

Impact of a Self-reliance Programme on Family Planning Activities in Bangladesh

High quality counselling and education programmes at all levels should be initiated to remove many misconceptions that surround family planning methods

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Despite the long history of the family planning programme in Bangladesh, the contraceptive prevalence level remains low and consequently the rate of population growth has remained persistently high. Several factors can be attributed to low contraceptive prevalence. The most important factors are low levels of socio-economic development, the lower status of

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women, the strong preference for sons, the high level of infant and child mortality and limited access to health and family planning facilities.^{1/}

Several authors have argued that Bangladeshi couples are not likely to adopt contraception until they experience improvements in their socio-economic condition. In order to improve the socio-economic conditions of the rural masses, various development programmes have been undertaken by different agencies. The Swanirvar (self-reliance) Programme is one such development programme.

The Swanirvar Programme has been designed to improve the socio-economic conditions of the rural poor in Bangladesh. In 1979, the programme started in 10 *upazillas* (an administrative region lower than the district level) and a year later, it was expanded to another 65 *upazillas*. Besides these, during the period 1983-1985, an additional 62 *upazillas* were brought under this programme. As of 1989, the programme had been in operation in 138 *upazillas* with 10,000 villages covering all geographical regions of Bangladesh.

The main thrust of the Swanirvar Programme is on income-generating activities. A bank credit scheme has been introduced in collaboration with the Bangladesh Bank. Under this scheme, credit facilities are provided to the landless and disadvantaged groups of people in the selected Swanirvar *upazillas*. The amount of loan provided to a family usually ranges from Tk. 500 to Tk. 5,000 (approximately \$US16 to \$160).

Besides the loan scheme, motivation for family planning is an important aspect of the programme. The other components of the programme include eradication of illiteracy, pisciculture, poultry and cattle raising, plantation and increased agricultural output.

The involvement of the community members in development activities is also an important strategy of the Swanirvar philosophy. The idea of women's involvement in income-generating activities was included as a basic component in the programme on the assumption that their participation would change their reproductive behaviour and that the opportunity to work outside their homes would result in changing opinions on marital timing and would give them a greater say in decision making in the family with the ultimate desire of achieving a small family through acceptance of family planning.

The main purpose of this article is to examine the effectiveness of family planning activities through the Swanirvar Programme. Specifically, the objectives are:

- To assess the fertility behaviour of the currently married women and child mortality for both programme and non-programme areas;
- To examine the existing knowledge and use of contraception of the currently married women for both the areas; and
- To identify the variables influencing the current use of contraception.

Data and methodology

The study was conducted in the Swanirvar-supported project areas. Since the primary objective of the study is to determine the impact of the project on fertility and family planning behaviour of the programme beneficiaries, a post-test control group design was adopted. In order to draw samples, a three-stage sample design was adopted. Those *upazillas* in which the Swanirvar Programme was active were the primary sampling units (PSUs), the unions were the intermediate sampling units (ISUs) and the villages were the ultimate sampling units (USUs). In each stage samples were drawn randomly. A total of 24 *upazillas* were selected from a list of 130 Swanirvar *upazillas* from which 2,390 currently married women were interviewed. Similarly, five *upazillas* were selected adjacent to the programme *upazillas* and these *upazillas* were treated as non-programme *upazillas*. A total of 1,000 currently married women were chosen for interview.

Since the self-reliance programme is in operation only in a limited number of areas (in about 10 per cent of the total villages), homogeneity with regard to many of the characteristics of the non-programme area is expected in the context of Bangladesh. Thus, a smaller size of the comparison area was thought to be fairly representative in order to permit comparison between the programme and non-programme areas.

Results

Demographic and socio-economic characteristics

The demographic characteristics such as age and family size of the respondents both in the programme and non-programme areas were considered. The distribution of females by marital status showed the prevalence of early marriage in both areas. On average, the proportion of unmarried females was higher in the programme area than in the non-programme area. The singulate mean age at marriage (SMAM) calculated from the proportion never married for females was almost two years higher in the programme area than in of the non-programme area (19.7 years compared

with 17.5 years). The majority of the respondents live in families consisting of more than four members. The average family size appeared to be slightly higher in non-programme area (5.7) as compared with the programme area (5.3).

As may be observed from [table 1](#), a little over 24 per cent of respondents in the programme area had no education compared with 54.8 per cent in the non-programme area. This large difference can clearly be attributed to the literacy programme undertaken by the Swanirvar Programme.

The vast majority of the respondents, namely 86.8 and 94.9 per cent in the programme and non-programme areas, respectively, were housewives. More than 6 per cent of the respondents in the programme area were in business and 2.3 per cent were engaged in cottage industries. The percentage of respondents in these two occupational groups for the non-programme area was negligible.

