembled the audience and gave it responsibility for developing and testing its own words.

In four different countries, a cross-section of national language speakers representing the local community was brought together. Their task was to modify and improve a draft translation (of each of the four scripts), prepared by one of their number. Each group met many times to discuss their particular language translation, paragraph by paragraph, checking for ease of understanding, clarity of message and cultural acceptability. Each national group also debated a translation for the 88 reproductive health terms; these were then incorporated into the *Booklet of South Pacific Reproductive Health Words and Phrases.*

The group represented as wide a variety of national language speakers as possible and included people of different age, sex, education, religion and socio-cultural affiliation. A more expensive alternative might have been focus group sessions of young men, young women, older men and older women. (See Knodel and others, 1984, for example.) This alternative might have been appropriate if the target group were adolescents, or if language use varied in large measure with age.

Each group was not requested simply to assemble a list of acceptable words; rather they had to find acceptable words that were clearly understood by a majority of language speakers. They had to find a linguistic balance between not wanting to offend and making sure people knew what the message was. It was felt that the only way to discover what was culturally and linguistically acceptable was to engage the learners. By canvassing their views, the project could determine what words ordinary members of the society would tolerate and comprehend. All members of the group had an equal role in voicing their opinions about what words could and could not be used. Where the balance was difficult to find, the group had to err on the side of comprehension. Particularly with the advent of AIDS in the South Pacific, there has been a perceptible shift to the view that where survival is at stake, communities cannot be shamed into silence. Nor should they be baffled by language that is too elite, too noble, or too polite to be understood.

Problems of communication

While debating the appropriate words for the booklet and video translations, a number of communication-related issues surfaced. They are noted below.

Articulation of and adherence to cultural taboos

Many South Pacific people consider that cultural taboos render frank, public discussion about sexual matters, at best difficult, at worst almost impossible. A raft of taboos on inter-gender, inter-kinship and inter-generation discussion exist. These "inter" taboos are sometimes complicated by "intra" taboos, making even private discussion problematic.

In the Marshall Islands in Micronesia, sex could not be discussed in mixed company in the same family (Westaway, 1989:4). In Tonga and Fiji, the taboo against cousins of the opposite sex being present during sexual talk means that family planning radio broadcasts avoid explicit information, just in case cousins are inadvertently listening in the same room.

There is no doubt that sexuality taboos are significant and can lead to awkwardness, shame and embarrassment. South Pacific women often talk about (and are regretful of) the difficulty they have in talking to their own daughters about a subject of mutual interest, namely menstruation (Winn and Lloyd, 1985b:33). Family planning charts at health clinics are often the objects of jokes by men (Seniloli, 1992:174-5). Yet although these taboos are significant, they are not insurmountable. To be successful, health education programmes must find ways around them.

Those whose job it is to educate about reproductive health and sexuality look for help to determine an educational approach that will minimize this perceived difficulty. Desiring to be culturally sensitive and respectful of social mores, educators often seek guidance from self-appointed community "spokes-persons" or "gate-keepers".

Implicit in the role of gate-keepers is their position as guardians of community standards. They may foster an idealized view of their community (such as one that is sexually monogamous), and reject tarnishing images (such as the use of anal intercourse as a contraceptive measure) and attempt to protect the community against sullying influences (information about homosexual practice). By judging community attitudes and pronouncing a community position, they delineate the parameters of communication about sexuality. An example is provided by a newspaper report (*Canberra Times*, 6 March 1993:12) which stated that Pacific Islanders "disapprove of explicit references to sex in the media". Thus there were a number of complaints when the *Samoan Observer* published the transcript of a sexually explicit telephone conversation, and the President of the Pacific Islands News Association said that she felt obliged to "censor" the *Samoan Observer* before her children could read it.

Educators who heed the opinions of community gate-keepers will, in the name of cultural sensitivity, censor their sexuality education accordingly. Winn and Lloyd (1985) noted that family planning advertisements on Pacific radio often are not comprehensive or explicit and stress only the economic benefits of having a small family. Rarely would anyone dare challenge the received wisdom about what the community would tolerate by way of explicit material.

Although there are common and strong positions on the use of condoms, the practice of pre- and extra-marital sex and homosexuality, people in all South Pacific societies exhibit a range of divergent attitudes and practices. Sexuality education messages and approaches have to cater for this religious, social, educational, generation and gender diversity. Over-sensitivity to cultural taboos and the design of programmes around judgements of people with an interest in raising community standards rather than in accepting them in all their diversity will unacceptably restrict community access and options.

In societies where there has been little public debate about sexuality, there is a natural tendency to err on the side of caution and restrict sexuality discussion. This has been a feature of much South Pacific education to date. There has been almost no view that this conservative position should be challenged and that it is part of an educator's role to question the prevailing wisdom, to defy the *status quo*, to push at the margins of culture and broaden community understanding. Until this is done, communication about sexuality in the South Pacific will remain inadequate.

Communication style

The communication style most commonly seen in South Pacific health education settings is one suffused with forthright admonishment and exhortation (Winn and Lloyd, 1985a:19). A contrast can be drawn between an Australian health education setting where one would hear "it is a good idea not to use..." and a South Pacific one with "do not use..."

Health messages in the South Pacific are usually broadcast in a one-way transfer from educators to members of the audience. Warnings are issued, advice is given, a clear picture of action is laid out and people are urged to fulfil their responsibilities. Health education messages are often delivered sermon-like, by people in a position of authority over the audience. A questioning of the content and requests for explanations are not usually part of the interaction. There is little acknowledgment that education is about providing choices and that the learner has life experiences and abilities that are as valuable as those of the educator. The wants, needs, choices and motivation of the learner, as articulated by the learners themselves, are not incorporated into the education process. This devalues the learner and does nothing to contribute to the empowerment sentiments so often lauded as an essential feature of family planning and sexuality education (Winn, 1992b:17).

Problems of language

As well as the aforementioned communication-related issues, a number of language-based issues arose. These are listed below.

Language choice

The case for producing videos in additional languages is related to the need to discuss a topic in a language in which the audience is most comfortable. Research in several countries (Paraguay, Uganda and Cameroon) has shown a preference for the use of a local language instead of a European language (Pish, English, or French) when discussing social or intimate matters. (Ware, 1977:23).

Most parts of the Pacific are multilingual, with English or French being used as a *lingua franca.* Other *lingua francas* have already been mentioned: Hindi in Fiji, and Pidgin and Motu in Papua New Guinea. However, a *lingua franca* is normally a simplified language, used with various degrees of precision and levels of understanding. (Lucas and Ware, 1977:233).

Language context

Language affiliation is not the only factor that defines a person or their place in society and it cannot be presumed to take pre-eminence. Just being a Tongan or Fijian speaker does not determine how you will respond to hearing or reading a Tongan or Fijian word. Socio-economic status, religious connection, educational level and age can have a significant impact on the way people use and respond to language. Developing any translation for a broad cross-section of language speakers is a daunting task, but developing a reproductive health translation, with its inevitable sexuality pre-occupation, poses an even greater challenge.

Caldwell (1974:17) found that, in Western Nigeria, a translation of a survey questionnaire was too literary, so it was revised to be more comprehensible to illiterates. Weiss and Udo (1981:49) found that, in Eastern Nigeria, modest language was needed for female respondents in surveys. Similarly in the Pacific, any translation must sound neither too elitist to the less educated in rural areas nor too patronizing to urban professionals. It must be neither so technical as to be alienating nor so crude as to be offensive.

Different words are used by the same people in different contexts. Pet names for reproductive anatomy and sexual acts which are used by couples in the privacy of the bedroom sound vulgar when used in public. The choice of words for translation must therefore also take into account the contexts in which the translation will be used. This posed particular problems for the development of the 1992 Booklet as all the words in it are out of context.

As public discussion of sexuality is not common in the South Pacific, there is understandably some uncertainty about which words and phrases can be used and in what contexts. Ordinary people do not have the appropriate language tools to talk about sexuality in a way that is comfortable, open and widely understood.

In societies which are highly stratified by class or generation, translation is even more difficult. A bias towards decorousness in language at the expense of understanding is highlighted by a famous but probably apocryphal South Pacific tale. A proper exhortation to "put the condom on the organ" resulted in its placement on the church's musical instrument - obviously to no contraceptive effect. We may laugh at the inappropriateness of the action, but must question the educative and linguistic skill of the exhorter.

Equivalence

In translating reproductive health terms from English into a local language, the problems of conceptual and linguistic equivalence arise. A basic question is whether concepts have any meaning or the same meaning in various cultures. Linguistic equivalence refers to the accurate translation of identical items (Warwick and Liniger, 1975:163, 165). An example is the concept of family planning: if no local expression exists, then one must be invented. One early problem with the Fijian family planning programme was the first Fijian translation of the term included the word *tatarovi* which suggests stopping conception. A subsequent and more acceptable translation, implied control of conception (Hull and Hull, 1973:203).

In the 1992 Booklet, "family planning" was translated with emphasis on planning children, but "birth control" was bluntly translated as *tatarovi*, which may reflect reliance on female sterilization in the Fiji programme. In contrast, the Pidgin translation was either the direct "famili plening" or "spesim pikinini", thus emphasizing the spacing of children which was encouraged in most Papua New Guinean societies (see, for example, McDowell, 1988).

Linguistic equivalence is difficult to achieve when one language is richer than others in certain aspects. For example, the Raroian islanders in French Polynesia have no word for "coconut", instead they have names for the many different kinds of coconut (Danielsson, 1954:128). Conversely, English has a richer vocabulary of terms used to describe family planning methods because many of the innovations in contraception have come from medical research in English-speaking countries (Rogers, 1971:970).

Seniloli (1992:199) found that "vasectomy" was equated with "castration" by Fijian men. The 1974 Fijian Fertility Survey showed no use of male sterilization and in a 1987 sample of clients at an antenatal clinic in the capital city, Suva, only one-fifth of women said they would consider this method as a possible choice (Roizen and others, 1992:33,37).

Wurm (1971:905) has commented that the criticism of Pidgin English as a restricted language is unjustified. Any language may be lacking in labels, but new words can be borrowed from which the concept has been taken. By extension, it could be argued that the educator's role is then to ensure that the new words become understood by the public.

New words

Where there was simply no local word for a term that the project group needed to translate, its members often Anglicized one. For example, there was no Tongan word for tampon, so the group used "tamponi", and as there was no Samoan word for "perineum", the group used "periniume". Although this was sometimes seen as a little distancing and vaguely neo-colonial, on balance most agreed it was a good option.

A particular problem arises when the same word is used to describe two different things. In Papua New Guinea, Hughes (1991:136), in her work among the Huli, found that "condoms and IUDs were not readily distinguishable by women in any group, which may be accounted for by the use of the generic term gumi or rubber which is Pidgin for both devices". When family planning knowledge is low, then it may be necessary to describe a condom as a "rubber" for the men, or "a rubber for a man's penis". When family planning knowledge is at higher levels, as in Fiji, then words such as "condom" or "durex" are more precise. The 1974 Fiji Fertility Survey was able to include the English variants "tube tie" and "vasectomy" to describe sterilization operations in the Fijian questionnaire (Fiji, 1976:514-6). The trade name "durex" for a condom was used in both the Hindi version of the same survey and in the 1992 Booklet. However, there were some disparities between the 1974 questionnaire and the Booklet, suggesting possible changes in usage over time or the existence of alternative terms, which might be added to the Booklet.

Some words have a limited meaning and fail to convey the totality of the concept the translators seek. The usual Fijian-Hindi word for "homosexual" refers only to men, and so anyone wanting to include female homosexuality has to find another word.

When people search for a word, the dictionary is sometimes consulted. With Fijian, only a handful of the 88 terms from the Booklet appeared in one Fijian-English dictionary (see Capell, 1968). In other cases, the sought words are listed, but as none of the group had heard of them before and as the public would not understand them, they could not be used. The Fijian-Hindi word for "anus" comes into this category.

Where the only choice was between a rude word and a highly technical one, the group sometimes chose to use neither, preferring instead to describe the word. In Hindi, the word "vagina" became the phrase *baby wala raasta*, i.e. "the passage through which the baby comes out".

