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Poverty, Literacy and Child Labour in Nepal: A District-level Analysis

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Intervention programmes aimed at reducing child labour need to focus on both alleviating poverty and increasing literacy

In developing countries, children have long been largely ignored in public policy-making and the development of programme strategies for improving their welfare. However, this situation is beginning to change; Governments as well as international development agencies have started increasingly to focus attention on the welfare of children. The World Summit for Children held in 1990 epitomized this realization and reaffirmed the collective commitment to changing the situation. Comparative annual reports on the status of children have now become a regular feature of some of the multilateral agencies, e.g. UNICEF's State of the World Children. Country-specific annual reports on women and children have also been initiated as a part of this international effort to monitor the progress.

There is expectedly a considerable difference among countries in the absolute level of the indicators of children's status. But more important is the existence of a wide gulf between male and female children within countries. Periodic stock-taking and assessments are needed to understand the extent of the seriousness of the situation, where special attention might be needed, and how the situation might be improved.

Studies from several settings in South Asia (reviewed in Kanbargi, 1991) have confirmed that children begin to perform several activities useful to their families at a very young age, becoming more productive as they grow. Their activities, depending on their age and the society in which they are living, may include assisting in the household chores (such as cleaning, washing and cooking), fetching water, fodder and fire-wood, fishing, or tending livestock.

Children generally do not get paid for such assistance to their families. In many western countries children may receive pay for their work and are encouraged by their parents to work during their school vacations as a way towards making them independent and appreciative of the value of work and time. However, there is a great divide between these phenomena and the situation in which children in many developing countries are put to work as a source of family income instead of attending school and learning. It is these competing demands between full-time work and the physical and intellectual development of children that are at issue, especially in developing countries.

A family's economic poverty may force the parents to engage their children in the labour market in lieu of schooling. Furthermore, sending children to school may be considered less critical, especially in settings where education appears to have no immediate benefits to parents and encouraging children to begin working could provide immediate economic relief to the family. In some situations, inconvenience or inaccessibility may also deter parents from sending their children to school, leading them to enter the labour force as a result.

Putting children to work instead of into school may create a vicious circle: initially, work may adversely affect schooling; later, low or no education may result in continued child labour. Poverty may thereby be both a cause and effect of low educational attainment.

In agricultural-based societies child labour begins as early as 5-6 years of age, at about the same age when children are expected to enter primary school (Kanbargi, 1991). An in-depth, time-budget allocation study in Indonesian and Nepalese villages has found that the average time inputs of 12-14-year-old girls in all types of work is almost the same as that of adult males (Nag and others, 1978).

Many traditional societies place little value on girls' education, thus putting female children at a particular disadvantage. Special attention needs to be given to female children in data analysis and policy and

programme development. Two consistent findings emerging from both micro- and macro-level studies in South Asian countries (reviewed in Kanbargi, 1991) are that lack of education is a major determinant of child labour and that female children are more adversely affected than male children.

This article focuses on child labour in Nepal with two main objectives. We first estimate the prevalence of child labour in the 75 districts of Nepal and then examine the hypothesis that child labour is significantly higher in districts that have a higher incidence of poverty and lower level of educational attainment. In the analysis, we postulate that poverty and educational attainment affect each other: a higher incidence of poverty may lead to lower levels of educational attainment, and lower levels of educational attainment, in turn, may lead to a higher degree of poverty. The analysis focuses particularly on gender differences.

Data and methods

Data from the 1991 census of Nepal are used to estimate the prevalence of child labour in the country's 75 districts (CBS, 1993a). The census collected data on child labour among children 10-14 years old and also, for the first time, on children's employment by duration of work: less than three months, 3-6 months, 7-8 months and more than 8 months. But the census did not collect labour data among children 5-9 years old.

In this analysis, child labour refers to the percentage of children gainfully employed (for remuneration in cash or kind) for six months or more among all children 10-14 years old at the time of the census. Employment of more than five months may be considered to represent a serious situation, even if one may contend that a few months of employment may represent work done during school vacation. The census employment data do not include the "unpaid" work performed by children, which remains "invisible". In the manner of adult invisible labour (UNDP, 1995), the invisible contribution of children may also be significant.

Poverty may be defined in various ways (Blackwood and Lynch, 1994) with different policy and programmatic implications (Glewwe and Gaag, 1990). In the present analysis, we have defined poverty firstly as the percentage of people below the per capita income poverty line. Data for estimating this measure of poverty come from a 1991/92 survey conducted in 32 districts by the national bank (Nepal Rastra Bank, 1994). The income data include both the agricultural and non-agricultural sectors. A second, corollary measure of poverty used in the analysis is the percentage of people below the per capita landholding poverty line. The data on landholding are based on the 1991/92 agricultural census (CBS, 1993d). By utilizing these data, Chhetry (1994) has estimated percentages of people belonging to the two definitions of poverty in each of the 32 districts.

Data on literacy come from the 1991 census (CBS, 1993b). Child literacy refers to the percentage of those who can at least read, write and do simple counts among all children 6-14 years old at the time of the census. They are divided into two age groups: 6-9 and 10-14. Adult literacy refers to the percentage of adults who can at least read, write and count among all adults, i.e. those 15 years old and older.

The main techniques of data analysis used are simple correlation coefficients and linear multiple regression. The unit of analysis is the district, not individuals. In this sense, it is "ecological" research.

Findings

The percentage and number of male and female children between the ages 10 and 14 at the time of census taking among all male and female children 10-14 years of age who worked six months or more in each district of Nepal are shown in table 1.

As of 1991, there were over 2.3 million male and female children aged 10-14 in Nepal. Of these, 422,286 worked at least six months in the year preceding the census time. This represents nearly one-fifth (18 per cent) of all the children 10-14 years old in 1991. (Those who worked fewer than six months consisted of an additional 4.6 per cent.)

There is a wide variation in the prevalence of child labour in the 75 districts, and further, the differences between male and female children are striking. Among male children, the percentage who worked at least six months ranges from a low of 4.5 per cent in Syanja district to a high of 36.2 per cent in Mugu district. In 19 districts, less than 10 per cent of children worked at least six months. At the other extreme, in four districts -- Achham, Jajarkot, Kalikot and Mugu -- at least one-third of the children worked six months or more.

Among female children, the percentage who worked ranges from 5.5 per cent in Jhapa district to a stunning

high of 79 per cent in Mugu district. In 30 districts, at least one-third of the female children aged 10-14 worked six months and more. Furthermore, in 11 districts, 50 per cent to 79 per cent of female children were engaged in work for more than six months a year.

In 59 of the 75 districts, the percentage of working female children is considerably higher than that of male children (an average of 224 females for every 100 male children). In the remaining 16 districts, more male than female children (an average of 64 females for every 100 male children) worked at least six months.

As mentioned previously, the data on the incidence of poverty are available for 32 of the 75 districts. Table 2 presents the incidence of poverty in the 32 districts. Three related measures of poverty are included. The first two measures have already been defined. The third is a composite measure consisting of a simple (unweighted) average of the first two measures.

Table 1: Percentage of male and female children who worked six months or more, among male and female children 10-14 years old, 75 districts, Nepal, 1991

District	Males	Females	District	Males	Females
Syanja	4.5	12.9	Parsa	15.0	5.9
Kaski	4.7	9.6	Sankhuwasabha	15.1	29.0
Manang	5.3	9.3	Banke	15.8	11.2
Gulmi	6.0	17.8	Bara	15.8	8.3
Bhaktapur	6.4	10.8	Dolkha	15.9	38.4
Parbat	6.8	15.6	Kapilvastu	16.1	12.7
Tanahu	7.6	18.6	Udayapur	16.4	26.6
Kathmandu	7.7	9.2	Dolpa	16.5	36.3
Terathum	7.8	17.0	Pyuthan	16.7	40.9
Lamjung	7.9	22.1	Okhaldunga	17.1	41.9
Darchula	7.9	42.0	Dhading	17.1	33.2
Jhapa	8.3	5.5	Solukhumbu	17.2	38.6
Ilam	8.3	14.2	Rautahat	17.7	6.1
Gorkha	8.3	22.8	Ramechhap	17.7	43.1
Chitwan	8.6	12.8	Dang	17.8	27.4
Lalitpur	8.7	14.5	Bardiya	18.3	15.5
Baglung	9.0	21.8	Kailali	19.0	18.2
Arghakhanchi	9.2	24.1	Rolpa	19.4	47.6
Palpa	9.4	23.1	Khotang	19.8	41.8
Baitadi	10.2	44.6	Makwanpur	20.0	30.1
Surkhet	10.3	29.4	Nuwakot	20.5	36.0
Rupandehi	10.8	10.1	Sindhuli	21.0	32.8
Morang	11.5	8.5	Mahotari	21.2	6.0
Mustang	11.6	14.7	Sarlahi	21.3	7.1
Dadheldhura1	2.0	48.5	Bajhang	21.5	63.4
Nawalparasi	12.1	20.9	Dailekh	22.0	50.0
Taplejung	12.3	23.9	Doti	22.4	48.9
Dhankuta	12.4	26.4	Rukum	22.7	56.0
Dhanusha	12.6	5.6	Sindhupalchowk	24.0	41.2
Kanchanpur	12.7	18.8	Rasuwa	24.3	45.6
Panchthar	13.3	29.1	Bajura	28.3	65.5
Saptari	13.8	13.0	Humla	29.1	54.0
Myagdi	14.1	29.8	Jumla	29.1	56.3
Sunsari	14.6	11.6	Achham	32.6	71.7
Siraha	14.6	8.1	Jajarkot	33.1	61.0
Kavrepalanchowk	14.6	31.6	Kalikot	34.5	66.3
Salyan	14.8	36.6	Mugu	36.2	78.9
Bhojpur	15.0	33.3			

All Nepal	14.3	22.3

Note: Districts are listed in ascending order (with more exact values than shown in the table) according to the percentage share of the total male children in the labour force.

Source: CBS (1993a)

The incidence of poverty based on income ranges from a low of 16.4 per cent (Jhapa district) to a high of 95.0 per cent (Jajarkot district), with an overall average of 56.2 per cent in the 32 districts. Similarly, the incidence of poverty based on landholding ranges from 14.6 per cent (Kanchanpur district) to a high of 91.9 per cent (Bajura district), with the average being 55.1 per cent. According to the composite measure, the percentage of impoverished people ranges from 23.5 per cent to a high of 89.9 per cent. On average, about 56 per cent of the people live in poverty in the 32 districts.

Table 2: Incidence of poverty, 32 districts, Nepal, 1991

Measure of poverty	**Incidence of poverty (%)**	
	Range	**Mean**
Percentage of poor based on:		
Income	16.4 - 95.0	56.2
Landholding	14.6 - 91.9	55.1
Income and landholding	23.5 - 89.9	55.6

Source: Adapted from Chhetry (1996).

We carried out a test of significance between the mean percentages of male and female child labour in the 32 districts and the remaining 43 districts (for which poverty data are unavailable). The mean percentages for male child labour are 15.3 and 15.9 in the 32 and 43 districts, respectively. Similarly, the mean percentages for female child labour are 29.5 and 28.3 in the 32 and 43 districts, respectively. The differences in mean percentages between the two groups of districts with respect to gender groups are not statistically significant (based on t-test, $p>.05$). The data thus imply that, at least with reference to the prevalence of male and female child labour, the 32 districts may be considered representative of the 75 districts.

Table 3 shows simple (zero-order) correlations between the three related measures of poverty and male and female child labour. The correlation results clearly indicate that poverty is highly correlated with child labour. Child labour is considerably higher in districts that have a higher incidence of poverty. However, poverty affects female child labour more than male child labour. The results also suggest that the incidence of poverty based both on income and landholding is more robust (particularly with respect to female child labour) than that based either on income or landholding. We have therefore used this composite measure of poverty in the rest of the analysis.

Table 3: Simple correlation (r) between poverty and child labour (male and female), 32 districts, Nepal, 1991

Measure of poverty	**Child labour**	
	Males	**Females**
Percentage of poor based on:		
Income	.629	.736
Landholding	.533	.717
Income and landholding	.639	.798

Note: All co-efficients are significant at $p<.01$.