As expected, about 75 per cent of respondents in the programme area were related to members of different organizations. In the non-programme area, the percentage of membership was only about 12. Among the respondents in the programme area who had membership in an organization, about 59 per cent of them belonged to the Swanirvar category.

Fertility and mortality

In the absence of information on current births, children ever born (CEB) data were used to provide the levels of fertility by using indirect means.

Despite the small difference in the level of fertility in terms of CEB in the two areas ([table 2](#)), continued child-bearing, even at the end of the conventional reproductive age span among the women of both areas, is quite noticeable from the addition of, on average, one child as the women pass through the age groups 30-34 to 35-39 and nearly another child from age 35-39 to 40-44.

As can be noted from the table, the mean number of children living in the programme and non-programme areas are 2.87 and 2.85, respectively, thus showing virtually no difference. The comparison by age group reveals that the means are consistently higher in the non-programme area compared with the programme area. This is expected because the average CEB was also high in the non-programme area.

The age-specific fertility rates and the implied total fertility rates (TFRs) derived through the use of the Gompertz relational model are

Table 1: Socio-economic characteristics of the respondents by type of area (percentage figures are given)

N	Programme area 2,390	Non-programme area 1,000
Education		
No education	24.1	54.8
Can sign name only	39.8	6.6
Primary	34.2	35.9
Secondary	1.9	2.7
Occupation		
Household	86.8	94.9
Service	1.6	0.5
Business	6.2	0.1
Cottage industries	2.3	0.5
Day labour	1.2	0.8
Others	1.9	3.2
Membership status		
Not member	25.5	87.6
Swanirvar	58.7	0.6
Mahila <i>samity</i> (association)	8.4	1.4
Landless <i>samity</i>	1.1	5.6
Others	6.3	4.8
Religion		
Muslim	75.7	89.4
Hindu	23.0	10.4
Others	1.3	0.2

Table 2: Selected demographic characteristics of the respondents by current age and type of area

Type of area	Current age							All
	15-	20-	25-	30-	35-	40-	45-	
Mean parity								
Programme	0.76	1.76	2.84	3.97	5.08	5.93	6.65	3.46
Non-programme	0.78	1.79	3.02	3.98	4.68	5.50	7.08	4.43
Mean number of living children								
Programme	0.66	1.50	2.43	3.32	4.10	4.86	5.45	2.87
Non-programme	0.67	1.51	2.67	3.66	4.44	5.20	5.73	2.85

presented in [table 3](#). The estimated TFR seems to be slightly lower in the programme area than in the non-programme area. This finding is in agreement with the life-time fertility presented previously. By and large, the age pattern of fertility for both the areas appeared to be similar. The indirect estimates of crude birth rate (CBR) for the programme and non-programme areas were 34.4 and 35.3, respectively. These values appear to be consistent with the estimates obtained at the national level and all other fragmentary studies conducted in Bangladesh in recent years.^{2/}

The estimates of mortality in the form of $q(x)$ values were obtained from the proportion dead by using the Trussel method.^{3/} The reported proportion dead provided estimates of child mortality which, when matched with the Coale Demeny's West model life tables,^{4/} implied an expectation of life of 50.0 years and an infant mortality of 119 per thousand live births in the programme area. The corresponding estimates for the non-programme area were 47.6 years and 132 per thousand, respectively.

Knowledge and use of family planning methods

In both the programme and non-programme areas there is almost universal knowledge of family planning methods. In the programme area, 99.2 per cent of women were aware of any family planning method as com-

Table 3: Age-specific fertility rates from current parities

Current age (years)	Programme area 1989	Non-programme area 1989
15-19	0.1470	0.1324
20-24	0.2176	0.2167
25-29	0.2240	0.2760
30-34	0.1622	0.2115
35-39	0.1252	0.1146
40-44	0.0908	0.0907
45-49	0.0292	0.0041
TFR	4.98	5.23

pared with 97.9 per cent in the non-programme area. This can be attributed to diffusion occurring between two areas as well as increased exposure to family planning information through mass media in recent years. The ever use of contraception was also high in both the areas with 69.3 per cent in the programme area and 53.3 per cent in the non-programme area.