Rude words

As was mentioned previously, where a wide repertoire of sexual activity is proscribed, where many sexual acts are associated with shame and where the acquisition of sexual knowledge is not encouraged, a rich lexicon of sexuality is generally missing. It is not surprising therefore that in the South Pacific people are unfamiliar with, embarrassed by and confused about many sexuality terms.

A limited vocabulary, with the resultant inability to be precise when explaining terms, makes it difficult to educate people about complex and potentially embarrassing things. Whether it is an imprecision that comes from a limited repertoire of terms or whether it comes from widespread use of poetic euphemisms, the end result is the same. The Tongan term "respected parts" for the "genital area" and the Fijian-Hindi expression *lahsun* ("garlic") for "clitoris" cannot guarantee a comprehending audience.

Many words, whether the private pet words of lovers, street slang or highly derogatory swear words, are

considered too impolite for utterance in public education. In many languages, there is simply no understood alternative to an impolite word.

The 1992 Booklet reveals considerable differences between the two Polynesian languages, Samoan and Tongan, and the other three languages. For the former, it was necessary to show the polite translation and, where applicable, put the "rude" word into brackets. Approximately one-fifth of the Tongan terms and one-eighth of the Samoan terms had a "rude" alternative. Rude words that may be acceptable in everyday speech may be less acceptable in media messages. However, creating a euphemism may produce a very ponderous result: for example the "rude" Tongan expression for the word "anus" consisted of two words, while the polite alternative comprises 23 words.

Pidgin English tends to be very direct, and the use of rude words did not pose a problem for the Booklet. This however does not mean that communication is any easier in Papua New Guinea. One informant, a former family planning worker, stated that she could not refer to certain parts of the body in any language for fear that people in her home village would find out. Another informant described how a family planning flip-chart prepared in the late 1970s encouraged men to use contraceptives when they "slip waintim" (sleep with) their wives. This euphemism caused confusion in parts of the Highlands since sleeping with one's wife would take place in one's house, whereas, for fear of ritual pollution, intercourse, which could have been translated by the direct (but still acceptable) term "puspusim", would occur in the bush.

The benefits of the translation process

One outcome of using a group to develop the Booklet and video texts was the creation of a pool of potential educators, with both a vested interest in the end-product and an easy familiarity with the once-controversial terms. By discussing each and every word, the group learned very quickly what words were understood and not understood, and which were acceptable and not acceptable to each other. They could then more easily reach a consensus about what particular words to choose for the translation.

By using a community decision-making process, the project was in keeping with the South Pacific consensus tradition. By debating terms in their own language, the group members developed a familiarity with taboo words that made it easier to use them and therefore would make it easier to educate others about sexuality in the future.

Interestingly, this familiarity, born of repeated use, made the translations undertaken towards the end of the project more liberal than the translations at the beginning. A good illustration of this was the Fijian-Hindi group which discussed the reproductive health terms in alphabetical order. At the first meeting, there was great debate about the word for "anus" and the group, erring on the side of caution, deliberately omitted writing the Hindi script for the word they chose. Instead, they used a less offensive term than they would have done had they discussed the word "anus" at the final meeting. In contrast, they discussed the word "vulva" at the final meeting and easily agreed on a rather rude term.

Conclusion

The erosion of taboos about the discussion of sexuality is quite recent in Western countries, so it is difficult to predict the resilience of taboos in the Pacific. The project has shown that - despite taboos, an inadequate vernacular vocabulary with which to work and an initial high level of embarrassment about the subject - Pacific women were able to assemble a booklet of culturally and linguistically acceptable reproductive health terms and carry out successful translations of health videos.

Although the importance of language has been recognized in the context of the diffusion of fertility control (Watkins, 1991), and in developing family planning media messages (Church and Geller, 1989:25), specific examples of language problems encountered in other projects proved hard to find. Reference has been made to the African literature, and it has been shown that translation has presented various problems in multilingual situations in Africa which have parallels in the South Pacific. Thus, the success of videos in local languages in the South Pacific could be replicated elsewhere. Melanesia, Papua New Guinea and the Solomon Islands may represent the greatest challenge because of the multiplicity of languages, and in this respect they can be compared with those high-fertility African countries which have many local languages.

The project also showed that, to develop a lexicon that is both understood by and acceptable to a majority of language speakers, it is necessary to fully consult members of the targeted community. To discover what is culturally and educationally possible, one must engage the learner. To this end, the project used a participatory approach which involved the audience from the beginning.

One lesson from the South Pacific project is that people are often far more willing to accept sexuality information than is generally believed, and they will welcome frank and explicit material if they are given an opportunity to determine the context in which they receive it. The project's use of video ensured that a wide cross-section of people gain access to reproductive health education. The Pacific women's use of a cross-section of language speakers to debate each word, ensured the development of a resource that is more likely to be appropriate than one produced by an individual translator.

This is not to say that there will not be debate about particular words and disagreement about what is or is not offensive language. Perhaps no single word will suit all people in all circumstances - nor should it. What is needed is a broad reproductive health lexicon, a range of different approaches to the subject and a wide variety of channels for dissemination of information.

This project was the first step in opening up the area for clear examination, in widening public discussion and increasing public knowledge. It is hoped that, as a consequence of the project, people will be moved to argue for language amendments and offer alternative words, because the more this area is examined, the less will be the possibilities for restricting access to knowledge and action. This project gave South Pacific people, and especially South Pacific women, an opportunity to debate the language in which to couch knowledge and action. Only further studies will reveal whether this approach will affect health behaviour and increase contraceptive use.

The main policy and programme implications of the project relate to the desirability of the target audience *determining* project content, rather than, as is the usual practice, simply being consulted about it. In this project, the target audience determined, among other crucial things, the choice of language, the communication medium and the style of presentation. In other family planning and sexuality projects, policy makers and programme administrators, fearing controversy and project failure, are often wary of giving non-expert community people too much say. This project has shown that project success, in fact, was assured by the non-expert community people making all the major decisions.

Programme managers must be aware that language may be a substantial barrier to the diffusion of reproductive health knowledge. Health educators and survey interviewers must be trained to overcome their own inhibitions, otherwise they will fail to communicate and receive information. As Caldwell (1982:583) observed about surveys in Bangladesh, the trainers and interviewers were often more embarrassed than the respondents. Programme managers have a duty to produce more materials in the vernacular and to ensure that advertising campaigns result in key terms becoming part of everyday language.

References

Agyei, William (1988). *Fertility and Family Planning in the Third World* (London, Croom Helm).

AIDAB (Australian International Development Assistance Bureau) (1992). "The voice of a nation", *Focus*, December:10-11.

Caldwell, John (1974). "The study of fertility and fertility change in Tropical Africa. *World Fertility Survey Occasional Papers* 7(May).

_____ (1980). A book review of "Bangladesh Fertility Survey 1975, First Report", *Population Studies*, 34(3): 581-583.

Church, Cathleen and Judith Geller (1989). "Lights! Camera! Action!" *Population Reports*, J38.

Coeytaux, Francine, Taoufik Kilani and Margaret McEvoy (1992). "The role of information, education, and communication in family planning service delivery in Tunisia", *Studies in Family Planning*, 18(4):229-234.

Danielsson, Bengt (1954). *The Happy Island* (London, George Allen and Unwin).

ESCAP (Economic and Social Commission for Asia and the Pacific) (1974). "Husband-wife communication: measurement and correlation with family planning", in: *Husband-Wife Communication and Practice of Family Planning* (Bangkok, United Nations, ESCAP), Asian Population Studies, Series 16:25-45

FPFA (Family Planning Federation of Australia) (1992). *"Booklet of South Pacific Reproductive Health Words and Phrases"*, Canberra

Fiji (1976). *Fiji Fertility Survey 1974* (Suva, Bureau of Statistics).

Hughes, Jenny (1991) "Impurity and danger: the need for barriers and bridges in the prevention of sexually-transmitted disease in the Tari Basin, Papua New Guinea", *Health Transition Review* 1(2):131-141.

Knodel, John, Napaporn Havanon and Antony Pramualratana (1984). "Fertility transition in Thailand: a qualitative analysis", *Population and Development Review* 10(2):297-328.

Liskin, Laurie and Cathleen Church, Phyllis Piotrow and John Harris (1989) "AIDS Education: a beginning", *Population Reports*, L8:25-27

McDowell, Nancy (ed.) (1988). *Reproductive Decision Making and the Value of Children.* (Boroko, Papua New Guinea, Institute of Applied Social and Economic Research).

McMurray, Christine and David Lucas (1990). "Fertility and family planning in the South Pacific", *Islands/Australia Working Paper 90/10*, National Centre for Development Studies, Australian National University.

Rogers, Everett (1971). "Family planning word symbols: semantic problems in diffusion", *Rural Africana*, 14(Spring):97-102.

Roizen, Judith, Rajat Gyaneshwar and Zoe Roizen (1992). "Where is the planning in family planning?" *Demographic Report 3*, Population Studies Program, University of the South Pacific, Suva.

Seniloli, Kesaia (1992). "The socio-economic determinants and cultural dimensions of ethnic fertility differentials in Fiji: the case of two villages in Viti-Levu", Unpublished Ph.D. thesis, Australian National University.

Ware, Helen (1977). "Language problems in demographic field work in Africa: the case of the Cameroon Fertility Survey. *World Fertility Survey Scientific Reports 2* (November).

Warwick, Donald and Charles Lininger (1975). *The Sample Survey: Theory and Practice* (New York, McGraw-Hill).

Walter, Annie (1985). "The body and bodily functions as seen through the vocabulary of anatomy used by the Surimarani (Central Pentecost)", *Ethnographical Notes and Records 2* (Port Vila, ORSTOM).

Watkins, Susan (1991). "More lessons from the past: women's informal networks and fertility". Paper presented at the IUSSP/University of Zimbabwe Seminar on the Course of Fertility Transition in Sub-Saharan Africa, Harare, November.

Weiss, Eugene and A.A. Udo (1981). "The Calabar Rural Maternal and Child Health/Family Planning Project", *Studies in Family Planning*, 12(2):47-57.

Westaway, Jane (1989) "Marshall Islands employs education to reduce high birthrate", *Development*, Wellington, (September):4-13.

Winn, Margaret (1989) "Report on the evaluation of South Pacific reproductive health videos", Family Planning Federation of Australia, Canberra.

_____ (1992a). "Taboo talk: reproductive health videos by Pacific Island women", *Quality/Calidad/Qualite*, The Population Council, New York:19-22.

_____ (1992b). "Family planning education: working with target groups in the South Pacific", *Development Bulletin*, 24(25) Australian National University, Canberra.

_____ and Coral Lloyd (1985a). "Final report on women's reproductive health and family planning in the South Pacific - Tonga, Kiribati and Fiji", Australian Federation of Family Planning Associations, Canberra.

_____ (1985b). "Final report on women's reproductive health and family planning in the Solomon Islands", Australian Federation of Family Planning Associations, Canberra.

Workman, Ann, Randall Workman and Linda Cruz-Ortiz (1992). "Abortion on Guam: demographic trends and fertility data", Isla 1(2):183-198.

Wurm, Stephen (1971). "Pidgin English", in: *Encyclopedia of Papua and New Guinea*, P. Ryan (ed.) 2:902-5, Melbourne, Melbourne University Press.