Table 4 shows the literacy rate of the male and female children and adult populations for all Nepal (as of 1991). About 39 per cent of the total population are literate, but with a wide difference between males and females (54 per cent vs. 25 per cent, respectively). The differentials between males and females exist in three age-groups: 6-9, 10-14 and 15 and older. However, the differences in absolute percentage points between males and females among the child population (less than 15 years) is relatively lower than between the male and female adult populations, indicating perhaps a new pattern of change in recent

decades. Of the three age-groups, the literacy rate is highest among 10-14-year-olds.

Table 4: Literacy rate (%) of the population by three age groups, male and female, all Nepal, 1991

	Age group			
	6-9	10-14	15 and older	All (6 and over)
Males	55.1	75.8	48.9	54.1
Females	37.5	49.1	17.2	24.7
Both sexes	46.4	62.9	32.7	39.3
Total numbers (literate)	1,007,903	1,464,915	3,485,930	5,958,748
Total numbers (illiterate)	1,162,079	862,371	7,161,873	9,186,323

Source: Calculations based on CBS (1993b).

Table 5 shows zero-order correlation of the literacy rate of the male and female populations by age-group. Correlation between the literacy rate of males in all the three age-groups is very strong. Similarly, the literacy rate of females in all three age-groups is also very high. However, the correlation between males and females is relatively weak. Overall, these data reconfirm that literacy of children and adults in the districts is closely linked -- a pattern that holds for both males and females.

Table 5: Simple correlation (r) between three age groups of male and female literacy rates, 75 districts, Nepal, 1991

	Males			Females		
	(6-9)	**(10-14)**	**(15+)**	**(6-9)**	**(10-14)**	**(15+)**
Males:						
6-9	1.00					
10-14	.91	1.00				
15 and older	.90	.90	1.00			
Females:						
6-9	.93	.86	.87	1.00		
10-14	.86	.84	.85	.98	1.00	
15 and older	.83	.72	.87	.92	.91	1.00

Note: All correlations are significant at p<.01.

Table 6 shows correlation between literacy and child labour for male and female children for all 75 districts. Child labour and literacy are strongly inversely related. This holds true for both males and females. Female literacy has even stronger association with the prevalence of male child labour. This suggests the importance of female education. A district that has a higher percentage of females literate most probably reflects a different type of social values that discourage child labour.

Table 6: Simple correlation (r) between three age groupsof literacy and child labour (male and female), 75 districts, Nepal, 1991

Literacy (age group)	**Child labour (r)**	
	Males	**Females**
Males:		
6-9	--.75	--.37
10-14	--.76	--.26ns
15 and older	--.76	--.41
Females:		
6-9	--.83	--.58
10-14	--.82	--.62
15 and older	--.73	--.64

Notes: ns = not significant at p<.05; all other correlations are significant at p<.01.

The association between male literacy and female child labour is relatively weak. This suggests that female children are employed even in the districts that may have higher male literacy. This seems to indicate also that a skew towards male literacy is an effect of discrimination. Female child labour is, however, significantly lower in districts that have higher female literacy. This underscores the importance of specifically emphasizing female literacy to minimize female child labour.

In tables 7 and 8, we present the results of linear multiple regression analysis in which poverty (composite measure) and literacy are used as independent variables. The measure of literacy also includes a composite measure which refers to all the three age-specific measures of literacy.

The results in the two tables reveal two essential findings. Firstly, as hypothesized, the two variables, poverty and literacy, are powerful factors explaining the prevalence of child labour in Nepal. They explain 73 per cent to 75 per cent of the variables in male child labour (as indicated by R2 values) and 70 per cent to 71 per cent of the variances in the prevalence of female child labour.

Secondly, both poverty and literacy have significant independent effects on male and female child labour. However, poverty is more powerful than literacy in the case of the prevalence of female child labour. In the case of male child labour, poverty has a secondary effect: male literacy is the primary factor in determining male child labour. The reverse is true for female child labour: poverty is the primary factor affecting female child labour. The relative importance of the two explanatory variables is, therefore, gender-dependent.

Table 7: Effects of male literacy and poverty * on male child labour, based on linear regression analysis, 32 districts, Nepal, 1991

Equation and independent variables	**Beta**	**R2**	**F-ratio**
Equation 1			
Poverty	.428		
Male literacy (6-9)	--.636		
		.753	48.29
Equation 2			
Poverty	.511		
Male literacy (10-14)	--.608		
		.746	46.41
Equation 3			
Poverty	.454		
Male literacy (15+)	--.608		
		.727	42.20
Equation 4			
Poverty	.460		
Male literacy (6+)	--.625		
		.752	47.93

Notes: * Defined as the percentage of people below the poverty line with respect to income and landholding. All co-efficients and F-ratio values are significant at $p<.01$.

Table 8: Effects of female literacy and poverty * on female child labour, based on linear regression analysis, 32 districts, Nepal, 1991

Equation and independent variables	**Beta**	**R2**	**F-ratio**
Equation 1			
Poverty	.656		
Female literacy (6-9)	--.314		
		.696	36.41
Equation 2			
Poverty	.648		
Female literacy (10-14)	--.331		
		.704	37.93

Equation 3			
Poverty	.613		
Female literacy (15+)	--.357		
		.711	39.16
Equation 4			
Poverty	.632		
Female literacy (6+)	--.346		
		.710	38.89

Notes: * Defined as the percentage of people below the poverty line with respect to income and landholding. All co-efficients and F-ratio values are significant at $p<.01$.

Discussion and conclusion

In recent times, much has been said in the Nepali media about child labour in the carpet and garment industries. New policies and legislation are being enacted and specific programmes implemented towards eliminating child labour from such industries. However, the data presented in this article indicate that the problem in the export-oriented carpet and garment industries is only the tip of the iceberg. In many districts, the prevalence of child labour, particularly female child labour, is high, with the vast majority of the children concerned living in rural areas. Therefore, national attention and efforts to discourage child labour should not consider child labour a problem confined merely to the carpet and garment sectors. The child labour situation in some districts may have improved since 1991 (when the data analyzed in this article were collected), but the absolute numbers of children in the age group 10-14 have increased to 2.6 million by 1996, up by 350,000 children since the 1991 census (CBS, 1994).

We presumed that poverty and literacy are interrelated. At the household level, poverty may deter parents from sending their children to school and cause them to engage the children in work instead. Engagement in work itself may block school attendance, which in turn may mean less opportunity for access to higher levels of resources. It is difficult to differentiate cause from effect in the cross-sectional data; most probably both mechanisms operate. Based on the findings of longitudinal studies in other countries in South Asia, we postulated in this analysis that the two factors -- poverty and literacy -- affect child labour more strongly than the possible effects of child labour on those factors.

Our analysis of the data shows that child labour in Nepal exists largely due to a lack of access to resources (poverty) and low levels of literacy. Furthermore, poverty affects proportionately more female than male children; female children bear the brunt of the incidence of poverty. Child labour has been an integral part of survival and family welfare, especially in remote and rugged terrain areas (Thapa, 1996). Low levels of literacy may be due to lack of an immediate apparent benefit from schooling and, to some extent, access to and availability of schooling facilities. Even if facilities were to be improved and access increased, however, school attendance may not be expected to increase without a concomitant improvement in the family poverty situation in many of the districts.

The data analyzed in this article suggest that a two-pronged policy intervention is needed: one which would make it possible for people to raise their income, and the other which would make simultaneous efforts to increase literacy. The former intervention (such as income-generating activities) would have relatively more influence in reducing female child labour, while the latter would have relatively more influence in reducing male child labour. Improvements in schooling would both discourage child labour and significantly improve the "human development index" of each district of Nepal (Thapa, 1995). The two-pronged interventions could have considerable impact if they are targeted to the most deprived groups of people. For example, poverty may be clustered in certain groups of people differentiated by ethnicity or other classifications. The data also suggest that there are different underlying social and economic conditions affecting the prevalence of male and female child labour. Because of this also, a one-pronged approach to reducing poverty may be less effective than a multi-pronged approach.

The rural agricultural sector lacks legislation prohibiting the employment of children and enforcing schooling. However, even if such legislation were formulated, it would be tantamount to further increasing family poverty. There are several policy options: access to resources would have to increase substantially in order to add to the resources of the family, draconian policies would need to be implemented to eradicate child labour, or families would need to be given direct economic subsidies for sending their children to school. Although these are extreme measures, they do underscore the basic challenge: wishful thinking and minor corrective measures will not bring about the desired changes in child labour in the vast majority of districts in Nepal. Specific strategies and programmes need to be developed in an organized and systematic

way for the rural agricultural sector. The data analysed in this article provide the macro-level context to examine micro-level factors affecting specific causes of poverty and illiteracy towards developing specific intervention programmes.

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The Effect of Female Family Planning Workers on the Use of Modern Contraception in Bangladesh

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More attention should be paid to the quality of care offered by family welfare assistants instead of focusing on quantitative targets

Bangladesh has managed to achieve a steep decline in fertility in spite of its unremarkable socio-economic development in the past decade. The national family planning programme of Bangladesh has thus been termed a "success in a challenging environment" (Cleland and others, 1994). Several studies have documented this decline and demographers have commented that the third stage of the fertility transition has begun (Cleland and others, 1994; Amin and others, 1994; Mitra and others, 1994). Researchers have attributed the decline in the total fertility rate (TFR) to increased use of contraception, which in turn has been credited to a strong and successful family planning programme in the country.

From its inception in 1958 until 1976, however, the Bangladesh family planning programme was far from reaching the targets set in successive five-year development plans. The programme initially consisted of small-scale efforts by private voluntary organizations. In 1959, the Pakistani administration added seriousness to those efforts by consolidating them into an official government programme. As part of that programme, static family planning clinics were established in various locations. However, the clinics did not draw enough clients and only the urban elite participated in self-motivated family planning adoption. The National Impact Survey in 1968 found that only 5.5 per cent of couples were users of any contraceptive method. During the effort to gain national independence in 1971, the programme was disrupted by political instability. In 1976, it was re-established after the Government of Bangladesh identified population as the country's number one problem. Two years later, in 1978, emergency measures were taken to strengthen the family planning programme. One of these included the introduction of young, educated female workers at the grassroots level; another was the construction of health centres at the lowest administrative level. The health centres provided basic reproductive health services such as IUD insertion and injectable contraceptives. Sterilization cases were referred to the nearest health centre at the next higher administrative level. Further, grassroots-level workers, called family welfare assistants (FWAs), were recruited to motivate eligible women to use modern contraception, providing free contraceptive pills and condoms for those willing to use such methods. Each FWA was given responsibility for a geographical area covering a population of 4,000; each was expected to visit every eligible woman in that area at least once every three months (Koenig and others, 1992).

In the ensuing years, the use of contraception rose dramatically. For example, in 1975, a survey had found the contraceptive prevalence rate (CPR) to be only 7.7 per cent. In 1985/86, the Bangladesh Fertility Survey (BFS) documented a CPR of 25.3 per cent, a more than three-fold rise in use in only 10 years. The lion's share of the credit for improving the CPR has been attributed to the FWAs, whose door-to-door services were found to increase the probability of a woman being a user (Kamal, 1994; Kamal and Sloggett, 1993; Philips and others, 1989).

Bangladesh is predominantly a Muslim country and women are normally barred from activities outside their homes owing to the practice of purdah (seclusion, wearing of a veil). Thus, the doorstep services offered by the FWAs enabled the translation into practical implementation of the latent desires of women to limit their childbearing. In 1989, the CPR was measured at 31.4 per cent and in 1991, 39.9 per cent; moreover, a concurrent decline in total fertility occurred: from an average of seven births per woman in 1989 to approximately four in 1994 (Mitra and others, 1994).

By 1991, almost 13 years had passed since the introduction of FWAs, and the family planning programme was receiving profuse attention in both government and non-government circles. Attitudes and beliefs in Bangladesh have also undergone major changes regarding the practice of family planning. Caldwell (1992) remarked that legitimisation of use and diffusion of knowledge has prompted widespread family planning practice. In view of this success, it would be natural to expect that the role of the FWAs might take a back seat to newer approaches now that the family planning programme had gained natural momentum. But in 1991, the Government of Bangladesh and its various donors decided to increase the number of FWAs by another 10,000, indicating that the need for FWAs has actually increased rather than decreased. In seeking to justify the recruitment of the additional FWAs, this article aims to evaluate the role of FWA visits on the use of modern contraception, net of other socio-economic and demographic variables, using data from a

survey held just prior to the introduction of the additional FWAs.

Methods and materials

This study uses data from the 1991 Contraceptive Prevalence Survey (CPS), a two-stage nationally representative survey and the sixth in a series of its kind (Mitra and others, 1992). The 1991 CPS consisted of 200 clusters, a total of 11,065 women, inclusive of those living in rural and urban areas of Bangladesh. As mentioned previously, the survey was conducted before the introduction of the additional 10,000 FWAs. The CPS data contained information on the FWA visits to clients and this was analysed using multivariate analysis. The outcome variable was the current use of modern contraception by the female client (coded 1 if she was a user, 0 otherwise). The distribution of the dependant variable is presented in table 1. Because of its being a binary variable with a skewed distribution, logistic regression was used to assess the impact on contraceptive use of the FWA visits to the client, net of other factors.

Two models were constructed, one for acceptors of permanent methods (vasectomy for husbands and tubal ligation for the female clients), and the other for modern reversible methods (pills, condoms, IUDs and injectables). Other analyses have found different sets of predictors for these two categories; hence, there was a need for two models (Amin and others, 1995; Kamal, 1994). In the model on modern reversible methods, sterilization users were excluded and for the model on sterilization users, those using modern reversible methods were excluded. Pregnant women were classified as non-users. Users of traditional methods (abstinence, withdrawal and rhythm) were considered non-users in this analysis.

Variables used

The variables considered in this analysis were chosen on the basis of prior knowledge of determinants of contraceptive use and initial exploratory data analysis. Age of the women was not included because of its collinearity with number of living children; husband's education was excluded because of its collinearity with education of the woman. Many variables were available in the survey as indicators of socio-economic status, namely ownership of land, availability of electricity, and type of housing material used in construction, among other things. Apriori analysis using factor analysis (>3, or less than or equal to 3)) found that one cohesive group possessed certain household items (radio, clock, table, wardrobe, pitcher and bicycle, among others). These variables were then added to form a new variable indicating number of possessions. The next factor analysis found this variable to have the highest loading; hence, it was chosen as an indicator of socio-economic status. The variable "number of possessions" was recorded under two categories (>3 or <3) and used in the analysis as an independent variable.

Role of NGOs

Non-governmental organizations (NGOs) have been playing a leading role in increasing the use of modern contraception in Bangladesh. Two notable NGOs have received worldwide acclaim for their success in achieving fruitful results at the grassroots level in Bangladesh. One is the Grameen Bank. It offers loans to groups of rural couples, with no collateral being required. Its work has enabled a considerable number of people in rural areas to achieve self-sufficiency. Also, one study found that members of the Grameen Bank have a higher probability of use of contraception than non-members (Kamal and others, 1992). Another study found that being a member of any NGO raises the probability of use of contraception (Schuler and Hashemi, 1994).

The other NGO is the Bangladesh Rural Advancement Committee

(BRAC). It has also been successful in establishing income-generating activities in rural areas, and it has successfully encouraged measures to improve female literacy. It should be pointed out that neither of the aforementioned NGOs is family planning-based, although there are numerous NGOs in Bangladesh the main objective of which is to promote the use of modern methods. One such very successful NGO is Swanirvor Bangladesh. It recruits local female workers and distributes condoms and pills in rural areas of the country. In collaboration with the Government, it serves those areas where FWAs have a larger than normal population to serve. Another NGO, the Family Planning Association of Bangladesh (FPAB), is sponsored by the International Planned Parenthood Federation (IPPF) and has been in operation since 1953. It maintains 30 static clinics nationwide. It provides family planning services in the context of some other social programmes that women seek from FPAB (Cleland and others, 1994). The Association for Voluntary Surgical Contraception (AVSC), which has been providing services for almost 18 years, is responsible for 16 per cent of all sterilizations performed in Bangladesh between 1975 and 1990. In 1991, there were 200 NGOs employing 9,000 field-workers delivering family planning services throughout Bangladesh (Mitra and others, 1993). As mentioned previously, studies have found that being a member of, or having contact with, any NGO increases the probability of being an acceptor of sterilization (Kamal and

others, 1996); such involvement with an NGO was thus considered as a differential of use. Frequency distributions of the variables included in this study for both models are presented in table 1.

Table 1: Distribution of selected variables for female respondents in the 1991 Bangladesh Contraceptive Prevalence Survey

Variables	Modern reversible methods		Sterilization acceptors	
	Frequency	Per cent	Frequency	Per cent
Current user	2,431	24.4	1,119	13.0
Non-user	7,515	75.6	7,515	87.0
Number of living children				
≤3	6,663	67.0	5,595	64.8
>3	3,283	33.0	3,039	35.2
Number of possessions				
≤3	5,221	52.5	4,985	57.7
>3	4,725	47.5	3,649	42.3
Region of residence				
Dhaka	2,973	29.9	2,553	29.6
Chittagong	2,618	26.3	2,355	27.3
Khulna	1,879	18.9	1,606	18.6
Rajshahi	2,476	24.9	2,120	24.6
Participation in NGO				
Not member	9,015	90.6	7,769	90.0
Member	931	9.4	865	10.0
Visited by FWA in previous three months				
Not visited	6,111	61.4	6,304	73.0
Visited	3,835	38.6	2,330	27.0
Type of residence				
Rural	7,386	74.3	6,658	77.1
Urban	2,560	25.7	1,976	22.9
Woman's education				
No school	5,545	55.8	5,269	61.0
Some school	4,401	44.2	3,365	39.0
N	9,946	100.0	8,634	100.0

Results

Modern reversible methods

Table 2 presents the results of a logistic regression analysis of the use of modern contraceptive methods on selected socio-economic and demographic factors. The use of a modern reversible method (coded 1 if a current user, 0 if otherwise) has a discrete distribution with binary outcome and cannot be regressed by ordinary linear regression. To achieve robustness, logistic regression was used because it is the appropriate technique statistically to model binary outcomes.

Table 2: Results of logistic regression analysis of modern reversible methods on selected socio-economic and demographic variables, 1991 Bangladesh Contraceptive Prevalence Survey

Variable	Odds ratio	Coefficient	Significance
Visited by FWA in previous three months			
Visited	7.99	2.08	<.001
Not visited *	1.00		
Number of living children			
>3	0.37	-.99	<.001
≤3 *	1.00		

Region of residence			
Chittagong	0.73	-.30	<.001
Khulna	1.16	.15	.029
Rajshahi	1.21	.19	.003
Dhaka *	1.00		
Type of residence			
Urban	1.84	.61	<.001
Rural *	1.00		
Number of possessions			
>3	5.32	1.67	<.001
≤3 *	1.00		
Interactions			
Urban residence * FWA	.32	-1.13	<.001

Notes: Reference group. Log likelihood -5262.61.

The results show that the visitation of an FWA in a rural area during the previous three months is the most significant determinant of contraceptive use in Bangladesh. Odds of use of any modern method increases almost eight-fold when a rural woman was visited by an FWA in the previous three months. From the interaction term, it can be calculated that the odds of use for an urban woman increases 2.6 times when she was visited by an FWA in the previous three months. This indicates that the effect of FWAs is more pronounced in rural than urban areas of the country.

All other variables vary in expected directions. Women with more than three children are less likely to be users, indicating that older women are less likely to be users of modern reversible methods. Urban women are more likely to be users and so are women from higher socio-economic backgrounds as indicated by the number of their possessions. Compared with women from Dhaka division, women from Rajshahi division are more likely to be users, whereas women from Chittagong division are less likely to be users. For those from Khulna division, there is no significant difference. Chittagong division is known to be more conservative in outlook than the others; also, its people are considered more religious than those in other divisions. Overall, it continues to have lower probability of use compared with Dhaka division. These results also match previous findings from the 1989 Bangladesh Fertility Survey (BFS) (Kamal and Sloggett, 1993; Rashid, 1993; Kamal, 1994). All other variables showed insignificant variation and were not included in this model.

Sterilization model

Table 3 presents the results of another logistic regression analysis of the acceptance of sterilization on selected socio-economic and demographic variables using the 1991 CPS. Results show that participation with any NGO is the most significant determinant of sterilization. Odds of acceptance of sterilization are doubled when women are involved with an NGO.

The effect of visits by an FWA during the previous three months differed according to administrative division. Table 3 shows that in Rajshahi division, when a woman was visited by an FWA in the previous three months, the odds of her accepting sterilization is reduced 0.29 times. Similarly in Khulna division, a visit by an FWA reduces the odds of acceptance of sterilization 0.16 times. The latter value was calculated as the odds of an FWA visit in Dhaka division multiplied by the odds of an FWA visit in Khulna division (1.06 x 0.15). Mitra and others (1992) remarked that in areas where FWA visitation is high, use of a modern reversible method is high but acceptance of sterilization declines. Previous studies have found that acceptance of sterilization was high in areas where there were no FWAs in the area. It has been hypothesized that women in such places may feel that the one-time permanent method, which does not require follow up or the purchase of contraceptive supplies, is the most convenient method to use. This may explain the reduced acceptance of sterilization where FWA visits were made in Khulna and Rajshahi divisions.

The divisional differentials are the same as those in the model for modern reversible methods. Women from Chittagong division have a lower probability of use compared with women from Dhaka division, whereas women from Rajshahi division have a higher probability of use, and women from Khulna division do not differ significantly. Women with more than four living children have a lower probability of use compared with women having fewer than four children. Based on the models in tables 2 and 3, it may be said that women having three or four children are most likely to be users of sterilization. Other studies have

explained that older women (with more than four children) have not responded well to modern techniques; moreover, many of them are no longer sexually active (Kamal, 1996). Younger women (with three or fewer children) have adopted modern reversible methods (Kamal and others, 1996 and 1994). Hence, the results are in the expected direction. Urban/rural differentials, women's education and socio-economic status are not significant in this model.

Table 3: Results of logistic regression analysis of sterilization acceptors on selected socio-economic and demographic variables, 1991 Bangladesh Contraceptive Prevalence Survey

Variable	Odds ratio	Coefficient	Significance
Visited by FWA in previous three months			
Visited	1.06	.06	.869
Not visited *	1.00		
Number of living children			
>4	0.20	-1.60	<.001
≤4 *	1.00		
Region of residence			
Chittagong	0.42	-.87	<.001
Khulna	1.91	.65	.005
Rajshahi	1.80	.59	.007
Dhaka *	1.00		
Type of residence			
Urban	0.87	-.14	.129
Rural *	1.00		
Number of possessions			
>3	1.69	.52	.057
≤3 *	1.00		
Women's education			
Some school	1.06	.06	.821
No school *	1.00		
Participation with NGO			
Member	2.00	.69	.033
Not member *	1.00		
Interactions			
Chittagong.FWA	3.23	1.17	.114
Khulna.FWA	.15	-1.87	.008
Rajshahi.FWA	.27	-1.32	.053
Dhaka.FWA *	1.00		

Notes: * Reference group. Log likelihood -3252.65

In earlier models, these variables varied in the expected directions, with rural, uneducated and poor women having higher probability of use. As the variable "participation with any NGO" was introduced into the model, these variables became insignificant. This result was also found in a smaller study involving 3,000 rural Bangladeshi women (Kamal and others, 1996). It portrays the leading role played by AVSC in providing 16 per cent of all sterilizations performed in Bangladesh. It is possible that other NGOs also promote higher use of sterilization instead of modern reversible methods, for which no association has been found. This is an important finding and demonstrates the scope for further research to determine whether most NGOs (family planning based or non-family planning based) promote sterilization more than the use of modern reversible methods, or whether services by AVSC have an overriding effect on this population.

Discussion and conclusions

This article investigated the effect of FWAs on the contraceptive use of women in Bangladesh. It finds that in rural Bangladesh visits by an FWA increase the odds of contraceptive use almost eight-fold; such visits in urban parts of the country increase the odds of use less than 2.5 times for modern reversible methods. However, it is known that FWA visits have a circular relationship with contraceptive use, i.e. those women

who are known users are visited by FWAs and those who are visited by FWAs are more likely to be users. Ignoring this effect, the huge increase in odds of use is a remarkable finding. It also explains the increased use of modern reversible methods in Bangladesh since 1975, especially the hormonal pill method (Mitra and others, 1994). For permanent methods, visits by FWAs have no significant effect on use other than the visits lowering the probability of a woman being a sterilization acceptor in Khulna and Rajshahi divisions.