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Reproductive Change in Bangladesh: Evidence from Recent Data

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The removal of the social, psychic and economic costs of contraception coupled with efforts to 'crytallize' demand would hasten the fertility decline

In recent years, in the absence of a clear association between socio-economic development and the timing of fertility decline, several different causal mechanisms have been proposed to explain the initiation of fertility decline. These mechanisms include modern ideas and aspirations, cultural factors, women's rights, transportation and communication networks, modern systems of mass education, and the adoption and diffusion of contraception (Cleland and Wilson, 1987; van de Walle and Knodel, 1980; Caldwell, 1980 and 1982; Knodel and others, 1984; Freedman, 1979; Knodel, 1977). Although the predominant role of family planning programmes in the speedy adoption of fertility regulation has been noted in the literature, greater emphasis seems to be placed on the facilitating role played by some level of socio-economic development, a favourable status for women and to administrative pressure towards the rapid adoption of fertility regulation (United Nations, 1987; Freedman and others, 1981; Knodel and Debavalya, 1978; Zachariah and Newton, 1983; Banister, 1987; Hirschman and Guest, 1990). Thus, a number of recent articles have focused on the social, economic and institutional circumstances that can work as barriers against the speedy adoption of fertility regulation in an impoverished and predominantly agrarian society (Demeny, 1975, 1979; Arthur and McNicoll, 1978; Cain, 1982; Caldwell and others, 1984, 1980; Curtright and Hargens, 1984; Caldwell and Cladwell, 1987; Dyson and Moore, 1983; Duza, 1990). However, what is lacking in the literature is evidence about how a significant decline in fertility can be achieved in such a society.

Bangladesh is among the least developed of the third world countries; it is characterized by a continued low level of socio-economic development, low literacy and high infant mortality, low status of women and a predominantly agrarian economy. It is thus an unlikely society in which to expect any speedy adoption of fertility regulation and fertility change.

There has been an abundant literature on the adverse social and economic circumstances that impede a rapid decline in Bangladesh's fertility. Although authors differ in their points of emphasis, the common theme in the literature is that the high fertility in Bangladesh is one of the effects of interrelated social and economic institutions that are characterized by labour-intensive technology, low productivity, patriarchy, son preference, low female status, male dominance, the value of children for labour and security, and old-age insecurity (Cain, 1982; Demeny, 1975; Duza, 1990; Arthur and McNicoll, 1978; Caldwell and others, 1984). Other factors that have been mentioned as barriers to speedy adoption of fertility regulation in Bangladesh are early female age at marriage, high infant mortality, the inadequacy and inefficiency of the health and family planning services, and physical isolation of the bulk of the rural residents (Bangladesh, 1989; Demeny, 1979; BRAC, 1990). Based on the notion that high fertility is economically and socially rewarding under the prevailing social, economic and administrative conditions in Bangladesh, most observers have predicted a continuation of high fertility norms.

Using data from a series of national-level surveys, this article examines trends and differentials in fertility, contraceptive use and fertility preference in Bangladesh.

Data and methods

The present study is based on data from the following surveys: the 1969 National Impact Survey (NIS) of family planning, the 1975 and 1989 Bangladesh Fertility Surveys (BFS), and the 1983, 1985 and 1991 Contraceptive Prevalence Surveys (CPS). All these were nationally detailed questions on fertility, contraceptive use, socio-economic background, and family planning knowledge and attitudes. More detailed descriptions of these surveys may be found elsewhere (Hardee and Sirageldin, 1960; World Fertility Survey, 1979; Mitra and Kamal, 1986; Mitra and Associates, 1987, 1992; Huq and Cleland 1990).

Fertility data collected in all the surveys included the number of children ever born, the number of live births in the 12 months preceding the interview dates, and/or pregnancy history. From these data, age-specific current fertility rates, current pregnancy rates and mean number of children ever born were calculated for the present article.

However, to check the reliability of these data sets, both the sex ratios by age of mothers and P/F ratios have been calculated (table 1); the P/F ratio relates to lifetime fertility: P refers to cumulated period fertility rates and F, fertility a year or more preceding the survey. Under conditions of constant fertility and using reliable data, the P/F ratio will be close to unity. Deviations from unity may reflect either data defects or a genuine change in fertility.

Table 1: Sex ratios of children ever born and P/F ratios of currently married women, Bangladesh, 1969-1991

Age group (years)	Sex ratio						P/F ratio[1/]					
	1969 NIS	1975 BFS	1983 CPS	1985 CPS	1989 BFS	1991 CPS	1969 NIS	1975 BFS	1983 CPS	1985 CPS	1989 BFS	1991 CPS
15-19	1.144	0.940	1.089	1.068	1.102	1.092	1.03	1.20	1.20	1.28	1.09	1.27
20-24	0.918	1.064	1.100	1.093	1.064	1.076	0.92	0.99	1.06	1.03	0.84	0.92
25-29	1.095	1.065	1.005	1.051	1.093	1.078	1.02	1.03	1.11	1.11	0.93	1.01
30-34	1.014	1.043	1.111	1.052	1.025	1.067	1.08	1.06	1.21	1.23	1.08	1.09
35-49	0.985	1.073	1.073	1.088	1.068	1.079	1.07	1.06	1.24	1.32	1.19	1.23
40-44	1.080	1.051	1.045	1.076	1.080	1.026	1.03	1.09	1.29	1.42	1.30	1.37
45-49	0.960	1.051	1.078	1.113	1.069	1.098	1.04	1.03	1.30	1.36	1.37	1.46
All	1.019	1.051	1.066	1.075	1.066	1.070						
Number of cases[2/]	3,088	5,772	10,971	9,434	10,276	11,097						

Notes:
1/ Based on one full-year rate preceding the date of survey.
2/ Unweighted number of cases.
NIS = National Impact Survey.
BFS = Bangladesh Fertility Survey.
CPS = Contraceptive Prevalence Survey.

Overall, sex ratios should be close to the expected value of 1.05. Table 1 shows that, although the sex ratio fluctuates somewhat, it is very close to the expected value of 1.05 in all the surveys, indicating that there were no major data errors in collecting the information on children ever born by sex. Prior to the 1983 survey, the P/F ratios by age provide no evidence of fertility decline except a slight deficit in recent births among the youngest age group of women in the 1960s and the mid-1970s. The pattern is different for the surveys since 1983, indicating an increase in ratios with age, which is, perhaps, due to the deficit of period fertility rates, emanating from recently increased contraceptive use. These results suggest that there had been a recent decline in fertility precipitated by older women of reproductive age.

Findings

Although the P/F ratios in table 1 strongly suggest that there has been a significant recent decline in fertility, it would be useful to verify this finding by other measures of fertility. This was done by employing a series of bivariate and multivariate analyses, focusing on trends and differentials in fertility and fertility-related variables. Given the uncertainties of past demographic estimations in Bangladesh (National Research Council, 1983; Sirageldin and others, 1975a), it is important that both multiple data sources and multiple techniques of data analysis be used.

Fertility trends

Table 2: Children ever born and current fertility of currently married women by age, Bangladesh, 1964-1991

Age group (years)	Average children ever born (CEB) and years						Births per 1,000 women and years					
	1969 (NIS) *	1975 (BFS) *	1983 (CPS) *	1985 (CPS) *	1989 (BFS) *	1991 (CPS) *	1964-1968 (NIS) a/	1971-1975 (BFS) a/	1983 (CPS)	1985 (CPS)	1986-1988 (BFS) a/	1988-1990 (CPS) b/
15-19	0.9	0.8	0.9	0.8	0.7	0.8	258	168	256	256	311	208
20-24	2.5	2.3	2.4	2.2	2.0	1.9	342	320	284	279	267	258
25-29	4.3	4.2	4.0	3.7	3.4	3.4	303	316	246	214	216	217
30-34	5.6	5.7	5.7	5.3	4.9	4.6	252	276	200	173	141	161
35-39	6.4	6.7	6.8	6.7	6.1	5.8	159	219	124	129	86	101

40-44	6.5	7.6	7.7	7.7	7.1	6.9		73	136	60	58	44	63
45-49	6.6	7.3	7.8	7.7	7.8	7.7		20	49	8	27	6	22
15-49[b/]	4.3	4.3	4.3	4.1	3.8	3.7	TMFR	7.0	7.4	5.9	5.7	5.4	5.2
15-49[c/]	3.7	3.6	3.8	3.5	3.0	3.2	TFR[a/]	6.4	6.3	5.0	4.8	4.1	4.1
Median age at marriage	13.3	13.0	n.a.	n.a.	14.0	14.0							
Percent currently pregnant	14.8	12.3	11.7	10.6	9.4	10.6							

Notes: a/ Average rates for five years or three years.
b/ Standardized by the age distribution of women in the 1991 CPS.
c/ Estimates after adjusting marital status by taking into account the currently unmarried women.
n.a. = not available; for other abbreviations, see table 1.

Table 2 presents trends in children ever born, total fertility rate, total marital fertility rate, age-specific marital fertility rate, pregnancy rate and median age of marriage. While there has been no major change in the traditional low age of marriage, there has been a sharp decline in marital fertility between the 1970s and late 1980s. The latter is evident in all measures of fertility in the table. Thus, the total marital fertility rate fell from an average of 7 births per woman in the 1960s to about 5.2 in the late 1980s -- a decline of about 26 per cent. Similarly, the average number of children ever born and the percentage of women pregnant declined from 4.3 and 13.3 per cent in 1969 to 3.7 and 10.6 per cent in 1991, respectively.

However, under-enumeration of births in 1969 by the NIS and famine-related disruptions in 1974 might have been the reasons for some lower estimations of total marital fertility in 1969 and 1975, respectively (National Research Council, 1981; World Fertility Survey, 1979). This lower estimation may have resulted in an under-estimate of the decline in total marital fertility between earlier periods prior to the 1980s and the most recent period. The former under-estimation, together with the latter possible famine-related temporary depression of period fertility during the mid-1970s vis-a-vis the lowered fertility during the most recent period, reinforces our conclusion that there has been a true decline recently in Bangladesh's fertility.

A comparison of age-specific fertility rates of the 1970s or the late 1960s with those of the late 1980s or early 1990s in table 2 shows that most of the recent fertility decline in Bangladesh, as exemplified by age-specific current fertility rates and average number of children ever born, are mainly the product of a decrease in marital fertility among older women, with the exception of those above 45. This pattern is consistent with the likely first stage of fertility decline in Bangladesh in which most fertility controls may consist of a decision to stop child-bearing.

Fertility differentials

Table 3: Trends and differentials in children ever born and total marital fertility rates by selected characteristics of women, Bangladesh, 1964-1990

Selected characteristics of women	Children ever born			Total marital fertility rates[a/]		
	1969[b/] (1)	1991 (2)	Percentage change (2)-(1)	1965-1968 (NIS) * (3)	1988-1990 (CPS) * * (4)	Percentage change (4)-(3)
Total	4.2	3.6	-14.3	7.0	5.2	-25.7
Women's education						
No education	4.3	4.0	-7.0	6.9	5.6	-18.8
Primary	4.4	3.5	-20.5	7.5	4.9	-34.7
Secondary and above	3.3	2.3	-30.3	7.1	3.6	-49.3
Residence						
Urban	4.5	3.5	-22.2	7.2	4.4	-38.9
Rural	4.1	3.6	-12.2	6.9	5.3	-23.2
Land-ownership						
Yes	4.1	3.7	-9.8	6.8	5.1	-25.0
No	4.2	3.6	-14.3	7.3	5.4	-26.0

Region						
Dhaka	4.1	3.6	-12.2	6.9	5.1	-26.1
Chittagong	4.3	3.8	-11.6	6.9	5.6	-18.8
Rajshahi	4.1	3.4	-17.1	7.1	5.1	-28.2
Khulna	4.0	3.6	-10.0	7.0	4.7	-32.9
Contraceptive use						
User	6.5	4.1	-36.9	8.1	5.2	-35.8
Non-user	3.1	3.3	+6.0	7.2	5.5	-23.6

Sources: * 1969 National Impact Survey.
* * 1991 Contraceptive Prevalence Survey.

Notes: a/ Average rates for five years or three years.
b/ Standardized by the age distribution of women in the 1991 CPS.

The data so far clearly demonstrate that there was a sharp decline in fertility between the mid-1970s and the late 1980s. Our next objective is to further decompose this decline by various factors, including socio-economic factors; this is done in table 3. The mass of information generated by seven separate surveys and several measures of fertility and age at marriage (as in table 2), together with various variables in table 3, make it difficult to include all the fertility measures by all the survey years. Consequently, in order to create a more parsimonious decomposition in table 3, we confine our analysis to children ever born and total marital fertility rates for two separate periods spread over the last two decades. To avoid sampling variation, total marital fertility rates have been calculated by taking averages for several years.