Two explanations may be offered in this context. In Bangladesh, sterilization rates may have reached a peak and have started to decline slightly (Mitra and others, 1994). Those couples wishing to terminate childbearing may have already accepted sterilization. Successful NGOs may also have taken a leading role in motivating women to use sterilization, since the study finds that participation with an NGO doubles the odds of a woman being sterilized. In order words, the demand for sterilization may have been temporarily saturated. On the other hand, repeated and assured visits by FWAs may have encouraged women to be users of modern reversible methods instead of permanent methods, and that may be the explanation for low use in Khulna and Rajshahi divisions. A number of women (16 per cent), especially uneducated women and those living in rural areas, have expressed sterilization regret (Mitra, 1994). Acknowledging the diffusion effect of the influence on prior users, this may have caused future users to opt for modern reversible methods, which would be facilitated by the FWAs. The active role played by the FWA had already been lauded, so the addition of more FWAs to the national family planning programme in 1991 seems to have been justified by the positive results achieved to that time.

However, one recent study found that, although the contraceptive prevalence rate is increasing in Bangladesh, the contraceptive failure rate seems high, with 25 per cent of all pregnancies possibly resulting from contraceptive failure (Bairagi and Rahman, 1996). This situation implies that increasing the number of FWAs and improving contraceptive prevalence rates alone may not be effective in bringing about further fertility declines. But high prevalence coupled with low failure rates together could enable the country to reach its fertility goals. In this regard, the role of FWAs should be shifted to provide greater follow up and more personalized supervision than is currently the case. In the near future, the Bangladesh family planning programme should pay more attention to the quality of care offered by the FWAs instead of focusing on quantitative targets, as has been agreed to by the Government in adopting the Programme of Action of the 1994 International Conference on Population and Development (ICPD).

A number of policy recommendations could be drawn from this study that are in line with the ICPD Programme of Action. Thus, the Government may wish to:

- Increase the efficacy of FWAs by training them at regular intervals, keeping them up-to-date on the methods available and informing them of measures in the management of side-effects.
- Expand the services provided by FWAs by training them in other aspects of female health care, thereby increasing their usefulness as well as the possibility of contact with as yet unreached potential clients.
- Strictly supervise the work of FWAs so that no eligible woman is excluded from contact with them as well as encourage the FWAs by providing them with benefits such as a residence for them in their catchment area.
- Allocate motorbikes to the FWAs so that all eligible women in their areas can be more easily contacted, with none being left out owing to poor communications.
- Target especially low prevalence areas and encourage the initiation of new branches of successful family-based NGOs, as well as investigate and supervise the performance of existing FWAs.

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Marriage Patterns and Some Issues Related to Adolescent Marriage in Bangladesh

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Adolescents, their parents and the community should be made more aware of the negative consequences of early marriage, early pregnancy and large family size

In Bangladesh, there has long been strong social pressure for the preservation of virginity until marriage, which is one of the cultural characteristics of the great majority of people in the country irrespective of their religion. Sex outside marriage occurs only seldomly, since pre-marital sex is looked down upon harshly in Bangladeshi society (Maloney and others, 1981). Marriage marks the beginning of the period of potential childbearing and, therefore, is considered the prime determinant of fertility in the face of the country's relatively low contraceptive use rate. Among females, almost 95 per cent of marriages take place before the end of their second decade of life. This densely populated country of 123 million people (ESCAP, 1996) is also characterized by a high population growth rate (2.2 per cent annually: BBS, 1994), high nuptiality and low age at marriage (Huq and Cleland, 1990; Islam and Islam, 1993). Nonetheless, there has been a clear rising trend towards higher age at marriage over time (Islam and Islam, 1993; Aziz and Maloney, 1985).

Traditionally, young age at marriage and early childbearing have been encouraged in Bangladesh. According to Aziz and Maloney (1985), Bangladeshi children, especially in rural areas, are socialized to assume their respective male and female roles well before puberty. This phenomenon has been observed more strictly among girls than boys, because of the impact of girls' behaviour during adolescence both on their own reputation and that of their family. Before the end of childhood, a girl is expected to begin learning proper decorum for a female so that she will be able to play the part well once puberty begins.

The most dangerous stage of life of a Bangladeshi girl is the period following the onset of menstruation when a number of changes occur in her body, making her physically mature. At this stage, several restrictions are imposed by society on her movements, dress, food and freedom to make her own choices. When a young girl grows up, her parents keep her movements under surveillance. Such restrictions on the movement of unmarried girls and women sometimes serve to impede her education. She is advised at all costs to protect her virginity until marriage (Maloney and others, 1981).

In rural Bangladesh there are many social pressures to "marry off" pubescent girls (Aziz and Maloney, 1985). If the marriage of a pubescent girl is delayed, her parents, and sometimes the girl herself, are made to feel guilty. Sometimes neighbours and even relatives criticize parents if they have not married off their daughters soon after the onset of menarche. In such a situation, parents of poor socio-economic standing may begin to think of their daughter as a burden. Other factors also have an impact on this situation. In the Bangladeshi cultural context, younger females are in higher demand than older females as potential brides and they require less dowry as well.

Despite such pressures, there has been a growing concern in recent years that female children should not be married too young (Islam and others, 1995). Through a government order in 1976, the minimum legal age of marriage was fixed at 18 and 21 years for females and males, respectively. However, in the countryside, such requirements are hardly known and among those who do know about them, they have little impact on behaviour (Islam and others, 1995).

Frequently, experts have expressed concern about the negative social, health and economic consequences of teenage marriage, adolescent childbearing, unintended pregnancies and, in some societies, high levels of pre- and extra-marital conceptions (Bogue and others, 1977). Although such issues concerning adolescents are much publicized throughout the developed world (ESCAP, 1992), the concepts are relatively new in many developing countries such as Bangladesh.

This study examines the marriage patterns of adolescents and some socio-economic and behavioural characteristics of married adolescents in Bangladesh. It also analyses factors associated with adolescent marriage and draws out important policy implications from the findings of the study.

Data and methodology

This study utilizes data extracted from the 1989 Bangladesh Fertility Survey (BFS) which was conducted during the period December 1988 to April 1989, on behalf of the Government of Bangladesh, by the National Institute for Population Research and Training (NIPORT), with funding from the World Bank. The details of the survey are

available elsewhere (Huq and Cleland, 1990).

Although the 1989 BFS was not designed especially for studying adolescents, it did collect information through a nationally representative sample of 11,906 ever-married females under 50 years of age; this group comprised both adolescents and adults. Such a large data set provides an opportunity to study various aspects concerning adolescents, with the adults serving as a comparison group.

The sampling frame for the survey considered all households in Bangladesh from which a nationally representative sample of 11,729 households were selected, 11,236 of which were successfully interviewed. Among the 11,236 (7,984 rural and 3,252 urban) successfully enumerated households, a total of 12,096 ever-married females aged under 50 years were identified as eligible for individual interview. Of these, 11,906 females (8,467 rural and 3,439 urban) were successfully interviewed. Among the 11,906 ever-married females, 11,484 (96.4 per cent) had been married before age 20, of whom 1,922 (16.1 per cent) were currently under age 20. Univariate, bivariate and multivariate analytical techniques were used for data analysis.

Results and discussion

Age patterns of marriage

Marriage among females in Bangladesh is virtually universal. Very few women remain single throughout their lives, as indicated in table 1 which shows the percentage distribution of single females in the population. The percentage who never married in the age group 45-49 years indicates the degree of permanent "celibacy" that exists in the society. Thus, the table shows that celibacy is virtually non-existent in Bangladesh. Most females have been married before age 20, with almost 100 per cent getting married by the time they reach age 30. However, table 1 also shows a remarkable change in the proportion of women single; it indicates a rising trend in age at marriage. Most of the change in the proportion never married has occurred below age 30; the shift occurred from 1974. The most remarkable rise in the proportion of never married females has occurred in the age groups 10-14 years and 15-19 years. The proportions never married at ages 10-14 and 15-19 rose from 73.4 per cent and 11.3 per cent in 1951 to 95.8 per cent and 48.6 per cent, respectively, in 1989.

Table 1: Percentage distribution of females in Bangladesh who never married, by current age, in various censuses and surveys

Current age	1951 Census	1961 Census	1974 Census	1975 BFS	1981 Census	1989 BFS
<10	N.A.	N.A.	N.A.	99.8	-	99.6
10-14	73.7	67.4	90.5	91.8	98.0	95.8
15-19	11.3	8.3	24.5	29.8	31.3	48.6
20-24	3.0	1.3	3.2	4.6	5.1	11.8
25-29	1.1	0.5	0.9	1.0	1.3	2.2
30-34	0.5	0.4	0.6	0.2	1.0	0.2
35-39	0.2	0.2	0.4	0.4	0.4	0.1
40-44	0.2	0.2	0.5	0.2	0.7	0.2
45-49	0.2	0.2	0.3	0.0	0.3	0.1

Data from the 1989 BFS indicate that, among the 11,906 sampled married females aged below 50 years, about 96 per cent had been married when they were below age 20 and only 4 per cent were married at 20 years of age or older (table 2). Thus, it may be said that about 96 per cent of marriages in Bangladesh are teenage or adolescent marriages. This leads to an exceptionally low average age at first marriage, i.e. 14.8 years.

It is evident from table 2 that most teenage marriages take place at the ages 13 to 15 years; this age group accounts for 55 per cent of the total marriages. More than 80 per cent of teenage marriages occur at age 16 or younger. This pattern remains the same when the current age of married adolescents is controlled.

Married adolescents who were currently younger than age 30 at the time of the survey show higher mean and modal ages at first marriage than their older counterparts. The highest mean age at marriage (15.2 years) was observed among women who were aged 20-29 at the time of the survey. The corresponding figures for the age groups 30-34 and 40 and older are 14.3 and 14.0 years, respectively. Among the married women who were currently aged below 20 (i.e. adolescents) at the time of the survey, 8.6 per cent had been married by the age of 12. The proportion rises to 10.1 per cent for the cohort of married women who were aged 20-29 at the time of the survey. It rises further to 15.3 per cent and 23.3 per cent for the cohort of married women who were aged 30-39 and 40 and older, respectively, at the time of the survey. This indicates that the older cohorts had a lower mean age at marriage than their younger counterparts; it also confirms the trend towards increasing age at marriage in Bangladesh.

Table 2: Percentage distribution of ever-married women in Bangladesh, by age at first marriage and current age

Current age	Age at first marriage												Mean age at marriage
	≤9	10	11	12	13	14	15	16	17	18	19	20	
< 20	0.1	0.8	1.4	6.1	20.0	24.0	20.3	15.1	7.9	3.0	1.2	-	14.5
29-29	0.2	0.9	1.4	6.9	17.1	17.5	16.9	13.9	9.1	6.7	3.8	5.5	15.2
30-39	0.5	1.6	3.2	9.4	20.8	17.6	15.7	12.0	7.3	5.2	2.8	3.9	14.3
40+	0.9	2.6	5.1	14.2	23.2	20.1	13.8	8.9	4.7	3.2	1.2	2.1	14.0
Total %	0.4	1.4	2.6	8.8	19.6	19.0	16.6	12.7	7.6	5.1	2.7	3.6	14.8
Cum %	0.4	1.8	4.4	13.2	32.8	51.8	68.4	81.1	88.8	93.8	96.4	100.0	
N	47	162	306	1,043	2,336	2,267	1,975	1,511	911	604	319	423	11,906

Age at menarche and consummation

In the 1989 BFS, respondents were asked whether they had been married before or after their first menstrual period. In response, 18.1 per cent of the respondents who were married before age 20 reported that their marriage took place before their menarche, while 63.9 per cent reported that they were married after menarche and the remaining 18.0 per cent mentioned that their marriage and first menstruation occurred at the same time (table 3). Almost all the respondents who were married after age 20 reported that their marriage had taken place after the onset of menstruation. The results indicate that, on average, the girls attained menarche at the age of 13.4 years. The mean age at menarche is also in the neighbourhood of 13 years, which is in agreement with the finding of Rahman (1989). The results indicate that age at menarche strongly influences the timing of marriage in Bangladesh. There is a clustering of marriage soon after the onset of menstruation, as indicated by the fact that more than 70 per cent of the marriages took place soon after the onset of menstruation. The overall average age at consummated marriage was 15.1 years, which is nearly 3.5 months later than the average age at first marriage, i.e. 14.8 years. The 1975 BFS reported average age at consummated marriage as 13.1 years and the average age at first marriage as 12.7 years.

Marital stability

Table 3 presents some summary measures of marriage dissolution and prevalence of remarriage of married adolescents and adults. Among the ever-married women who had been married below age 20 (during adolescence), 13.9 per cent of the first marriages were dissolved: 6.2 per cent as a result of husband's death, 6.0 per cent because of divorce and 1.7 per cent because of separation. The corresponding figure for the ever-married women who had been married at age 20 or older (during adulthood) was 8.5 per cent: 2.5 per cent as a result of husband's death, 4.0 per cent because of divorce and 2.1 per cent because of separation. This shows that the percentage of widowed and divorced women is higher among those who got married as adolescents compared with those who married as adults. The percentage of women separated from their spouse is lower among those who got married as adolescents than those who married as adults. The results thus indicate that the overall marital dissolution rate is comparatively higher among those who married as adolescents than as adults.

Table 3: Summary measures of some issues related to age at marriage in Bangladesh

Item	Age at first marriage		
	Below 20	20 and older	All
Timing of marriage (%)			
Before menarche	18.8	-	18.1
After menarche	62.6	100	63.9
Same time	18.6	-	18.0
Mean age at menarche (years)	13.4	-	-
Average consummation delay (months)	3.6	0.0	2.6
Mean age at consummation years)	14.8	21.2	15.1
Mean age at marriage (years)	14.5	21.2	14.8
First marriage status (%)			
Married	86.1	91.5	86.3
Widowed	6.2	2.5	6.1
Divorced	6.0	4.0	5.9
Separated	1.7	2.1	1.7
No. of times married (%)			

Once	93.6	97.9	93.8
Twice	5.9	2.1	5.7
Three times	0.5	-	0.5
Remarriage after dissolution of first marriage (%)			
Yes	45.8	24.4	45.2
No	54.2	75.6	54.8
Average age (in years)at being:			
Widowed	28.1	35.3	28.2
Divorced	18.4	23.5	18.5

Life-table analysis of marital dissolution also demonstrates the higher speed of first marriage breakdown among adolescents compared with adults. As many be noted from the life-table analysis of marital dissolution in table 4, marriages among adolescents were more unstable during the first few years of marriage than those among the married adults. Among the adolescents, close to 14 per cent of marriages had been disrupted even before the couple reached their first wedding anniversary (also by the end of the first year of marriage, this number increased slightly). The corresponding figure for married adults is only 8 per cent. In Muslim societies such as Bangladesh, women may remarry if their marriage is dissolved owing to the death of husband, or divorce. Table 3 shows that among the married adolescents whose first marriage was dissolved, nearly 46 per cent remarried compared with only 24.4 per cent of the married adults doing so. Table 3 also indicates that, of all ever-married women whose age at first marriage was below 20, 93.6 per cent were married only once; 6.4 per cent were married two or more times. The corresponding figures for married adults were 97.9 per cent and 2.1 per cent, respectively. The results thus indicate that the prevalence of remarriage is higher among married adolescents than their older counterparts. All the above findings, therefore, support the hypothesis that adolescent marriages are less stable than adult marriages.

Table 4: Life-table analysis of marital dissolution among married adolescents and adults in Bangladesh

Years since first marriage	**Probability of remaining in first marriage**	
	Adolescents	Adults
0	0.86177	0.91841
1	0.85878	0.91183
2	0.85547	0.90670
3	0.85265	0.90489
4	0.84991	0.90994
5	0.84655	0.90526
6	0.84227	0.90909
7	0.84117	0.91556
8	0.83771	0.90500
9	0.83522	0.90960
10	0.83329	0.89809
11	0.82986	0.89394
12	0.82641	0.89474
13	0.82475	0.88119
14	0.82183	0.86207
15	0.81868	0.85915
16	0.81689	0.85484
17	0.81335	0.84000
18	0.80778	0.81395
19	0.80288	0.81579
20	0.79905	0.80645
21	0.79793	*
22	0.79509	*
23	0.79473	*
24	0.79285	*
25	0.78537	*
26	0.77966	*
27	0.77805	*

28	0.77601	*
29	0.77694	*
30	0.76660	*

* Frequencies less than 50.

Socio-economic differentials of adolescent marriage

Table 5 provides the percentage distribution of married adolescents (i.e. age at marriage less than 20) by selected socio-economic characteristics along with the same type of data for married adults (i.e. age at marriage greater than or equal to 20) for comparison purposes.

The results indicate that, among the total number of married adolescents, 92.7 per cent have a rural background, with the remaining 7.3 per cent coming from an urban area. The corresponding figures for the adults are more or less of the same (84.2 per cent coming from a rural area and 15.8 per cent from an urban area). When the childhood types of residence are controlled, the percentage of married adolescents who had been born and brought up in a rural area rises to 95.0 per cent; the urban childhood type of residence contributes only 5.0 per cent to adolescent marriages. The corresponding figures for married adults are 85.8 per cent and 14.2 per cent, respectively. It is evident, therefore, that teenage marriage is more prevalent in the rural rather than urban areas of Bangladesh.

As for region of residence, it may be observed that the frequency of adolescent marriage is highest in Dhaka division (30.5 per cent) followed by Rajshahi division (26.4 per cent) and Chittagong division (24.0 per cent), with the lowest incidence being in Khulna division (19.2 per cent). The same pattern follows for age at marriage being 20 years and older.

Among the married adolescents, about 70 per cent are illiterate or have no formal education; only 13 per cent have had seven or more years of schooling. Among the married adults, about 50 per cent have had no formal education, whereas 31.2 per cent have had higher education. This indicates that education may have a significant effect on teenage marriage, that is, education increases the age at marriage and consequently decreases the rate of adolescent marriage.

Almost 86 per cent of the married adolescents were women not working outside the home; only 14 per cent have had some experience working for pay. Among the married adults, 83 per cent have not had working experience, with the remaining 17 per cent having had some experience working outside the home. This clearly indicates that women's work status has very little effect on age at marriage. This is mainly because employment opportunities are very limited in Bangladesh and very few women get the opportunity to engage themselves in any kind of income-generating work before marriage.

Table 5: Percentage distribution of married adolescents and adults in Bangladesh according to selected socio-economic characteristics

Background characteristics	**Age at marriage**	
	Below 20 (<20)	**20 and older (≤ 20)**
Place of residence		
Rural	92.7	84.2
Urban	7.3	15.8
Region of residence		
Chittagong	24.0	30.0
Dhaka	30.5	27.6
Khulna	19.1	14.5
Rajshihi	26.4	27.9
Childhood residence		
Rural	95.0	85.8
Urban	5.0	14.2
Respondent's education		
No school/Madrasha (religious school)	69.9	49.7
Lower primary	13.5	10.3
Upper primary	7.9	8.8
Higher	8.7	31.2
Work status (outside the home)		

Yes	14.0	17.0
No	86.0	83.0
Husband's occupation		
Professional/administrative/sales/services	31.0	49.8
Production workers	4.9	5.5
Non-agricultural workers	12.5	5.4
Cultivators/share-croppers	34.7	24.6
Agricultural labourers	13.8	10.8
Others, or not stated	3.0	4.0
Husband's education		
No school/Madrasha (religious school)	52.5	34.0
Lower primary	13.3	10.6
Upper primary	8.0	6.4
Higher	26.2	49.0
Religion		
Muslim	86.2	82.5
Non-Muslim	13.8	17.5
Economic condition (dwelling construction)		
Poor	92.6	79.0
Middle	4.4	10.2
Upper	2.6	10.9
Ownership of agricultural land		
Yes	57.0	59.1
No	43.0	40.9
Total	100.0	100.0
N	11,484	423

Among the married female adolescents, most of their husbands are illiterate, working as cultivators and day labourers. Only 26 per cent of the married adolescents reported that their husbands have had more than a primary-level education. The corresponding figure for the married adults is almost 50 per cent. About 70 per cent of the married adolescents' husbands were working as cultivators and day labourers as compared with to 50 per cent among the married adults. This indicates that adolescent marriage is prevalent mainly among illiterates. The data indicate that religion has a moderate effect on age at marriage. Hindus are less likely to be married below age 20 than their Muslim counterparts.

Ownership of land and the amount of land possessed have some differential effect on age at marriage. The percentage of marriages taking place below age 20 is higher (57 per cent) among women whose family has a few acres of cultivable land than their landless counterparts. As land possession is a mark of economic solvency, those having adequate land could easily fulfil demands for a dowry and other such expenses; thus, marriages in such families take place relatively earlier than in poor families.

Since data on household income and other indicators of economic condition seem to be unreliable, the status of dwelling construction was used as a proxy variable for economic condition by categorizing the respondents into three classes: poor (those whose dwelling is of ordinary construction), middle (those whose dwelling has walls or floors made with brick and roof made with metallic material) and upper (those whose dwelling is a modern concrete building). It has been observed that teenage marriages are most prevalent among the poor; 92.6 per cent of the respondents who had been married at ages below 20 were from the poor category described above. The corresponding figures for people assessed to be in the middle and upper classes were 4.4 per cent and 2.6 per cent, respectively. Thus, the prevalence of teenage marriage decreases in line with improvement in a person's economic condition. This observation also applies to age at marriage for adults.

Covariates of adolescent marriage

Logistic regression was used to identify the risk factor for adolescent marriage. In the model, age at first marriage was used as the dependent variable, which we dichotomised by assigning the value of 1 for age at marriage being less than 20 years and the value of 0 for age being 20 years and older; selected demographic and socio-economic characteristics were used as explanatory variables.

The explanatory variables considered in the model are as follows: place of residence, region of residence, childhood

residence, respondent's education, husband's education, husband's occupation, work status of the respondent and availability of electricity in the household.

Table 6 gives the estimates of the logistic regression coefficients (B) corresponding to the independent variables, partial R and relative odds calculated for each category of the categorical variables. The category with relative odds of 1.00 represents the reference category for that variable. If the odds ratio is greater than unity, the probability of age at marriage occurring below 20 years is higher than that of age at marriage occurring at 20 years and older. P values are used to identify significant effects to assess the relative importance of the selected variables in the logistic regression.

From the results of the logistic regression analysis, it appears that respondent's education is the most important factor that influences age at marriage being below 20 years, when the other variables are controlled. Differential analysis also substantiates this finding. The relative odds of primary education (lower and upper primary) and no education are found to be 2.9 and 2.8, respectively. This shows that the likelihood of age at marriage being below 20 among women with primary education and no education is 2.9 and 2.8 times higher, respectively, than that of more highly educated women. Here it is also observed that prevalence of early marriage among women educated at the primary level is nearly the same as that of uneducated women, but the rate is very much higher than that of the more highly educated women. In part, this may be because the more highly educated women have a higher socio-economic status and live in urban areas. Thus, we conclude that age at marriage in Bangladesh could be raised by increasing the level of education for females.

Table 6: Logistic regression of age at marriage below 20 years on selected socio-demographic factors, Bangladesh, 1989

Variables	Coefficient (B)	St.error of coefficient	Partial R	Odds ratio
Respondent's education	-	-	0.117	-
(Higher)	-	-	-	1.0
Primary	1.061 * *	0.161	0.108	2.9
No school	1.040 * *	0.165	0.103	2.8
Husband's occupation	-	-	0.043	-
(Labourers/farmers)	-	-	-	1.0
Land owners/cultivators professional/sales/services/production	0.124 *	0.162	0.000	1.2
Workers	-0.310 *	0.149	-0.025	0.7
Region of residence	-	-	0.043	-
(Chittagong)	-	-	-	1.0
Dhaka	0.277 *	0.137	0.024	1.3
Khulna	0.489 *	0.164	0.044	1.6
Rajshahi	0.008	0.138	0.000	1.1
Childhood residence				
(Urban)	-	-	-	1.0
Rural	0.476 * *	0.162	0.043	1.6
Respondent's work status				
(Yes)	-	-	-	1.0
No	0.346 *	0.139	0.034	1.4
Husband's education	-	-	0.034	-
(Higher)	-	-	-	1.0
Primary	0.340 *	0.164	0.025	1.4
No school	0.437 *	0.157	0.040	1.5
Constant	2.438	0.274	-	-
Model Chi-square:	205.817			
Degrees of freedom:	11			
Probability:	.000			

* Notes: Reference category is within parentheses; * * P<.01 and * P<.05.