The results of our analysis in the table show that all socio-economic groups, namely, landowners and the landless, the educated and uneducated, and rural and urban residents, participated in the recent decline in fertility. However, the magnitude of decline varies by the different groups (see table). Thus, in relative terms, between the 1960s and the late 1980s (or early 1990s), the decline in total marital fertility rates was slightly higher among urban residents than among rural residents, so much so that by the terminal year 1991, the relationship between urban residence and total marital fertility rate, which previously was positive, was reversed from the positive to the negative direction. Similarly, between the 1960s and the 1980s, the percentage decline in total marital fertility among educated women was much higher than the corresponding decline among those with no education, increasing the overall educational differences in total fertility in the terminal period of 1988-1990. On the other hand, Chittagong region had higher total fertility compared with other regions in both periods. This difference seems to have widened in the 1988-1990 period.

In the 1988-1990 period, the total marital fertility rate among contraceptive users was lower than that of non-users, the former by contrast with the earlier period of 1965-1968. While the higher fertility of users during the earlier period indicates either imperfect use of contraceptives or use of less effective methods by those who had higher natural fertility, their lower fertility in the recent period is consistent with our hypothesis that part of the decline in recent fertility is attributable to a recent increase in contraceptive use (Mitra and Associates, 1990, 1992).

Other possible reasons for the recent decline in fertility are an increasing breast-feeding on one hand, or an increase in malnutrition that would lower fecundity, on the other hand. Since reduced infant and child mortality reduces fertility by extending the period of lactation and therefore amenorrhoea, recent improvements in child survival (Kabir and others, 1992) may have contributed partly to the recent fertility decline. Similarly, recent increases in poverty in Bangladesh (Khan and Hossain, 1989) may have reduced fertility both by promoting contraceptive use and by increasing the incidence of malnutrition-induced sub-fecundity. The latter possibility may arise because nutritional differences can contribute to the difference in fertility via its relationship to age at menarche, menstruation, ovulation, conception and pregnancy outcomes.

In the absence of other relevant data, we have looked into regional differences in children ever born, pregnancy wastage, still-births and induced abortion among women not practising contraception, both during the time of the recent rise in contraceptive use as well as during the earlier period when there was a low level of contraceptive use. The data in table 4 do not show any consistent pattern in the regional differences in these factors that could sufficiently explain the higher fertility in the Chittagong region as being a result of nutritional differences. Thus, the data in table 4 show no significant regional difference in children ever born among the women not practising contraception, except for a slightly higher number of children ever born to women in the age groups 30-34 and 35-39 for the Chittagong region in the year 1991. On the other hand, although the incidence of induced abortion was slightly lower in Chittagong region, pregnancy wastage and the number of still-births were higher in Chittagong region as was pregnancy wastage in Khulna region.

Similar results were also found in our separate analysis of women not practising contraception, revealing that no major role was played by nutritional deficiencies in the explanation of regional differences in fertility, although some fertility-elevation effect of better nutrition in Chittagong region might have accentuated its fertility, making it

higher than that of other regions.

The trends and differentials in the average number of children ever born, as shown in table 3, also seem to mimic that of the recent decline in total marital fertility, although somewhat weakly, with the exception of differential by contraceptive use. The latter, by contrast, is positively related to children ever born with the exception of the period 1988-1990. The weak relationship between number of children ever born and its decline over time and contraceptive use may be a result of the lack of temporal alignment between children ever born and contraceptive use.

Since the decline in current fertility is a recent phenomenon, its reducing effect on cumulative fertility would be felt only after a time lag. On the other hand, the direct positive relationship between children ever born and contraceptive use may have stemmed from the fact that the attempts to regulate fertility were concentrated among couples near the end of their reproductive careers. This was more especially so in the pre-transitional stage of the 1960s than in the early transitional stage of the 1980s.

Our aggregate analysis so far indicates a sign of notable fertility decline. The recent rise in contraceptive use may have been a major factor in this decline. Other factors, such as women's education, urban residence, increased child survival leading to increased birth intervals through prolongation of lactation or decreased fecundity from malnutrition especially among older women, may also have contributed partly to this decline.

Table 4: Children ever born, pregnancy wastage, still-births and induced abortion among women not practising contraception and currently married women by region, Bangladesh, 1975 and 1991

Age: group (years)	Region							
	Dhaka		Rajshahi		Chittagong		Khulna	
	1975[1/]	1991[2/]	1975	1991	1975	1991	1975	1991
15-19	0.8	0.7	0.9	0.7	0.9	0.7	0.7	0.6
20-24	2.3	1.7	2.5	1.8	2.3	1.8	2.1	1.7
25-29	4.3	3.3	4.1	3.3	4.3	3.4	3.8	3.4
30-34	5.8	4.6	5.7	4.3	5.7	5.0	5.7	4.6
35-39	6.4	5.9	6.8	5.6	6.7	6.2	6.5	5.8
40-44	7.6	7.2	7.2	6.8	7.3	6.7	7.5	7.6
45-49	7.2	7.9	7.4	7.5	7.3	7.2	7.2	8.3
Mean number of pregnancy wastage[3/]	0.33		0.31		0.37		0.38	
Mean number of still-births[3/]	0.32		0.33		0.35		0.27	
Mean number of induced abortions[3/]	0.01		0.04		0.02		0.04	

Notes: 1/ 1975 Bangladesh Fertility Survey.
2/ 1991 Contraceptive Prevalence Survey.
3/ The means are based on 1989 Bangladesh Fertility Survey data for currently married women.

Fertility preference and contraceptive use

Evidence from recent BFSs and CPSs also indicate that the recent decline in fertility in Bangladesh has been accompanied by a sharp increase in knowledge about and practice of contraception (Amin, 1992; Huq and Cleland, 1990). Table 5 presents data on the preferred family size, the desire for additional children and conceptive use. Since the preferred number of children is not available from the 1991 CPS, we used as a substitute the next most recent data set available, namely, the 1989 BFS. Table 5 shows that the average preferred family size has declined over the years. Paralleling this decline in preferred family size has been a sharp increase in contraceptive use, which increased from about 4 per cent of currently married women in 1969 to 40 per cent in 1991. Similarly, the desire for no more children increased moderately from 46 per cent in 1969 to 58 per cent in 1991.

What is remarkable about the data in table 5 is that the decline in the preferred family size, desire for no more children and increased contraceptive use have occurred among all social groups, irrespective of socio-economic, residential and regional characteristics. In relative terms, the positive relationship between contraceptive use and education and urban residence was more pronounced in 1969 than in 1989. Over the years, the adoption of contraception by poor women was faster than among rich women. A similar pattern of increase in contraceptive use was also observed in the 1991 CPS data (Amin and others, 1993). At any particular time, contraceptive use increased with parity, which is an indication of contraceptive use for cessation of child-bearing. However, over the years, smaller family size preference seemed to have been gaining adherence in all socio-economic groups, including that of low-parity women. The latter trend indicates that, at least among younger women, fertility

preference was declining, since their smaller actual family size could not have any upward effect on the preferred family size owing to rationalization of the children already born, which may occur among older women.

Table 5: Preferred family size and contraceptive use, by year of survey and by selected characteristics of women and their parity status, 1969-1991

Selected characteristics of women and parity	Measures and survey years					
	1969 *			1989 * *	1991	
	Mean preferred number of children[a/]	Percentage desiring no more children	Percentage currently using contraceptive	Mean preferred number of children	Percentage desiring no more children	Percentage currently using contraceptives
Total	4.3	46.0	3.8	3.2	58.0	40.0
0-3	4.2	17.0	1.9	2.8	33.0	34.0
≥ 3	4.7	72.0	6.5	3.9	89.0	48.0
Education						
No education						
0-3	4.3	18.0	1.6	2.9	33.0	29.0
≥ 3	4.8	72.0	5.9	3.7	88.0	45.0
Primary and above						
0-3	3.8	15.0	3.8	2.6	33.0	39.0
≥ 3	4.2	72.0	11.1	3.7	90.0	53.0
Area						
Urban						
0-3	4.0	18.0	5.3	2.5	40.0	44.0
≥ 3	4.5	75.0	8.8	3.7	92.0	53.0
Rural						
0-3	4.3	13.0	1.7	2.8	32.0	32.0
≥ 3	4.7	66.0	6.4	3.9	68.0	46.0
Land-ownership						
Yes						
0-3	4.3	17.0	1.7	2.8	32.0	34.0
≥ 3	4.5	68.0	6.2	4.0	89.0	46.0
No						
0-3	4.2	17.0	12.5	2.8	35.0	33.0
≥ 3	4.5	78.0	7.2	3.8	89.0	49.0
Region						
Dhaka						
0-3	4.2	16.0	3.8	3.2	33.0	35.0
≥ 3	4.5	74.0	9.8	4.5	88.0	42.0
Chittagong						
0-3	4.3	24.0	1.0	2.8	25.0	21.0
≥ 3	4.9	75.0	4.6	3.9	84.0	34.0
Rajsahi						
0-3	4.3	16.0	1.6	2.7	39.0	38.0
≥ 3	4.8	76.0	4.7	3.7	92.0	57.0
Khulna						
0-3	4.1	15.0	1.3	2.6	35.0	41.0
≥ 3	4.5	69.0	8.7	3.7	93.0	52.0

Sources: * = 1969 National Impact Survey.
* * = Bangladesh Fertility Survey.

Note: a/ Standardized by number of living children, using the distribution of currently married women in the 1989 BFS.

Discussion

The recent increase in contraceptive use and reduced fertility in Bangladesh raise a broader question: What factors have contributed to increased contraceptive use and the decline in fertility? The answers seem to lie in a combination of factors such as rapid population growth, increasing poverty, a vigorously implemented national family planning programme, and the homogeneity of Bangladesh culture, which may have facilitated the country-wide spread of ideas related to fertility control. A discussion of these factors follows.

Firstly, the constraints imposed during the 1970s by deteriorating economic conditions, in which families began to face the pressure of a shrinking standard of living (Khan, 1977; Clay, 1977), continued to become worse throughout most of the 1980s, making Bangladesh poorer over time relative to the developing world as a whole (Khan and Hossain, 1989). As a result, a large proportion of the population, who are at the lower end of the income distribution scale, have a standard of living that appears to be substantially below what it was 10 or 20 years ago (Osmani, 1990; Khan, 1990). This situation has created conditions that are no longer favourable to the erstwhile high-fertility norms. Similarly, the recent extension of primary health care seems to have increased the level of child survival (Kabir and Amin, 1993), which, in turn, may have led to an extension of the average length of the interval between births and hence to a reduction in the number of periods of breast-feeding that would otherwise have been cut short by the death of the child. Moreover, the deteriorating living standards, juxtaposed against the dislocations caused by the struggle for independence in the early 1970s and the series of national disasters thereafter, set the stage for a gradual destabilization of the traditional high fertility norm. In the 1970s, under population pressure from a general decline in mortality, support for the high fertility norm was already eroding (Sirageldin and others, 1975b). Over the ensuing years, other events, such as a major shift to non-agricultural occupations, a breakdown and reorganization of traditional patron-client relationships, monetization of the economy, and gradual penetration of remote areas by modern communications media and organizations, were intensified in the 1980s. Changes in aspirations, tastes and attitudes that are incompatible with high-fertility norms might have begun to take place during that decade.

Secondly, the combination of extremely high density, the momentum of population growth and the persistent economic deterioration of the 1970s left the Government with the unavoidable choice of addressing its population problems through the implementation of a massive, comprehensive, national-level family planning programme. Although the infrastructure, services and supplies provided under this programme have been beset with various problems (Bangladesh, 1989; BRAC, 1990; East Pakistan, 1970), the efforts undertaken by the Government have resulted in a massive increase during the 1980s in the awareness of and access to family planning information and services (Mitra and Associates, 1992; Huq and Cleland, 1990). These programme efforts and access to the programme may have been further reinforced and legitimized by integrated efforts in the areas of primary health care, family planning and rural poverty-alleviation programmes. The country-wide coverage of family planning and primary health care services through the opening of local-level family welfare centres, the employment of large numbers of female family planning workers, the expansion of integrated family planning and primary health care efforts through door-to-door outreach efforts, and female-conscientization efforts of various governmental and non-governmental organizations (NGOs)[1/] may have encouraged people to adopt contraception in the late 1980s, precipitating a change in reproductive behaviour.