The analysis shows that husband's occupation is the second most significant factor influencing low age at marriage. The logistic coefficients indicate that the highest occurrence of low age at marriage was among land

owners/cultivators, followed by agricultural labourers or farmers, and skilled service employees. The odds against low age at marriage among the wives of land owners is 1.2 times higher than that of women whose husbands' are agricultural labourers and farmers. Another finding is that the relative chance of low age at marriage among the women whose husbands are engaged in sales and services, or in the professional sector, is 0.7 times lower than those of women whose husbands are agricultural labourers or farmers.

The analysis further shows that, with other covariates controlled, regional differentials in low age at marriage are also significant. The positive sign of each regression coefficient in table 6 suggests that, with reference to women who were living in Chittagong division, the residents of Dhaka, Khulna and Rajshahi divisions were more likely to have been married at a young age. The logistic regression analysis implies that the occurrence of low age at marriage among women who lived in Dhaka, Khulna and Rajshahi divisions is 1.3, 1.6 and 1.1 times higher, respectively, than that of women who live in Chittagong division. Thus, the occurrence of early marriage is almost the same in Chittagong and Rajshahi divisions while Khulna division shows the highest level of occurrence, followed by Dhaka division. This regional differentiation is observed because industrialization, urbanization and education did not evolve uniformly in all regions. For example, Chittagong division is the largest commercial and industrial area in the country. Dhaka division is relatively more urbanized and industrialized, having of a higher population density. Khulna division is comparatively less urbanized and industrialized, while Rajshahi division is rich in agricultural products and has more educational institutions than Khulna division. Demographic characteristics such as infant mortality and the sex-ratio of such deaths are also different for these regions (BFS, 1989).

As expected, the occurrence of low age at marriage is considerably higher in rural areas compared with urban ones. The analysis shows that rural women are almost 1.6 times more likely to be married earlier than urban women. There are some conceivable explanations for this difference. Females who migrated to urban areas were likely to have been married before they migrated. Most of them probably moved to the urban areas with their husbands who had employment there. The age at marriage for such women may be expected to be relatively low. In the case of married females who migrated to urban areas either with their parents or brothers before marriage, the age at marriage for them may also be expected to be lower, because their early socialization and their values related to family formation and family life may be somewhat different from females born and living in urban areas. Thus, migrant women might weigh down the actual age at marriage for urban areas (Ahmed, 1982).

The analysis indicates that the respondent's work status is the next most important determinant influencing low age at marriage. It has been observed that age at marriage below 20 years is likely to be 1.4 times higher among women who have never worked outside the home than those who had work experience. The primary cause for this situation may be the improvement in the socio-economic condition of the respondents as compared with others.

The analysis further shows that husband's education, though not as strong as the respondent's education, has a significant and positive effect on low age at marriage. The results (table 6) show that women whose husbands have been educated at the primary level had a significantly higher likelihood (odds of 1.4) of low age at marriage compared with those having a more highly educated husband. And women whose husbands are not educated were much more likely (odds of 1.5) to have been married at a young age than those with a more highly educated husband.

Conclusion

This study confirms that marriage is almost universal among females in Bangladesh; there are very few women who remain single throughout their lives. As in various other developing agricultural societies, early female marriage is customary in Bangladesh. Almost 100 per cent of females will have been married before the end of their second decade of life. Among the 11,906 ever-married women who constituted our study population, 96 per cent were married when they were teenagers, with most of such marriages taking place at the ages 13-16 years. Only 4 per cent of marriages occurred at ages 20 or older. The survey data indicate that a relatively large proportion (18 per cent) of the teenage marriages took place before the onset of menarche and there was a clustering of teenage marriage immediately after the menarcheal period. The mean age at menarche has been observed to be about 13 years. This situation gives rise to a very low age at marriage in Bangladesh, i.e. only 14.8 years, which is well below the minimum legal age for the marriage of females, i.e. 18 years, established by the Government in 1976. Legislation on age of marriage, therefore, seems to be ineffective in delaying childhood marriage in Bangladesh. In a recent study, Islam and others (1995) have observed that a large majority of the rural community in Bangladesh are ignorant about the legal age for marriage and are even less concerned about the negative social and health consequences of adolescent marriage.

It has been observed that older cohorts of women in Bangladesh have a lower mean age at marriage than their younger counterparts, which confirms that there is a trend towards increasing age at marriage, but the rise is at a very slow pace. During the last one and half decades, the average age at marriage has increased by only about two years, from 12.4 years in 1975 (BFS, 1975) to 14.8 years in 1989. In these circumstances, as the existing legislation is not working well and the prevailing cultural and social norms are unlikely to foster a delay in marriage, other avenues of possible policy intervention must be explored, such as the provision of increased opportunities for female education

and employment outside the home for young women, both of which would be likely to delay marriage.

The results of this study indicate that the overall marital dissolution rate is comparatively higher among married adolescents than married adults. Thus, by raising the age at first marriage, greater marital stability could be achieved, provided no dramatic cultural transformation occurs in society.

Differential analysis shows that most of the married female adolescents have a rural background and have not had a formal education. Their husbands are also mostly illiterate and farmers by occupation. Logistic regression analysis identifies education, region of residence, place of residence (urban/rural), work status, husband's education and occupation as important covariates of teenage marriage.

The findings of our research hold implications for policy that could be useful in devising ways to solve the issues related to adolescent marriage and thus bring about a further reduction in fertility for Bangladesh. In order to enhance further the age at marriage and to reduce the rate of adolescent marriage, adolescents, their parents and the community should be made more aware of the negative health, social and economic consequences of early marriage, early pregnancy and large family size. This could be done through social mobilization, information, education and communication (IEC) campaigns, regular home visits by Family Welfare Visitors (FWVs) and Family Welfare Assistants (FWAs) (see article on pp. 15-26). In this context, the country's basic education system and its curricula should be redesigned to meet present day needs. Important would be education on family life, human sexuality, demographic, health, socio-cultural development, and the role of women in society, all of which are called for by the 1992 Bali Declaration on Population and Sustainable Development and the Programme of Action of the 1994 International Conference on Population and Development, both of which instruments Bangladesh is a signatory to. Education of girls as well as boys will not only ensure basic literacy for all, but also will provide a realistic basis for training women in income-generating activities and primary health care. The Government should also take appropriate measures to create more employment opportunities for young women and make efforts to employ more young women in white-collar jobs, especially in the fields of health and education. As early adolescent marriage seems to contribute to a greater likelihood of marital dissolution, a voice for adolescent women in making decisions about marriage should at least be promoted, if it cannot be ensured.

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The Role of Grassroots Organizations in Promoting Population programmes: The Case of Cebu, Philippines (Demographers' Notebook)

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A major outcome of the 1994 International Conference on Population and Development (ICPD) is the expansion of population programmes to include reproductive health services and strategies to raise the status of women (United Nations, 1994). Grassroots women's organizations influenced the recommendations as well as the strategies for their implementation. In the pre-planning stages within countries and during the Conference itself, the Women's Caucus, representing more than 400 organizations from 62 countries, stressed the important role that women's empowerment plays in promoting acceptance and use of reproductive health services (Ashford, 1995). They argued that women who are empowered, that is, who have control over their lives and have skills in seeking information and using resources, are more likely to make their own reproductive decisions.

The inclusion of empowerment activities in population programmes opened the door for grassroots development organizations to become more active participants in service delivery. Among the donor community, increased emphasis is now placed on implementing reproductive health programmes through community-based development organizations. Within countries, Governments recognize the positive role that grassroots organizations play in serving the needs of hard-to-reach poor communities.

Nonetheless, even though population programmes have expanded to include reproductive health and women's empowerment, family planning will continue to be a key programme component. Family planning protects the health of women and families, and enables women, in particular, to balance their reproductive and productive roles in society. Community-based development organizations engaged in health care delivery provide new opportunities to increase access to family planning programmes. They have years of experience fostering empowerment processes among the poor, women, minority groups and other hard-to-reach populations. In addition, grassroots organizations are more flexible than government programmes and can adapt projects and programmes more quickly to respond to changes and demands in the environment. Because they depend on their membership for support, they are more accountable to the needs of their clients. Most have strong political linkages within communities and, in some cases, with regional and national networks. Political networks enable them to act as pressure groups to advocate services for the poor. Community-based groups also mobilize substantial resources from within poor communities and convert them into goods and services for their clients. Last of all, non-governmental organizations (NGOs) have long histories of promoting innovative service delivery approaches, including the types of cross-sectoral linkages that are needed to increase access to family planning services among diverse populations (Curtin, 1994; Esman, 1991; Paul, 1988).

While there are numerous advantages in working with grassroots development organizations, a number of constraints face those wishing to involve community-based development organizations in family planning programmes. Firstly, many organizations have limited staff and do not operate on a full-time basis, which has implications for the availability of services. Secondly, most lack the technical skills to design, manage and evaluate population programmes. Since they operate in one or a few locales, replication of high quality services would require one to work at building the capacities of numerous small organizations, which could increase management and evaluation costs considerably. More importantly, little is known about the priorities placed on family planning among organizations that provide multiple social services to communities.

To promote the involvement of grassroots organizations in family planning, research is needed to distinguish the characteristics of community-based organizations that have the greatest potential to provide effective and sustained services. Studies are also needed on ways to evaluate the impact of empowerment activities on the decision to select and use reproductive health services including family planning. A comparable assessment of the effectiveness of alternative private and public sector actors will help policy makers choose an appropriate mix of providers for funding, especially in the context of limited resources.

The purpose of this paper is to explore the role of grassroots organizations in expanding family planning information and services. Volunteer health and family planning associations are compared with two types of grassroots organizations -- religious and development institutions. The development organizations in the study provide a range of social and financial services and counseling to improve the lives of the urban poor. While religious organizations

are concerned mostly about the physical and spiritual health of their participants, many are also engaged in empowerment activities, that is, they help the poor gain access to social and economic resources and information to improve their lives. For all three types of organizations, we explore how family planning began within the organizations, the intended population for services and information, the types and volume of services and commodities provided to clients, cost recovery activities, and future intentions to expand family planning services.

This qualitative study is limited to a census of 33 non-profit organizations that provide clinical and non-clinical family planning services in Metropolitan Cebu, the Philippines. The findings provide insights on the types of community-based organizations that are engaged in family planning activities. The results also show the roles that these organizations play in family planning counseling and service delivery. The paper begins with a discussion of the study location. Next, the provision of family planning services among volunteer organizations is examined.

Location and study design

Based on the 1990 census, the Philippines has a population of 60.7 million people and of this number, 49 per cent reside in urban areas. The Philippines Demographic and Health Survey of 1993 reports a total fertility rate (TFR) of 4.09 among women in the reproductive age group. Among currently married women, contraceptive prevalence is 40 per cent, with 25 per cent using modern methods. Among the 15 per cent using traditional methods, natural family planning accounts for 7.3 per cent of use (PDHS, 1994).

National family planning efforts began in the Philippines in 1968 with the establishment of the Office of Maternal and Child Health in the Department of Health. By 1970, the Population Commission was established as a coordinating body to promote government and private sector efforts to reduce fertility as a means of fostering national welfare. Currently, about 60 per cent of modern contraceptive users receive services from the public sector. Government services are offered through various outlets such as Rural Health Units, Barangay (village) Health Stations, hospitals, social hygiene clinics, city health centres and mobile outreach services.

NGOs have always played significant roles in family planning service delivery. Prior to government involvement, non-profit organizations were early advocates of family planning. Private volunteer family planning organizations pioneered the use of voluntary surgical contraception, initiated adolescent fertility management projects that focused on sex education (USAID, 1992) and led the way in the rapid expansion of clinical services, operating more than 14 per cent of family planning clinics (United Nations, 1991).

The Government of the Philippines continues to rely on the help of non-profit organizations in meeting the demand for family planning services. The Government and select industries have contracts with private volunteer organizations to deliver services. The Philippine Demographic and Health Survey (1994) shows that non-profit organizations are significant sources of supply for the IUD, providing 28 per cent of the total. Volunteer organizations also meet about 14 per cent of the demand for pills and about 14.5 per cent of the need for condoms. Further, non-profit organizations performed 7.5 per cent of the female sterilizations in the country (PDHS, 1994:50).

Metropolitan Cebu is located in the Province of Cebu which has 48 municipalities and five cities. Three of the cities and six of the municipalities comprise "Metro Cebu". Based on the 1990 Census of Population and Housing, Metro Cebu has a population of 1,252,339 (NSO, 1990). Cebu is experiencing high levels of urban growth as a result of new employment opportunities in the city's emerging industries. Both men and women are taking advantage of employment opportunities in the city. About 71.3 per cent of the men and 48 per cent of the women are in the labour force.

Cebu is located in the Central Visayas region of the country. Within this region, about 46.1 per cent of currently married women are current users of family planning, with 28.8 per cent using modern methods and 17.3 per cent relying on traditional methods (PDHS, 1994). Of the 17.3 per cent using traditional methods, 8.8 per cent use natural family planning.

As in most other areas of the country, the Government is the primary provider of modern family planning services and supplies in Metro Cebu. Family planning users can obtain public services and supplies from more than 170 government health centres and stations in the metropolitan area. Within the private sector, family planning services and supplies can be received from 253 pharmacies, 55 employer-based companies, 50 obstetric/gynaecological and family physicians and 33 non-profit organizations including religious organizations.

Volunteer organizations complement government services and the commercial sector by providing low-cost services and supplies for poor families and individuals in acceptable, familiar settings. Religious organizations provide a range of natural family planning methods for couples concerned about the religious implications of artificial birth control. Development organizations engaged in income-generating activities provide information, services and supplies to the hard-core urban poor. Health and family planning agencies integrate their services with those of the Government and industries to fill gaps in service delivery.

This study is based on a census of private volunteer organizations in Cebu that provide clinical and non-clinical family planning services and supplies. Interviews were conducted with 33 non-profit organizations in 1994. Agencies were identified through a number of different sources. Initial lists of organizations were obtained from the regional office of the Population Commission in Cebu, a government organization that is responsible for coordinating population activities within the province. Additional lists were obtained from other government organizations and from private associations including the Department of Health -- Integrated Provincial Health Office, the Department of Labor and Employment Population Program Office, Cebu Medical Society and USAID (United States Agency for International Development/Manila). Staff of the Office of Population Studies, University of San Carlos, visited each institution and selected organization to ensure that they provide family planning services.

Managers were interviewed who are in charge of the organizations or clinics. Respondents included directors, senior coordinators, doctors or nurses. As mentioned previously, questions were focused on the types of services provided, the rationale for offering family planning, the types of family planning services offered, the volume of services and the target clientele, cost-recovery efforts, ability to monitor and evaluate programme performance, and future intentions to expand services.

Select background characteristics

As mentioned previously, we compared volunteer health and family planning associations with two types of grassroots organizations -- religious and development institutions. Religious organizations were included because they influence reproductive decisions in most developing countries, including the Philippines. For many couples, religious institutions influence the decision to practise contraception, the selection of method, and the duration of use. Organizations offering natural family planning as well as modern methods are also included in the study. Also as mentioned previously, of the 46 per cent users of family planning, close to 9 per cent within the region rely on natural family planning methods. It is possible that couples who begin with natural family planning may later switch to modern methods.

We begin with a discussion of the overall mission of the organizations, the types of social services provided and the intended clients for those services. While all three types of organizations provide family planning, the missions of the agencies address different community needs. All of the grassroots development organizations included in the survey focus on empowering poor urban communities through income-generating activities, education programmes and the provision of social services. Among the organizations, five offer primarily income-generation and job skills; three provide services for children and young adults including day care, nutrition programmes, leadership training and recreation programmes; two agencies address the legal and welfare needs of workers; one promotes environmental protection and agro-industries, and one organization protects the rights of battered women by giving them legal assistance and employment training skills.

Religious organizations combine spiritual goals with those of empowering poor members of their church, or the community. Six agencies are community centres and offer multiple social services including nutrition programmes, health, day care, income-generating activities, housing and financial resources in emergency situations. Two are branch offices of international organizations and provide educational programmes and other social services including housing and emergency relief for poor families. Two are mission hospitals and offer primarily health care services. Three of the organizations are churches or missions and provide multiple social services for their members including health care, financial assistance, supplementary feeding programmes and counseling on effective parenthood.

Health and family planning organizations consist of two community health centres, three nursing and physician agencies, one research institution, and two private family planning associations. One of the private family planning associations exclusively provides natural family planning while the other one offers a full range of traditional and modern methods. All of the organizations focus primarily on meeting the health and reproductive needs of their clients. The community health centres and one of the nursing programmes also provide income-generation activities and training for their beneficiaries.

All of the organizations in the study provide family planning and some aspect of primary health care. However, health and family planning organizations and, to a lesser extent, development organizations, offer the broadest mix of health services, especially those which are used primarily by women in their reproductive years -- well-baby services, and pre-natal and maternal health care (see table 1).

As indicated in table 1, the organizations vary in the number of years they have been in operation. Half of the health and family planning organizations and a third of the religious organizations have been located in the communities for more than 20 years. Most development agencies are fairly new to the communities. Most were established during the mid-1980s. Only one development organization has a long history within the city. It began more than 40 years ago as a labour union to meet the needs of workers and their families.

Table 1: Background characteristics of non-profit organizations, Cebu Provider Survey, 1994 (in percentage)

Background characteristics	Developmenta	Religious	Health/family planning	All non-profits
Social services				
Legal services	25.0	0.0	0.0	9.1
Income generation/financial aid	83.3	23.1	37.5	48.5
Education/training	50.0	53.8	25.0	45.5
Housing	8.3	23.1	0.0	12.1
Catechism/religious training	0.0	23.1	0.0	9.1
Health care offered				
Well-baby care	50.0	23.1	87.5	48.5
Pre-natal/maternal	50.0	23.1	87.5	48.5
Curative care	33.3	61.5	75.0	54.5
Family planning	100.0	100.0	100.0	100.0
Nutrition/feeding	75.0	69.2	37.5	63.6
Medical/dental	33.3	76.9	75.0	60.6
Sanitation	25.0	0.0	25.0	15.2
Reflexology/spiritual healing	0.0	0.0	12.5	3.0
Year established				
Before 1976	8.3	30.8	50.0	27.3
1976-1989	83.4	61.5	37.5	63.6
1990 to present	8.3	0.0	12.5	6.1
Do not know	0.0	7.7	0.0	3.0
No. of people (all programmes)				
No record	50.0	38.5	75.0	51.5
1-100	0.0	7.7	0.0	3.0
101-500	16.7	38.5	12.5	24.2
501-1000	16.7	15.4	0.0	12.1
1001-1500	8.3	0.0	0.0	3.0
2000+	8.3	0.0	12.5	6.1
Hours per week all services are offered				
1-15	0.0	15.4	37.5	15.2
16-30	0.0	23.1	12.5	12.1
30+	83.3	23.1	37.5	48.5
Not given	16.7	38.4	12.5	24.2
Number of non-profits	12	13	8	33

Many of the organizations did not keep records on the number of participants in their programmes. Among those with record-keeping systems, it was observed that health and family planning organizations have the largest number of beneficiaries, with some organizations serving more than 7,000 people. Among those development and religious agencies that kept records, it was found that development organizations serve the needs of an average of 824 people while most religious organizations assist an average of 441 families. We suspect that the number of participants in the religious and development organizations is higher than recorded, since many also meet the needs of non-participants from the community as well as people living elsewhere who request emergency assistance.

Availability of services is measured in terms of hours during a week when all programmes and projects are available to participants. It was found that most development agencies operate on a full-time basis. Over three-fourths provide services at least 30 or more hours per week. More than half of the religious organizations provide services 25 or more hours per week, although some operate on a part-time basis. Of the health and family planning agencies, over half provide services more than 30 hours per week (see table 1).

Who provides the most family planning services?

In this section, select attributes of organizations are examined to distinguish those that demonstrate the greatest ability to provide services and information for the urban poor. The following are explored: (a) the rationale for offering family planning services and/or information; (b) length of experience in the provision of services; (c) availability of services and supplies, including location of services; (d) the volume of services and supplies, and (e) intentions to expand family planning services.

Reasons for starting family planning services varied among the organizations. Among development organizations, relieving problems associated with urban poverty and improving the quality of life of the poor were given as the primary reasons for introducing family planning services. While religious organizations were also concerned about the problems of the poor, several also spoke of improving the health of mothers and children and promoting responsible parenthood. Several religious organizations also mentioned that they provided services to prevent the use of artificial methods by offering alternatives to their clients. Traditional health and family planning organizations began offering services primarily to control population growth and improve the health of families. Several mentioned the importance of implementing the country's population policy.

Differences observed among the agencies on the rationale for offering family planning are reflected in the type of clients they wish to serve. Development and religious organizations are interested in empowering poor communities, while health and family planning organizations wish to provide services to all citizens requiring their services, including the urban poor.

Experience in the provision of family planning also varied among the organizations (see table 2). Health and family planning organizations have offered family planning methods the longest. About half began offering services prior to 1976. In all cases, family planning was introduced when the organizations were first established. Most religious and developmental organizations introduced family planning services between 1976 and 1989, after the Government introduced population programmes. A high percentage of religious organizations established family planning services about the same time when other social services were introduced to the communities. Among grassroots organizations, close to 25 per cent added family planning after other programme components were in place. As mentioned previously, family planning was introduced as one of many resources to help the poor improve their lives.

Organizations varied in the type of family planning information and services provided, as indicated in table 2. Among development organizations, all provide population information and the promotion of family life counseling and 10 of the 12 organizations offer a full range of natural family planning methods. Three agencies offer both traditional and modern contraceptives, including condoms and, to a lesser extent, oral contraceptive pills. The agencies include a national labour union (1,009 new and continuing users of condoms, and 359 new and continuing users of oral pills in 1993), and a social service organization engaged in income-generation and vocational training programmes (428 new and continuing users of condoms and 1,420 new and continuing users of the pill in 1993).

Nine of the twelve development organizations provide services through community out-reach programmes where motivators play a key role in providing family planning information and services. While several organizations have staff motivators, half of them train and use the services of volunteer motivators who provide information and services on a part-time basis. The number of volunteers ranged from 3 to 800. It was observed that the development organization which provided services to the largest volume of clients relied on part-time doctors and nurses, 30 full-time staff motivators and 100 volunteer motivators. That organization is a labour union that was established in 1953. It began offering family planning in 1972 as a way to reduce poverty among its workers. It provides health and employment-related services for union members in more than 200 companies in Cebu. About 1,680 members and their dependents receive a variety of social, economic and legal services each month. A mobile clinic, community-based distributors and volunteer motivators bring health services including family planning to its members and their dependents.