Our explanation of the recent decline in fertility and sudden increase in contraceptive use in terms of programme efforts and cultural contours is further corroborated by the regional difference in contraceptive use and fertility. We have found that women in the Chittagong region are lagging behind the rest of the country in terms of contraceptive use and lower fertility. This has happened despite the fact that the Chittagong region is characterized by conventional socio-economic indices, such as per capita GNP, number of white-collar jobs and non-agricultural occupations, that are higher than in other regions of the country. Such economic and occupational factors should have worked in favour of fertility regulation rather than impeding it.

We think that this anomaly can be explained in terms of cultural characteristics and programme efforts. Cultural factors include a strong religions influence in the Chittagong region that dates back to the earlier and more pervasive spread of Islam through the Port of Chittagong compared with the rest of the country. Similarly, survey data show that married women in the Chittagong region produced higher scores in terms of self-reported religiosity, husband's dominance in family decision-making and home confinement, and lower scores in terms of frequency of contact by family planning field-workers compared with their counterparts in the regions outside the Chittagong area (Mitra and Associates, 1987, 1990, 1992; Huq and Cleland, 1990).

These differences between the Chittagong region and other regions reinforce our view of the important role that cultural and social factors play in bringing about fertility changes. Hence, in explaining the recent changes in reproductive behaviour in Bangladesh, regional differences should be attributed to cultural differences rather than to socio-economic differences. At the same time, it should be noted that basic changes in the reproductive process have been fairly even throughout the country within a relatively short span of time. Consequently, the search for factors that would explain such a regional difference should not obscure the common elements that may have facilitated the speedy reproductive changes throughout Bangladesh: namely, deteriorating economic conditions; the existence of a national, comprehensive and large-scale family planning programme which has the strong commitment of the Government; and the recent expansion of an integrated health and family planning programme, especially efforts to base many such services at the village level so that they can be brought to the door-step of the people.

While the recent increases in contraceptive use and the significant decline in fertility attest to the fact that the national family planning programme has been able to overcome many of the psychic and resource costs of contraception, the demand for fertility regulation is still fragile in Bangladesh (Duza, 1990). This fragility in demand vis-a-vis the need for creating new demand and meeting a still larger unfulfilled potential demand for fertility regulation calls for not only qualitative modifications to existing programme strategies, but also for the implementation of some measures "beyond family planning".

Some suggestions for such a modification of the programme or new measures have emerged from the present study. Thus, although previous analyses of the present data sets show that there is a strong positive correlation between the visits of field workers to clients' homes and contraceptive use (Amin and others, 1993), the percentages of currently married women visited by family planning workers ranged from only 25 per cent to 36 per cent between 1983 and 1991 (Mitra and Kamal, 1986; Mitra and Associates, 1992). One obvious measure, therefore, should be for the programme to raise both the quality and quantity of the home visits. This become all the more necessary because of the continuation of the traditional practice of women going into seclusion within their home vis-a-vis female-centred, effective, modern contraceptives provided by the national family planning programme. The latter would require a considerable amount of counselling and reassurance to translate demand into appropriate adoption of contraceptive and its continued use. This, again, brings us to the need for improvement of the ratio of female workers in the total population, which currently is very low.[2/]

Another social policy measure that could significantly increase the demand for contraceptive use is female education and female "conscientization", which could be achieved through measures such as bringing about the economic and social improvement of women through female education, and their better access to institutional credit and skill-training.

As is evident from the present study, although both primary education and above-primary education lead to increased contraceptive use and reduced fertility, the pattern of these effects is much higher among women educated beyond the primary level compared with those educated only at the primary level and below. Similarly, other studies have shown that female empowerment programmes, particularly those promoting economic and social upliftment of poor rural women, enhance the prospects for contraceptive use and fertility decline (Kamal and Rahman, 1993; Amin, 1992).

The removal of the social, psychic and economic costs of contraception through improvements in the quality and coverage of family planning services, coupled with appropriate efforts to "crystallize" demand, would further accelerate the current reproductive changes that are taking place in Bangladesh, thus hastening its fertility transition, even in the face of pervasive poverty and economic stagnation.

Footnotes

1. Beginning in the late 1970s, there was a proliferation of NGO activities in the health and family planning sectors in Bangladesh. Many NGOs undertook special integrated programmes on health, family planning and income generation for low-income people (see Chowdhury and Huda, 1990; Chowdhury, 1990). There are about 7,000 NGOs currently working in Bangladesh; while impact of their programmes on contraception and fertility is not known precisely, some programme service data suggest that about 22 per cent of all birth control initiatives were originated by NGOs (USAID, 1991).

2. With the recent increase in field worker-to-population density in the Government's family planning programme, the current field-worker-to-population density is one worker per 800 women in the reproductive age group. Although this represents a 50 per cent increase over the previous field-worker-to-client density, it is still much lower than the optimum density found in a successful demonstration project (Phillips and others, 1988; Bangladesh, 1989).

References

Amin, R. (1992). *Economic and Demographic Impact of Female Self-Employment in Rural Bangladesh -- A Household Survey*. Preliminary Report (Baltimore, MD, Institute for Urban Research, Morgan State University).

Amin, R., A.U. Ahmed, J. Chowdhury and M. Kabir (1993). Increased contraceptive use in an impoverished society: the case of Bangladesh. Paper presented at the Annual Meeting of the Population Association of America, Cincinnati, Ohio.

Arthur, W.B. and G. McNicoll (1978). "An analytical survey of population and development in Bangladesh", *Population and Development Review*, 4(1):23-80.

Bangladesh, Government of (1989). *Family Planning Performance and Strategies for Improvement in Bangladesh: Report of the Task Force*, (Dhaka, Ministry of Health and Family Planning).

Banister, J. (1987). *China's Changing Populations* (Stanford, CA, Stanford University Press).

BRAC (Bangladesh Rural Advancement Committee) (1990). *A Tale of Two Wings: Health and Family Planning Programs in an Upazila in Northern Bangladesh*, (Dhaka, BRAC Printers).

Cain, M. (1982). "Perspectives on family and fertility in developing countries", *Population Studies*, 36(2):159-175.

Caldwell, J.C. (1980). "Mass education as a determinant of the timing of fertility decline", *Population and Development Review*, 6(2):225-255.

_____ (1982). *Theory of Fertility Decline*, (London and New York, Academic Press).

_____ and P. Caldwell (1987). "The cultural context of high fertility in sub-Saharan Africa", *Population and Development Review*, 13(5):409-437.

_____, A.K.M. Jalaluddin, P. Caldwell and W. Cosford (1984). "The changing nature of family labour in rural and urban Bangladesh: implications for fertility transition", *Canadian Studies in Population*, 11(2):165-198.

Chowdhury, A.M.R. and K.S. Huda (1990). "Lessons from successful experiences", in: *South Asia Study of Population Policy and Programmes*, M.B. Duza (ed.) (Dhaka, United Nations Population Fund).

Chowdhury, A.N. (1990). *Let Grassroots Speak: People's Participation, Self-help Groups, and NGOs in Bangladesh*, (Dhaka, University Press Limited).

Clay, E.J. (1977). "Agricultural Employment and Underemployment in Bangladesh: The Next Decade," in: *Economic and Rural Social Science Research Paper No. 4*, Bangladesh Agricultural Research Council, Dhaka.

Cleland, J. and C. Wilson (1987). "Demand theories of the fertility transition: an iconoclastic view", *Population Studies*, 41(1):5-30.

Cutright, P. and L. Hargens (1984). "The threshold hypothesis: evidence from less developed Latin American countries, 1950 to 1980", *Demography*, 21(4):459-473.

Demeny, P. (1975). "Observations on population policy and population program in Bangladesh", *Population and Development Review*, 1(2):307-322.

_____ (1979). "On the end of the population explosion", *Population and Development Review*, 5(1):141-162.

Duza, M.B. (1990). "Demand creation and crystallization for family planning", in: *South Asia Study of Population Policy and Programmes*, M.B. Duza (ed.), (Dhaka, United Nations Population Fund).

Dyson, T. and M. Moore (1983). "On kinship structure, female autonomy, and demographic behavior in India", *Population and Development Review*, 9(1):35-60.

East Pakistan, Government of (1970). Report of Committee for Evaluation of the Family Planning Programme in East Pakistan, Dhaka, Bangladesh).

Freedman, R., S.E. Khoo and B. Supraptilah (1981). "Use of modern contraceptives in Indonesia: a challenge to the conventional wisdom", *International Family Planning Perspectives*, 7(1):3-15.

Freedman, R. (1979). "Theories of fertility decline: a reappraisal", *Social Forces*, 58(1):1-17.

Hardee, G. and I. Sirageldin (1969). "A Summary statement on Pakistan's National Impact Survey", in: *Population Controls: Implications, Trends, and Prospects*, Nafis Sadik and others (eds.). Proceedings of the Pakistan International Family Planning Conference at Dhaka, (Islamabad, Pakistan Family Planning Council).

Hirschman, C. and P. Guest (1990). "The emerging demographic transitions of Southeast Asia", *Population and Development Review*, 16(1):121-152, 208, 210.

Huq, N.M. and J. Cleland (1990). *Bangladesh Fertility Survey, 1989: Main Report*, (Dhaka, National Institute of Population Research and Training).

Kabir, M., R. Amin and J. Chowdhury (1992). *Determinants of Infant and Child Mortality in Bangladesh*, (Baltimore, MD, Institute for Urban Research, Morgan State University).

Kabir, M. and R. Amin (1993). "Factors influencing child mortality in Bangladesh and their implications for the national health programme", *Asia-Pacific Population Journal*, 8(3):31-46.

Kamal, G.M. and M.D. Rahman (1993). Assessment of Credit Impact on Socio-economic and Reproductive Behavior of Female Beneficiaries of Grameen Bank. Associates for Community and Population Research, Dhaka, Bangladesh.

Khan, A.R. (1990). "Poverty in Bangladesh: a consequence of and a constraint on growth", *The Bangladesh Development Studies*, 18:19-34.

_____ (1977). "Poverty and inequality in rural Bangladesh", in: *Poverty and Landlessness in Rural Asia*, (Geneva, International Labour Organisation).

_____ and M. Hossain (1989). *The Strategy of Development in Bangladesh*, (New York, St. Martin's Press).

Knodel, J. (1977). "Family limitation and the fertility transition: evidence from the age patterns of fertility in Europe and Asia", *Population Studies*, 31(2):219-249.

_____, N. Havanon and A. Pramualratana (1984). "Fertility transition in Thailand: a qualitative analysis", *Population and Development Review*, 10(2):297-328.

Knodel, J. and N. Debavalya (1978). "Thailand's reproductive revolution", *International Family Planning Perspectives and Digest*, 4(2):34-49.

Mitra and Associates (1992). *Bangladesh Contraceptive Prevalence Survey, 1991: Preliminary Report*, (Dhaka, Bangladesh).

_____ (1990). *Bangladesh Contraceptive Prevalence Survey, 1989: Final Report*, (Dhaka, Bangladesh).

_____ and G.M. Kamal (1986). *Bangladesh Contraceptive Prevalence Survey, 1983: Final Report*, (Dhaka, Bangladesh).

National Research Council (1981). Estimation of Recent Trends in Fertility and Mortality in Bangladesh. Report No. 5, (Washington, D.C., National Research Council).

Osmani, S.F. (1990). "Structural change and poverty in Bangladesh: the case of a false turning point", *The Bangladesh Development Studies*, 18:55-87.

Phillips, J.F., R. Simmons, M.A. Koenig and J. Chakraborty (1988). "Determinants of reproductive change in a traditional society: evidence from Matlab, Bangladesh", *Studies in Family Planning*, 19(6):313-334.

Sirageldin, I.M., D. Norris and M. Ahmed (1975a). "Fertility in Bangladesh: facts and fancies", *Population Studies*, 29(2):207-215.