Table 2: Type of non-profit organization, by information and services, Cebu Provider Survey, 1994 (in percentage)

Services provided	Developmental	Religious	Health/family planning	All non-profits
Year established family planning services				
Before 1976	8.3	23.1	50.0	24.2
1976-1989	58.3	61.5	37.5	57.6
1990 to present	33.4	15.4	12.5	18.2
Rationale for offering family planning				
Socio-economic reasons	49.9	53.8	37.5	48.5
To promote family planning	41.6	23.1	62.5	39.4
Against artificial methods	8.3	23.1	0.0	12.1
Type of intended client				
Poor	75.0	61.5	50.0	63.6
Middle income	0.0	0.0	25.0	6.1
Everyone	25.0	38.5	25.0	30.3
Counseling				
IEC	100.0	100.0	87.5	93.9
Family life counseling	100.0	100.0	87.5	93.9

Natural family planning methods				
Rhythm	83.3	76.9	100.0	84.8
Billings method	83.3	76.9	75.0	78.8
Basal temperature method	83.3	76.9	87.5	81.8
Symptom thermal method	83.3	76.9	87.5	81.8
Lactational amenorrhea	83.3	76.9	75.0	78.8
Modern family planning methods				
Condoms	33.3	7.7	62.5	30.3
Spermicide	0.0	7.7	25.0	9.1
Pills	8.3	7.7	62.5	21.2
Injectable	0.0	0.0	25.0	6.1
IUD	0.0	0.0	50.0	12.1
Female sterilization	0.0	0.0	25.0	6.1
Male sterilization	0.0	7.7	25.0	9.1
Location of services				
Own clinic	0.0	30.8	12.5	15.2
Community-based distributors	66.7	15.4	12.5	33.3
Combination	33.3	53.8	75.0	51.5
Hours per week devoted exclusively to family planning services and programmes				
As need arises	25.0	7.7	0.0	12.1
1-15 hours	41.7	61.5	37.5	48.5
16-30 hours	8.3	0.0	0.0	3.0
Over 30 hours	25.0	7.7	50.0	24.2
Number of non-profits	12	13	8	33

All the religious organizations studied offer population information including counseling on the promotion of family life. Ten of the thirteen organizations offer a full range of natural family planning methods. Only one local mission offers both natural and modern methods, including condoms, spermicides, pills and vasectomy. The mission began offering natural family planning methods when it was established in 1965. In 1980, it began offering modern contraceptives such as spermicides. The mission's reasons for providing family planning include concerns about the health of mothers, and the inability of poor parents to feed and educate large numbers of children.

About half of the religious organizations provide services through a combination of clinics and community-based distribution programmes while one-third provide services exclusively through their clinics. Many rely on a few part-time staff members, usually a nurse, social worker or motivator, while others use a combination of staff members including part-time doctors, nurses, community-based out-reach workers, motivators and volunteers. The volunteers include doctors as well as community out-reach workers. One organization relies on the help of five doctors who are church members; another uses teacher volunteers. Through parent-teacher association meetings, teachers inform parents about natural family planning.

A key attribute of health and family planning organizations is their ability to offer clients the broadest possible mix of methods including permanent contraception. Seven of the eight organizations offer at least three natural methods, and six offer several clinical and non-clinical modern methods including pills, condoms, injectables, IUDs, and male and female sterilization. Among those agencies that do not offer long-term and permanent methods, referrals are made to other health care providers. Most health and family planning organizations use a combination of clinics and community distribution programmes to provide services. The organizations rely on the part-time help of doctors while nurses and midwives play key roles as counselors and providers of non-clinical services. Community-based distributors are used to bring information and non-clinical services to residents.

In the study, the availability of services was found to vary greatly among the organizations. Health and family planning organizations were devoting more time during a given week to the provision of services than the other organizations. Half were providing services more than 30 hours per week. Most of the religious organizations have small staffs consisting of part-time workers and volunteers. As a result, hours are limited when social services including health and family planning are available. Most religious organizations offer family planning 1-15 hours per week. Development organizations that provide only natural family planning were found to have limited hours when family planning services are offered. However, development agencies that provide both traditional and modern methods have longer operating hours, i.e. 15-40 hours per week.

Many of the religious and development organizations do not keep client records on family planning services. Because of this, it is difficult to compare the volume of clients among the organizations. The limited data available

show differences among the organizations. Based on comparisons of median distributions, development organizations had the highest median for natural family planning and condoms. The median number of natural family planning users in the year prior to the survey was 101 compared to 61 for religious organizations and 80 for health and family planning clinics and agencies. The median number of condoms for development organizations was 100 compared to 32 for health and family planning and zero for religious organizations. Health and family planning organizations had the highest volume of clients for other modern methods including oral contraceptive pills, the IUD and injections (see table 3). The median for contraceptive pills was 728 compared to 364 for development organizations. For the IUD, the median was 442 for health and family planning agencies. The higher volume of clients was expected since health and family planning organizations have record-keeping systems in place and have longer hours when services and supplies are available.

Are grassroots organizations interested in expanding family planning services in the near future? To answer this question, we asked whether or not the organizations planned to increase services within the next year. Plans to expand family planning services varied by type of organization. Among health and family planning agencies, over two-thirds planned to expand services within a year. Most expressed interest in broadening the geographic area for services. Several also planned to increase cost-recovery efforts. Among development agencies, close to half were interested in expanding services. Many had introduced new activities and wished to provide family planning for their new participants. One organization, the labour union, wished to train its staff in IUD insertions. Those with plans to increase services included two youth programmes, a labour organization, and two organizations that promote income-generating activities among their participants.

Table 3: Family planning methods offered by various non-profit organizations, by median number of annual clients a year prior to the survey, Cebu Provider Survey, 1994

Methods	Development non-profit organizations			Religious organizations			Health/family planning organizations		
	Median	Highest volume	No.	Median	Highest volume	No.	Median	Highest volume	No.
Natural family planning	101	800	4	61	155	3	80	478	4
Condoms	100	1,103	3	-	-	-	32	5,726	3
Spermicide	-	-	-	-	-	-	201	201	1
Pills	364	364	1	-	-	-	728	3,568	4
Injections	-	-	-	-	-	-	34	34	1
IUD	-	-	-	-	-	-	442	1,793	4
Female sterilization	-	-	-	-	-	-	8	8	1
Male sterilization	-	-	-	-	-	-	-	-	-

About two-thirds of the religious organizations were not interested in expanding services. Most were concerned about meeting the immediate needs of children and poor families. For example, an international religious organization felt that the needs of "street children" were more urgent than family planning activities. The third that were interested in expanding services wished to promote family life education or expand natural family planning efforts. One organization was interested in improving data collection efforts to monitor the number of new and continuing acceptors.

To expand family planning programmes, organizations must mobilize resources from a variety of different sources. We examined funding sources of the organizations to gain insights on whether or not they could finance programme expansion. We discovered that all three types of organizations were mobilizing support for family planning services from a combination of sources. Health and family planning organizations rely on client fees, the Government, and local and international donors. Among the sources, client fees are a key source of support. Development agencies also mobilize support from a number of different sources including client fees, government supplies and a range of international organizations. However, most rely on the Government and client fees. Among religious organizations, few clients pay for services. Local and international religious institutions provide financial support for services.

It is difficult to say which types of organizations can mobilize and sustain financial support for programme expansion. Organizations that primarily meet the needs of the poor cannot rely on client fees (which are usually based on a sliding fee schedule) to recover full costs of services and counseling. Costs of operation must be subsidized by the Government, the donor community or other fund-raising efforts. Unfortunately, these are not reliable sources of long-term support: economic and political change within countries can reduce government support for services, and support from the international donor community can be influenced by changes in the world economy, or in the policies of major donors.

Those organizations that have years of experience mobilizing broad-based support are more likely to raise resources to expand services. Among the grassroots organizations, the labour union has the longest history of mobilizing different sources of support. It relies on support from union members, the Government and local and international donors. The Philippines Family Planning Association also has a long record of obtaining wide-spread support. It generates revenues from contracted services with private industries and the Government, receives financial and technical support from the International Planned Parenthood Federation (IPPF) and collects fees from clients who represent a broad range of income levels.

Summary

The 1994 ICPD generated new actors in the delivery of population programmes including grassroots organizations involved in reproductive health and empowerment activities. The purpose of this paper was to explore the role of grassroots organizations in expanding family planning services. Compared were development agencies and religious organizations involved in health, including family planning services, with traditional health and family planning agencies. The study was based on a census of 33 volunteer organizations in Metropolitan Cebu.

It was discovered that organizations engaged in empowerment and family planning services are highly diverse. Labour unions, income generation and vocational-training organizations, environmental institutions, youth centres, and local and international religious organizations mobilize resources to help individuals and families to improve their lives. For these organizations, family planning is viewed as one of many resources to help the poor to gain control over their productive and reproductive lives.

It was also observed that development and religious organizations cannot compete in service delivery with traditional health and family planning associations. Private family planning associations that offer both natural and modern family planning methods demonstrated the highest capacity to provide modern contraceptives. They have years of experience in providing and adapting family planning services and information to meet the needs of diverse populations including couples, women in their reproductive years, teens and men. They have also played major roles in expanding programmes by introducing innovative, alternative service-delivery models. Because of the large number of women involved in managing or serving as community-based distributors, private associations have played a major role in empowering women. Over the years, women at the community, provincial and national levels have developed skills in advocacy, participatory planning, negotiation and community development. The limited data available suggest that development and religious organizations complement existing public and private sector services by providing information and family planning methods for urban populations that would otherwise be difficult to reach. In a country where religion influences the decision to use contraception, religious organizations play a role in counseling and providing natural family planning methods to families concerned about the religious implications of fertility regulation.

Development organizations cannot compete with the volume and method mix offered by health and family planning agencies. A key contribution of these organizations is their ability to link the urban poor with providers that offer effective long-term methods of birth control.

What types of grassroots organizations have the greatest capacity to expand family planning services? With the limited data available, we cannot answer that question. We did observe that grassroots organizations that promote economic development and survival skills among the poor had the largest number of contraceptive users. Key attributes of these organizations include the following; they: (a) promote income-generation activities as part of services for the poor, (b) have a large number of beneficiaries, (c) operate on a full-time basis, (d) have skills in mobilizing financial and human resources from within and outside the communities, and (e) have established networks among public and private health providers within the health care delivery system. Unfortunately, no information was obtained on the quality of family planning counseling and services provided by development organizations. Further studies are needed that will measure the quality of care and the cost-effectiveness of involving grassroots organizations in information, education and communication (IEC) efforts, counseling and service delivery.

The study raises questions about the indirect impact of participation in grassroots organization on contraceptive use. It is possible that development organizations that conduct empowerment activities increase the participants' ability to take advantage of family planning services outside of the agency. Schuler and Hashemi (1994) observed that communities having access to a Grameen Bank, a credit programme that promotes self-help among its lenders, had higher levels of contraceptive use than communities where such a programme does not exist. Although the Grameen Bank does not offer family planning services, it helps women to earn cash outside the home, creates women's solidary groups to increase self-esteem, and raises awareness about existing resources, including family planning within the community. Through involvement with the empowerment processes of the Bank, women can take advantage of family planning services as a resource to raise their standard of living.

Suggestions for further policy analysis

The study presented is descriptive and is limited to an analysis of volunteer organizations that offer health care services, including family planning, in Metropolitan Cebu. While it gives some insights on the types of grassroots organizations that are engaged in empowerment activities and family planning, it provides no information on the relationship between empowerment processes and the decision to seek family planning. Further research is needed that addresses the following two questions. To what extent does participation in empowerment activities influence the desire to use contraception? What types of interventions are used by grassroots organizations to influence their members to use modern contraceptives?

Empowerment can be viewed from the perspective of individuals, groups and/or communities. At the individual level, it can be defined as a series of steps by which individuals gain access to critical resources which can be used to bring about improvements in their lives. Zimmerman (1995) introduced the concept of psychological empowerment which focuses on perceptions of personal control, a pro-active approach to life, and a critical understanding of the socio-political environment. From the group or community level, it can be viewed as a social action process in which individuals work together in an organized fashion to improve their lives collectively. Organizational or community empowerment fosters networks between community organizations and agencies that help to promote and maintain the quality of life (Zimmerman, 1995; Stein, 1994).

Measures of empowerment are slowly being defined and are difficult to measure. Research by Hashemi and Schuler (1993) on contraceptive use among women involved in credit programmes in Bangladesh suggest several indicators of individual empowerment. Indicators include the ability to make use of existing resources, vision of the future, status and decision-making power within the household, and participation in non-family groups such as grassroots organizations. Many of these indicators can be linked to the decision to use contraceptives. The ability to make use of existing resources could include family planning and reproductive health services. A vision of the future could include a vision of one's ideal family size. Decision-making power withing the household can include joint decisions on the use of contraceptives.

Further research is needed that explores ways to develop and test measurements of the relationship between empowerment and reproductive health including family planning. Since empowerment processes produce incremental change in behaviour over time, longitudinal studies are needed that assess participants of development programmes as well as institutions engaged in empowerment activities in order to more fully understand the potential roles of community organizations in promoting family planning.

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