_____, M. Hossain and M. Cain (1975b). "Family Planning in Bangladesh", *Bangladesh Development Studies*, 3(1):1-26.

United Nations (1987). *Fertility Behavior in the Context of Development: Evidence from the World Fertility Survey*, (New York, Department of International Economic and Social Affairs).

USAID (U.S. Agency for International Development) (1991). *Briefing Package on the Family Planning and Health Services Projects' NGO Activities*, (Dhaka, Bangladesh).

van de Walle, E. and J. Knodel (1980). "Europe's fertility transition: new evidence and lessons for today's developing world", *Population Bulletin*, 34(6):3-44.

World Fertility Survey (1979). The Bangladesh Fertility Survey, 1975: A Summary of Findings.

Zachariah, K.C. and B.L. Newton (1983). A Comparative Analysis of Determinants of Fertility Decline in Sri Lanka and South India, Report No. 4, Population, Health and Nutrition Department, World Bank, Washington, D.C.

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Status of Women in India: A Comparison by State (Demographers' Notebook)

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The concept "status of women" eludes precise definition and hence precise measurement. Status can be perceived in different ways: the extent of a woman's access to social and material resources within the family, community and society (Dixon, 1978), or her authority or power within the family/community and the prestige commanded from those other members (Mukerjee, 1975), or her position in the social system distinguishable from, yet related to, other positions (Committee on the Status of Women in India, 1974), or the extent to which women have access to knowledge, economic resources and political power as well as the degree of autonomy they have in decision-making and making personal choices at crucial points in their life-cycle (United Nations, 1975). The idea of status also connotes the notion of equality (Krishnaraj, 1986). There can be self-perceived status, group-perceived status or objective status (Mukerjee, 1975), a situation which can lead to status inconsistency when a person is very high in one type of status and very low in another.

Women's status in retrospect

During the Vedic and Rigvedic periods (approximately 4000-1000 BC), women in India held equal status with that of men (Kuppuswamy 1975; Choudhury, 1978). The degradation of women started only since 300 BC. The patriarchal joint-family system, structure of property ownership, early marriage, self-immolation of widows (*sati*) or state of permanent widowhood, all became obstacles to the development of women (Neera Desai, quoted in Kuppuswamy, 1975:243). Since the late nineteenth and early twentieth centuries of the common era, several reformers fought against those aspects of the system that have resulted in the oppression of females. To them, women should labour under no dissatisfaction not suffered by man, and as a result of their efforts, independent India has adopted several rules and regulations to protect the rights of women and establish equality of status.[1/]

India is home to a diverse group of people characterized by different languages, customs, traditions, religions, life-styles or habits. Virtually each State has its own culture, which is very important in studying any aspect of this society (Davis, 1973) including the status of its women.

Objectives and indicators

Three types of comparison are attempted in this paper: (a) an inter-state comparison of the status of women, (b) an intra-state comparison of the status of women vis-a-vis that of men in each State, and (c) a comparison of status of women in relation to overall development.

This analysis of the objective status of women (as perceived by others on the basis of the outward manifestations of some selected characteristics) uses secondary data. Fourteen States having a population of 10 million or more are considered in the study, which together accounted for 313 million females in 1981 and 379 million in 1991. Some generally accepted proxies for "status" are identified and used within the constraints of data availability. Indicators such as a woman's control over resources and the laws of inheritance governing her right to property, perhaps would have reflected female status better, but could not be included because of the non-availability of data.

In all, 28 variables are considered; they reflect the status dimensions of education, employment, health, demographic situation and overall development. Owing to data limitations, the study relates to the early 1980s since most of the pertinent information is available only for that period rather than the current decade. However, this situation should not be of much concern in assessing a slowly changing society like India where drastic social changes normally do not occur in the short span of 10 years.

A list of the selected variables and the abbreviations by which they will be referred to in the text of this paper is provided below:

No.	Description of variables	Abbreviation
1	Percentage of female enrolment in classes I-V to the population in the 6-10 year age group	PSE
2	Percentage of female enrolment in classes VI-VIII to the population in the 11-13 year age group	MSE

3	Percentage of female enrolment in classes IX-XII to the population in the 14-17 year age group	HSE
4	Percentage of female enrolment in colleges for general education to the population in the 18-23 year age group	CE
5	Literacy rate in the 10-29 year age group	LR
6	Percentage of the female population with graduate or higher level of education in the 20-24 year age group	PG
7	Percentage of the female population (60 years and above) educated to the level of matriculation and above to the total population of older persons	OEP
8	Percentage of female paid workers in the 20-39 year age group to total population of workers in the same age group	APW
9	Percentage of females working in the modern sector	MSW
10	Percentage of female elected officials per 100,000 workers	EO
11	Infant mortality rate	IMR
12	Expectation of life at birth	ELB
13	Total fertility rate	TFR
14	Percentage of ever-married girls aged 10-19 years	EMG
15	Singulate mean age at marriage	SMAM
16	Urban population as a percentage of the total population	PUP
17	Net irrigated area as a percentage of the net cropped area	PNIA
18	Electricity consumption per capita (kwh)	ECPC
19	Total road length per 100 km^2	TRL
20	Motor vehicles per 10,000 population	MV
21	Daily newspaper circulation per 1,000 population	DNPC
22	Percentage contribution of the manufacturing sector to the total gross domestic product	PCMS
23	Per capita income at 1970/71 prices	PCY
24	Percentage of the population below the poverty line	PBPL
25	Number of beds per 1,000 population	BPTP
26	Percentage of births attended by trained professional	PIB
27	Government expenditure on health as a percentage of total government expenditure	GEH
28	Percentage of villages electrified	PVE

$$\frac{X_{ij} - \bar{X}_j}{S_j}$$

where i =1,2,3,...,n;
j =1,2,3,...,m;
$\bar{X}_j$ =mean of the jth indicator; and
S_j =standard deviation of the jth indicator.

Variables 1-7 represent the situation with regard to education; variables 8-10 are employment indicators; 11-12 health indicators; and 13-15 demographic indicators relevant to female status. The remaining variables (16-28) indicate various aspects of overall development.

Education

In order to create a sense of community among men and women at home and at work as fellow and equal human beings capable of playing many roles -- many of them shared and interchangeable -- women must be educated and allowed to participate in all activities (OECD, 1975).

In India, the roles traditionally assigned for men and women are that of bread-winners and home-makers, respectively. Thus, the education of girls is not seen as an important requirement for preparing girls for their future role as "home-makers". As such, in States where, besides economic need, the social and individual demand

for education is also recognized, one would expect a higher rate of enrolment of girls in schools and a higher proportion of educated women in the population than is actually the case. In reality, women's creative and intellectual potentials are either ignored or underplayed in education in India. As a consequence, generally fewer women are found to have had the opportunity of gaining a higher level of education in India. This pattern of behaviour cannot be attributed to current attitudes alone; they have been molded over several generations. This particular aspect is represented by the percentage of educated older persons in each State.

Employment

Remunerative employment is considered to be one of the major status-deciding factors. The common belief is that man's high status within the family is due to his position as bread-winner. It is argued that, if a woman's economic dependence can be reduced by her ability to earn an income outside the household, she would enjoy a higher status, which would be the case if there was not much difference in the nature of the work done by males and females (Lal, 1979).

In this study, employment is represented by adult paid workers, modern sector workers and elected officials. Women's participation in paid employment has been found to be highly related to their status (Safilios-Rothschild, 1986 and 1990), because it shows the tendency among women to earn a living or to augment the family's income by working for others. Women's participation in modern sector work is a step ahead of any other type of paid employment. The modern sector is defined in this paper as including all professional, technical, administrative, executive, managerial, clerical and similar work. Until recently, some of these occupations have been monopolized by males. Consideration of the indicator "elected officials" helps to show the extent of female participation in overall decision-making from the *panchayat* (village council) to the central Government levels.

Health

Infant mortality rate and expectation of life at birth are accepted indicators of the health situation of any population. In societies where there is no discrimination between the sexes, women, on average, survive for a longer period than men (Sinha, 1983). In view of this situation, female mortality should be either less than or equal to that of males. Where this is not the case, it can be argued that women do not receive adequate attention (reflecting low status), which leads to higher female mortality rates.[2/] Other things remaining equal, higher mortality of women would indicate low status compared with States where female mortality is lower.

Women, marriage and fertility

Marriage is practically universal in India and large families seem to be the norm even today after more than 40 years of implementing a family planning programme. Early marriage of girls, although illegal, is an accepted practice in many parts of the country. The majority of girls and women in India are infant not allowed by their parents to decide on either the age at which they would like to get married or their partners. This indicates that, in societies where a large segment of the population are poor and where the age at marriage is low, parents are transferring the burden of feeding their female children to someone else as soon as they possibly can (Dandekar, 1974). Thus, it may be concluded that the status of females is comparatively lower in India than in societies where females marry at an older age. The singulate mean age at marriage and the proportion of ever-married girls in the 10-19 year age group are two of the three indicators used in this regard. The total fertility rates has been selected as the third indicator under the assumption that a high TFR indicates little control by women over their fertility behaviour owing to their low status.

Overall development

The development indicators 16-28 are used to determine whether the differences in status, if any, are reflections of differences in the levels of overall development. The various development aspects covered here are urbanization, agriculture, manufacturing, electricity consumption, transport and communication, health and economic situation. In all, 13 variables are included.

Methodology

All the States studied are ranked on the basis of each of the selected indicators: the better the situation is, the higher is their rank. These ranks are examined below to determine status differences; however, it is possible that the same State may not be ranked uniformly high or low for all the chosen indicators. Hence, we use a taxonomic method to rank States on the basis of different dimensions of status. The taxonomic method, which was designed by a group of Polish mathematicians in 1952, enables the determination of homogeneous units in an n-dimensional space without having to employ statistical tools such as regression, variance and correlation. The method, although lengthy, is comparatively more lucid and simple than the other types; central to its use is the

concept of average value. We chose this method because it is suited for ranking, comparing and classifying regions of a country by levels of development, standard of living, status or any other such aspect. (For a detailed description of the method, see Harbinson and others, 1970; Reddy, 1977.) Briefly stated, the steps involved in this method are given below:

(a) A set of n points representing states 1,2,3,...,n for a group of indicators 1,2,3...,m are arranged in a matrix form;

(b) Since the aim of the method is to construct a single index, it is necessary to add the values of the indicators at some stage of the computation. Thus, in order to eliminate the influence of the different units of measurement, the indicator values are standardized using the following formula:

A new matrix can be formed using the standardized values.

(c) The "distance" or difference from each state to every other state (1,2,3...,n) for each of the standardized values of the selected indicators is obtained by simple subtraction, with the results being arranged in matrix form.

(d) These several distances from the n-dimensional space have to be converted into a single mathematical expression with which states can be compared. The following formula can be used for this purpose:

$$Cab = \sqrt{\sum_{k=1}^{m} (Dak-Dbk)^2}$$

where $Caa = O$;
$Cab = Cba$; .....; and
$Cab \leq Cak + Ckb$.

This will result in a symmetric matrix known as the distance matrix.

(e) The next step is to determine the graphical relationship (which has not been attempted in our study).

(f) A model or ideal state is then created with the best standardized values of the status indicators and the composite distance from this state to every other state in the matrix is calculated. The ranking of the differences from the ideal state is called the pattern of development and is obtained by using the following formula:

$$Cio = \sqrt{\sum_{k=1}^{m} (Dik-Dok)^2}$$

where Cio is the pattern of development;
i = 1,2,3,...,n and 0 is the best standardized value as determined from the matrix of standardized values [Step (b)].

(g) The measure of development is obtained by using the formula:

$$di = \frac{Cio}{Co}$$

where di is the measure of development

$$Co = \overline{Cio} + 2\,Sio$$

$$\overline{Cio} = \sum_{i=1}^{n} \frac{Cio}{n}$$

and

$$Sio = \sqrt{\sum_{i=1}^{n} \frac{(Cio - \overline{Cio})^2}{n}}$$

Based on the expected relationship between the chosen indicators and status, this method creates an index between 0 and 1: the nearer the index is to zero, the better is the situation for females. Although some of the

variables overlap to a certain extent, the taxonomic method is not sensitive to such factors.

Findings and discussion

Inter-State comparison of the status of Indian women

For the comparison, States are ranked on the basis of each indicator value separately and also on the basis of a combined status index obtained by using the taxonomic method for each dimension. Table 1 presents the results for education and employment; table 2, health and demographic indicators. Even though women's status is the subject under investigation in this section, male status ranks are also given in the tables to facilitate comparison of the pattern of status ranks between the two gender groups.

Table 1: Ranks of States on the basis of educational indicators

State	PSE(1)		MSE(2)		HSE(3)		CE(4)		LR(5)		PG(6)		OEP(7)	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Andhra Pradesh	3	7	3	6	2	5	13	12	1	5	4	3	5	5
Bihar	5	3	1	1	1	1	11	2	2	2	2	1	7	4
Gujarat	12	10	8	9	11	11	3	7	11	10	11	10	10	9
Haryana	4	5	11	8	5	6	7	9	10	7	8	13	6	7
Karnataka	8	8	6	7	7	8	12	10	8	8	6	7	8	10
Kerala	11	14	14	14	14	14	10	14	14	14	1	9	9	14
Madhya Pradesh	6	4	5	3	3	4	4	4	4	4	7	6	2	2
Maharashtra	13	11	10	11	12	12	5	8	13	12	12	12	13	13
Orissa	7	6	2	5	4	7	8	3	6	6	3	2	1	1
Punjab	9	12	12	13	9	10	9	13	9	13	10	14	11	8
Rajasthan	2	1	4	2	8	3	6	1	3	1	9	4	3	3
Tamil Nadu	14	13	13	12	13	9	2	5	12	11	13	5	12	11
Uttar Pradesh	1	2	9	4	6	2	14	11	5	3	14	8	4	6
West Bengal	10	9	7	10	10	13	1	6	7	9	5	11	14	12

Notes: For an explanation of abbreviated indicator names, see pages 60-62 of text; M= male and F= female; in parentheses are the reference numbers of the variables provided in the list of variables on pp. 60-62.

Table 2: Ranks of states on the basis of employment, health and demographic indicators

State	Employment						Health				Demographic		
	APW(8)		MSW(9)		EO(10)		IMR(11)		ELB(12)		TFR(13)	EMGS(14)	MAM(15)
	M	F	M	F	M	F	M	F	M	F	F	F	F
Andhra Pradesh	3	1	2	1	9	5	9	11	7	10	9	5	4
Bihar	4	5	5	5	12	9	5	4	5	4	2	3	3
Gujarat	5	4	3	12	10	13	4	5	6	8	6	11	11
Haryana	10	13	12	13	2	2	10	6	12	9	5	6	6
Karnataka	12	8	8	4	14	11	13	13	11	12	11	9	9
Kerala	2	9	1	9	13	14	14	14	14	14	14	13	14
Madhya Pradesh	9	3	1	2	6	6	1	2	2	2	3	2	2
Maharashtra	14	10	13	11	11	12	11	12	10	11	12	10	7
Orissa	6	2	14	3	8	1	3	3	3	3	7	7	8
Punjab	1	14	6	14	1	10	12	10	13	13	10	14	13
Rajasthan	8	6	11	8	7	7	6	7	4	5	4	1	1
Tamil Nadu	13	11	9	6	4	3	8	8	9	7	13	12	12
Uttar Pradesh	7	7	4	10	3	4	2	1	1	1	1	4	5
West Bengal	11	12	7	7	5	8	7	9	8	6	8	8	10

Notes: Regarding abbreviations, see the list of variables.

Education

Table 1 shows the ranks of the States based on the seven educational status indicators (1-7). As can be seen from the table, there is no consistency with respect to all the variables in any State, although Kerala, Punjab and Maharashtra generally rank high, whereas Rajasthan, Orissa, Madhya Pradesh and Bihar rank low.

Employment

The ranks of the three indicators of employment (8-10) in table 2 show that, for Nos. 8 and 9 Punjab stands out with the highest rank for women whereas Andhra Pradesh has the lowest rank. Other states with high ranks are Haryana, West Bengal and Tamil Nadu for No. 8 and Haryana, Gujarat and Maharashtra for No. 9. In addition to Andhra Pradesh, on the lower side are Orissa, Madhya Pradesh and Gujarat for No. 8 and Madhya Pradesh, Orissa and Karnataka for No. 9. The situation with respect to No. 10 is slightly different, in which case Kerala, Gujarat, Maharashtra and Punjab rank high and Orissa, Haryana, Tamil Nadu and Uttar Pradesh rank low.

Health

Ranks based on the two health variables show that Kerala has the highest rank for both No. 11 and No. 12; the ranks are more or less the same for both the indicators in all the States (table 2). Uttar Pradesh has the lowest rank for the health status of women followed by Madhya Pradesh, Orissa and Bihar in that order.

Demographic situation

Table 2 also provides values for Nos. 13-15 in an attempt to determine how fertility, marital status and age at marriage reflect on inter-State variations in female status. Because these indicators are fertility related, status ranking is restricted to females only. The result shows that Rajasthan has the lowest rank followed by Bihar, Madhya Pradesh and Uttar Pradesh in that order. Kerala has the highest rank followed by Tamil Nadu, Punjab and Karnataka, respectively.

Intra-State comparison of women's status vis-a-vis that of men's

Because a variable-by-variable gender comparison would be very cumbersome to perform, a combined status measure was calculated with the help of the taxonomic method to represent the variables for each dimension of status (the results are presented in the Appendix). The status measure shows that, except for a few cases such as Kerala, Punjab, Karnataka and Maharashtra for health; Kerala for female education; Maharashtra and Karnataka for male employment; and Punjab for female employment, the measures indicate low status for both males and females in all States. Table 3 ranks the States on the basis of this status measure. The ranking of States based on the educational index, which reflects overall educational development, shows Bihar to be the lowest in terms of educational status for women. It is followed by Rajasthan, Orissa, Madhya Pradesh and Uttar Pradesh in that order. By contrast, Kerala, Punjab, Maharashtra and West Bengal show higher educational status for women.

Table 3: Ranks of States on the basis of different dimensions of status

State	Education		Employment		Health		Total *	
	M	F	M	F	M	F	M	F
Andhra Pradesh	4	6	5	1	7	10	2	6
Bihar	1	1	9	7	5	4	3	2
Gujarat	10	10	7	11	4	6	8	10
Haryana	7	7	6	10	10	7	10	7
Karnataka	8	8	13	9	12	12	11	9
Kerala	14	14	2	12	14	14	7	14
Madhya Pradesh	2	4	11	3	2	2	4	3
Maharashtra	13	12	14	13	11	11	14	12
Orissa	5	3	4	2	3	3	5	1
Punjab	11	13	1	14	13	13	9	13
Rajasthan	3	2	10	5	6	5	6	4
Tamil Nadu	12	9	8	4	9	9	13	8
Uttar Pradesh	6	5	3	6	1	1	1	5
West Bengal	9	11	12	8	8	8	12	11

Note: * = Combining all educational, employment and health variables.

Table 4: Male-female difference in status measure for education, employment and health indicators

State	**Education**	**Employment**	**Health**	**Total ***
Andhra Pradesh	0.1459	-0.2777	0.1138	0.1540
Bihar	0.0062	-0.1386	-0.0904	0.0443
Gujarat	0.0688	0.1249	0.0468	0.1505

Haryana	0.0451	0.1486	-0.1958	0.0303
Karnataka	0.0695	-0.3725	-0.0529	0.0611
Kerala	0.2513	0.3277	0.0000	0.5070
Madhya Pradesh	0.0923	-0.3044	0.0542	0.0379
Maharashtra	0.0471	-0.2962	-0.0224	0.0077
Orissa	0.0442	-0.2317	0.0253	-0.0116
Punjab	0.1697	0.6994	-0.0998	0.3040
Rajasthan	0.0061	-0.1706	0.0138	-0.0091
Tamil Nadu	-0.0316	-0.1225	-0.0353	-0.0115
Uttar Pradesh	0.0622	0.0550	-0.0574	0.1148
West Bengal	0.1178	-0.1622	-0.0245	0.0759

Note: * = Combined for all educational, employment and health variables.

The differences in gender status, which can be determined by a comparison of the ranks given in the table, show that five States, namely Bihar, Gujarat, Haryana, Karnataka and Kerala, have the same rank for both male and female educational status. In Andhra Pradesh, Madhya Pradesh, Punjab and West Bengal, female status ranks are better than that of males even though the difference is not very significant. In Maharashtra, Orissa, Rajasthan, Tamil Nadu and Uttar Pradesh, males have higher ranks which indicate better status, although the rank differences are negligible.

Status rank differences between males and females are higher in the case of employment than in health or education. Also see table 2 where the status rank is quite high for females compared with males in Punjab and Kerala, and quite low in Madhya Pradesh for variable No. 8. As for variable No. 9, wide differences are noticeable, i.e. Gujarat, Kerala, Punjab and Uttar Pradesh show a high rank for females whereas Orissa shows a noticeably low rank. In the case of variable No. 10, there is a wide gap in the rank of States, with Orissa favouring males and Punjab favouring females.

It seems that males are favoured with regard to employment status in nine States: Andhra Pradesh, Bihar, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu and West Bengal; females are favoured in the remaining five States: Gujarat, Haryana, Kerala, Punjab and Uttar Pradesh.

In terms of health status, a comparison of the ranking of males shows that their status is not much different from that of women, since nine out of the 14 States show the same rank for both sexes.

Wide variations in ranks can be observed in Kerala and Punjab, where female status is comparatively higher than that of males. Similarly, in Madhya Pradesh the difference between males and females is quite wide, with males being favoured. The relevant information for comparing status according to gender is shown in table 4. The values in this table have been obtained by subtracting the values for female status from that of males. Thus, an equal status, whether high or low, will give a zero value. Similarly, the larger the difference is between the values, the higher is the status difference, a positive sign indicating better female status and a negative sign indicates the opposite.

Interestingly, the differences obtained are negligible in most cases, particularly so in terms of health and education. Thus, one may be tempted to conclude that, with respect to these two dimensions, the status of males and females is more or less the same. There are few exceptions: the health and educational status of females is comparatively high in Andhra Pradesh, and in Haryana, male health status is high; in Kerala, Andhra Pradesh, Punjab and West Bengal, female educational status is better.

Employment status differences, according to gender, are quite noticeable. Of the 14 States, males enjoy better employment status in all States, except for Gujarat, Haryana, Kerala, Punjab and Uttar Pradesh. In the case of Uttar Pradesh, the difference is not as noticeable as in the case of the others. The maximum difference in employment status is in Punjab where it favours females. Similarly, a fairly noticeable difference favouring females can be observed in Kerala also.

The last column of table 4 represents the total of all three dimensions. The differences are negligible, expect for Andhra Pradesh, Gujarat, Kerala, Punjab and Uttar Pradesh, all of which favour females. The difference is exceptionally high in the case of Kerala, with Punjab following not far behind.

The close relationship between male and female status within the States in terms of health and education, and the lack of such a relationship in terms of employment are further substantiated by the rank correlations calculated for each variable and presented below:

	Variable No.	Rank correlation coefficient	Variable No.	Rank correlation coefficient
Education	1	0.8769	2	0.8374
	3	0.8066	4	0.4725
	5	0.8769	6	0.4022
	7	0.8725	*Total*	0.9277
Employment	8	0.2835	9	0.1035
	10	0.5912	*Total*	-0.0374
Health	11	0.9253	12	0.9253
	Total	0.9473		

The male-female status ranking is highly correlated with health and education, except for higher-level education where the relationship is comparatively weak. As for employment, except for variable No. 10, the other rankings show almost no relationship at all.

Women's status and development

Table 5: Ranks of States based on selected overall development indicators circa 1981

State	PUPPNIAECPCTRLMVDNPCPCMSPCYPBPLBPTPPIBGEHPVE (16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	Total
Andhra Pradesh	8	9	8	5	4	6	3	8	7	6	8	9	8	6
Bihar	2	10	1	6	2	2	7	1	1	2	3	5	1	2
Gujarat	12	7	12	3	11	11	11	11	12	10	10	1	9	10
Haryana	7	13	13	8	10	1	8	13	13	7	14	4	13	9
Karnataka	11	3	9	9	12	8	12	9	8	8	9	2	7	8
Kerala	4	2	5	14	9	14	9	7	11	14	13	13	13	12
Madhya Pradesh	5	4	6	2	6	4	6	3	2	1	5	8	2	3
Maharashtra	14	1	11	4	13	13	14	12	9	13	7	6	10	13
Orissa	1	6	4	11	1	3	1	2	4	4	2	11	5	1
Punjab	10	14	14	12	14	9	5	14	14	12	12	7	13	14
Rajasthan	6	5	3	1	5	7	2	5	10	5	1	14	6	4
Tamil Nadu	13	11	10	13	8	10	13	6	5	9	11	12	11	11
Uttar Pradesh	3	12	2	7	3	5	4	4	3	3	4	3	3	5
West Bengal	9	8	7	10	7	12	10	10	6	11	6	10	4	7

Notes: The totals provided in the last column are based on the index developed with the help of the taxonomic method; regarding abbreviations, see pp. 60-62.

Table 6: Ranks of States based on the combined measure of different dimensions of status and overall development

State	Development	Education, employment and health		Demographic
		Male	Female	
Bihar	1	5	1	7
Orissa	2	3	2	2
Madhya Pradesh	3	4	3	3
Rajasthan	4	6	4	1
Uttar Pradesh	5	1	5	4
Andhra Pradesh	6	2	6	6
Karnataka	7	11	9	11
West Bengal	8	12	11	8
Haryana	9	10	7	5
Tamil Nadu	10	13	8	13
Kerala	11	7	14	14
Gujarat	12	8	10	10

Maharashtra	13	14	12	9
Punjab	14	9	13	12

As stated previously, 13 indicators were selected for development and their rankings are given in table 5. With the help of the taxonomic method, a combined development measure has been computed. It produced a value for most States that was above 0.6 (see Appendix), indicating that actually no State is well developed in terms of the variables selected. The lowest value of the development measure is 0.4184 for Punjab, indicating that it is comparatively better developed than the others, although Maharashtra, Kerala, Tamil Nadu and Gujarat have fairly high values too. Orissa seems to be the least developed State; others with low levels of development are Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh.

Table 6 gives the status ranking of the States based on the combined variables of education, employment and health, demographic situation, and overall development. The table shows that in six out of the 14 States, the ranks of the total female status measure and that of development are the same; however, it is of particular importance here to note that they are all at the lower level. Orissa is at the lowest rank for both women's status and development. Similarly, other States with the same ranks for both status and development (Bihar, Madhya Pradesh, Rajasthan, Uttar Pradesh and Andhra Pradesh) are all at the lower level of development also. States that rank higher in development and lower in women's status are Gujarat, Haryana, Maharashtra, Punjab and Tamil Nadu. States which rank high in women's status and low in development are Karnataka, Kerala and West Bengal. The results of the rank correlation between the ranks of development and that of the status dimensions are as follows:

Sex	Health	Education	Employment	Demographic development
Male	0.6923	0.8769	-0.0374	-
Female	0.7319	0.9121	0.7980	0.7846

Except for male employment, the coefficients are quite high and positive, thus indicating a fairly high and direct relationship between status and development.

Conclusion

It may be clearly observed from this study that the efforts made by the Government of India for over four decades to bring women into the mainstream of society are slowly paying off as the status indicators are found to have more or less the same ranking for both males and females in many States. But some States, such Orissa, Madhya Pradesh, Bihar and Uttar Pradesh, have been found to be at a low level with respect to health, employment and educational status. They also have the same low status ranks with respect to overall development. These findings point to the direct relationship between status and development; many of the (objective) status indicators are reflections of overall development. Hence, these States need special attention in order to raise them up to the level of the other States in terms of development.

One important question that arises from this study is: Is women's status a phenomenon to be studied at the macro level using macro-level data? If the answer is yes, the lack of significant differences between the status of males and females either reflects on the choice of indicators (though often used elsewhere for status measurement), or indicates that there are only negligible status differences between males and females in many States of India, unlike what is generally believed to be the case. We suspect that this conclusion is not correct because of the observed direct relationship between ranks of development and status, which indicates perhaps that what are read as status differences are nothing more than differences in levels of development. This confusion can be overcome only by making in-depth studies focusing more on the perceptions of men and women about their own status and comparing the results with the results of macro-level analyses. In the final analysis, status is a personal, innate experience of an individual resulting from his or her life situation and that of others acting upon and reacting to each other. As such, it is a multi-dimensional phenomenon, which, in essence, should be handled very carefully in order to derive any meaningful conclusion.

Appendix: Measures of status according to education, employment, health, demographic aspects and development, by State

State	Education		Employment		Health		Total *		Demo-graphic	Develop-ment
	M	F	M	F	M	F	M	F	M	F
Andhra Pradesh	0.8558	0.7099	0.6896	0.9673	0.5155	0.4017	0.9084	0.7544	0.5972	0.7551

Bihar	0.8877	0.8815	0.5332	0.6718	0.6291	0.7195	0.8990	0.8466	0.8391	0.9100
Gujarat	0.6319	0.5631	0.6094	0.4845	0.6338	0.5870	0.7248	0.5743	0.3663	0.5722
Haryana	0.7085	0.6634	0.6719	0.5233	0.3470	0.5428	0.6708	0.6405	0.6190	0.6078
Karnataka	0.6908	0.6213	0.2255	0.5980	0.2841	0.3370	0.6582	0.5971	0.3384	0.6381
Kerala	0.4205	0.1692	0.7730	0.4453	0.0000	0.0000	0.7559	0.2489	0.0000	0.5686
Madhya Pradesh	0.8759	0.7836	0.4956	0.8000	0.8544	0.8002	0.8585	0.8206	0.7993	0.8665
Maharashtra	0.5342	0.4871	0.1427	0.4389	0.3445	0.3669	0.4832	0.4755	0.3699	0.5356
Orissa	0.8423	0.7981	0.7151	0.9468	0.7892	0.7639	0.8445	0.8561	0.4270	0.9060
Punjab	0.5983	0.4286	0.9900	0.2906	0.2277	0.3275	0.7061	0.4021	0.2331	0.4184
Rajasthan	0.8692	0.8631	0.5099	0.6805	0.6216	0.6078	0.8086	0.8177	0.8567	0.8488
Tamil Nadu	0.5370	0.5686	0.5775	0.7000	0.4455	0.4808	0.5941	0.6056	0.1992	0.5695
Uttar Pradesh	0.8042	0.7420	0.7330	0.6780	0.9134	0.9708	0.9223	0.8075	0.7798	0.8404
West Bengal	0.6514	0.5339	0.4613	0.6235	0.4934	0.5179	0.6475	0.5716	0.3968	0.6735

Note: * Combining all education, employment and health variables.

Footnotes

1. The fundamental rights incorporated in the Indian Constitution embody several favourable provisions. For example, Article 14 assures equal protection for males and females; Article 15 ensures equal accessibility to public places such as shops, restaurants, wells and water-storage facilities; Article 16 guarantees equal opportunities in matters of public employment; Article 39 calls for equal pay for equal work irrespective of sex; and Article 51-A deals with the preservation of the dignity of women. Besides these, there are statutory enactments which concern women exclusively: for instance, the Equal Remuneration Act of 1976. On 18 September 1982, the Supreme Court gave the right to all labourers (in particular, women) to approach the Supreme Court directly for redressing violations of the Equal Remuneration Act (Data India, 1982). Another example is the Maternity Benefit Act of 1961. The Factory Act of 1948 specifies that women should not be employed for jobs that are dangerous or hazardous. The setting up of creches was made mandatory in establishments employing more than 50 women through the Plantation Labour Act of 1951. Other legislation of interest includes the Hindu Marriage Act of 1955, which made monogamy the rule for both men and women of Hindu religion; the Hindu Succession Act of 1965 conferred the right of inheritance and property on Hindu women; the Hindu Adoption and Maintenance Act of 1956 made it possible for unmarried, widowed and divorced women to adopt children, including female children which until then had been forbidden. The Dowry Prohibition Act of 1961 prohibits the giving or taking of a dowry; this law was amended in 1984 by elaborating on the provisions. The Child Marriage Act of 1929 fixed the age at marriage for girls at 14 years and for boys 18 years; it was amended in 1978 when the female age at marriage was raised to 18 years and that of boys to 21 years. The Medical Termination Act of 1971 made legal the termination of pregnancies, if the pregnancy involves (a) a risk to the life of the child and/or mother, (b) if the child is likely to be deformed, and (c) if the pregnancy is the result of rape, contraceptive failure etc. According to the Criminal Law (Second Amendment) Act of 1983, cruelty to a woman in terms of mental and physical torture by her husband or her husband's relatives, can be punished. It also allows for a thorough enquiry by a police officer concerning the death of a woman within seven years of her marriage (See also "dowry deaths", Karkal, 1985; Tempest, 1988).

2. It is well known that son preference is rampant in India and that the vast majority of the population are poor and their meager resources have to be apportioned among the various members of the family, with the result that current and future bread-winners of the family (male members) get the greater share of those resources. Wherever this is keenly felt, females get secondary attention and treatment, resulting in higher death rates among females. Further, adult mortality among females is due mainly to repeated and complicated pregnancies and a lack of adequate ante- and post-natal health care as well as proper care during child-birth.

References

Choudhury, Roma (1978). "Status and role of women: great Indian women through the ages", in: Renuka Roy and others (eds.), *Role and Status of Women in India*, (Calcutta, Firma KLM (P) Ltd.)

Dandekar, Kumudini (1974). "Age at Marriage of Women", *Economic and Political Weekly*, 9(22):867-874.

Davis, Kingsley (1973). *Human Society*, (New York, MacMillan).

Dixon, Ruth B. (1978). *Rural Women at Work: Strategies for Development in South Asia* (Baltimore, MD, Johns

Hopkins University Press).

Government of India (1974). *Towards Equality: Report of the Committee on the Status of Women in India*, (New Delhi, Government of India).

Harbison, Frederick, Joan Maruhnic and Jane R. Resnick (1970). *Quantitative Analysis of Modernization and Development*, (Princeton, New Jersey, Princeton University Press).

Karkal, Malini (1985). "Health of mother and child survival", in: K. Srinivasan and S. Mukerji (eds.), *Dynamics of Population and Family Welfare*, (Bombay, Himalaya Publishing House).

Kamat, A.R. (1982). "Educational and social change: a conceptual framework", *Economic and Political Weekly*, 17(31):1237-1244.

KrishnaRaj, Maitreyi (ed.) (1986). *Women's Studies in India: Some Perspectives*, (Bombay, R-Popular Prakashan).

Kuppuswamy, B. (1975). *Social Change in India*, 2nd ed., (New Delhi, Vikas Publications).

Lal, A.K. (1979). "Status of women in an urban setting: an analysis of role differentiation in the family", *Man in India*, 59(4):289-297.

Mukerjee, B.N. (1975). "Multi-dimensional conceptualization of status of women", *Social Change*, 5(1&2):27-44.

Organisation for Economic Co-operation and Development (OECD) (1975). *The Role of Women in the Society*, (Paris, OECD).

Reddy, P.H. (1977). "Educational development in India: comparison by Taxonomic Method", *Social Change*, March, pp. 3-13.

Safilios-Rothschild, Constantina (1986). *Socio-economic Indicators of Women's Status in Developing Countries, 1970-1980*, (New York, Population Council).

_____ (1990). "Women's income profile as a key indicator of women's status for the understanding of changing fertility behaviour in rural Kenya", *Genus*, 46(3-4):31-43.

Sinha, U.P. (1983). "Trends of female mortality in India in relation to male mortality", J*ournal of Family Welfare*, 30(1):54-61.

Tempest, Rone (1988). "Indian brides still facing fiery ordeal", *Population Review*, 32(1&2):95-100.

United Nations (1975). *Status of Woman and Family Planning*, (New York, Department of Economic and Social Affairs).