Table 4 compares the percentages of married women who are currently using family planning methods (by age and method) obtained in this study with those of two recent studies. The currently married women (or spouses) reported to have been using at least one method of contraception is about 53 per cent in the programme area compared with only 36 per cent in the non-programme area. The comparable rates as obtained in the 1989 Contraceptive Prevalence Survey (CPS) and the 1989 Bangladesh Fertility Survey (BFS) are 31.4 per cent and 30.8 per cent, respectively.^{5/}

Differentials in current use

A clear picture of the age pattern of current users for the two areas is shown in the first panel of table 4. The current use rate was the highest (55.6 per cent) in the age group 35-39 in the non-programme area while in the programme area the current use rate was the highest (64.4 per cent) in the age group 30-34. This rate was the lowest (6.0 per cent) in the non-

Table 4: Percentage distribution of current users by selected characteristics

	Programme area 1989	Non-programme area 1989	CPS 1989	BFS 1989
Current age				
15-19	20.6	6.0	14.6	15.0
20-24	41.3	27.9	25.1	26.0
25-29	56.5	36.7	36.4	37.0
30-34	64.4	48.8	44.2	42.0
35-39	63.7	55.6	44.8	43.0
40-44	59.5	50.8	34.9	39.0
45-49	48.7	36.4	21.7	22.0
<i>Total</i>	<i>52.9</i>	<i>36.4</i>	<i>31.4</i>	<i>30.8</i>
<i>N</i>	<i>1,265</i>	<i>364</i>	<i>9,318</i>	<i>10,907</i>
Family planning methods				
Female sterilization	39.9	29.7	28.8	27.7
Pill	37.2	36.5	29.1	31.3
IUD	5.8	8.2	5.4	4.6
Injection	3.7	10.4	3.5	2.0
Condom	3.6	4.7	6.1	5.9
Safe period	2.4	3.0	12.1	13.0
Male sterilization	2.1	0.5	4.8	3.9
Withdrawal	1.3	1.1	3.8	5.9
Abstinence	0.8	0.4	1.6	3.2
Others	3.2	5.5	4.8	2.5

Table 5: Percentage of currently married women by sex composition and contraceptive use

No. of children	Sex composition	Contraceptive use				
		Programme area		Non-programme area		BFS 1989
		N	%	N	%	%
No children	-	52	17.3	12	-	-
One child	1 Son(S)	233	37.3	77	27.3	25.0
	1 Daughter(D)	172	34.9	90	30.0	23.0
Two children	2S+0D	141	61.0	48	52.1	38.0
	1S+1D	284	58.8	106	34.0	38.0
	0S+2D	110	40.9	37	32.4	27.0
Three children	3S+0D	61	62.3	25	44.0	37.0
	2S+1D	206	74.8	76	48.7	46.0
	1S+2D	154	61.7	68	41.2	38.0
	0S+3D	40	22.5	14	42.9	19.0

programme area in the age group 15-19 while in the programme area it was 20.6 per cent for the same age group.

In the programme area, the most frequently used method is sterilization (39.9 per cent) followed by the pill (37.2 per cent), while in the non-programme area the pill was the most popular method (36.5 per cent) followed by sterilization (29.7 per cent). Table 5 presents the percentage of women using contraception in both the programme and non-programme areas by sex composition of living children. As evident from the information, contraceptive use is consistently related to sex composition at all family size levels increasing with more living sons. These findings demonstrate that sex composition of the family will be an important determinant whether or not a couple would accept contraception for limiting family size. This pattern is consistent when compared with the 1989 BFS data.^{6/} The findings also suggest that the higher the number of living sons, the higher will be the contraceptive prevalence rate in the rural Bangladesh cultural context.

Table 6: Percentage of eligible couples practising contraception by selected background characteristics

Background characteristics	Programme area		Non-programme area	
	N	%	N	%
Education	$(X^2 = 26.8; p = 0.0)$		$(X^2 = 30.7; p = 0.0)$	
No education	1507	48.2	614	29.1
1-4 years	409	58.7	134	51.5
5-9 years	428	58.9	225	42.3
10 years & above	46	63.0	27	40.7
Religion	$(X^2 = 5.6; p = 0.016)$		$(X^2 = 8.5; p = 0.003)$	
Muslim	1800	50.7	886	34.0
Non-Muslim	594	56.4	114	47.8
No. of living children	$(X^2 = 187.7; p = 0.0)$		$(X^2 = 75.3; p = 0.0)$	
<2	617	30.8	290	15.9
2	535	54.8	191	37.7
3	461	63.1	181	43.1
4	339	69.6	126	53.2
5+	438	59.8	212	42.0
Children Ever Born	$(X^2 = 261.7; p = 0.0)$		$(X^2 = 67.5; p = 0.0)$	
<2	504	20.5	251	15.1
2	449	52.1	162	35.8
3	446	60.8	145	38.6
4	318	65.4	148	48.3
5	223	68.2	89	48.3
6+	450	54.3	205	32.7
Ideal family size	$(X^2 = 2.6; p = 0.52)$		$(X^2 = 19.4; p = 0.0)$	
<2	55	45.0	29	1.1
2	1635	52.7	530	36.8
3	543	52.9	288	37.7
4+	157	46.5	175	31.2

Current use pattern according to some selected background characteristics is investigated in [table 6](#). As found in other studies, it is also observed that more women with higher education are using contraception than women with little or no education. Muslim women are less likely to be users than Hindu women because of religious reasons. About 48 per cent of women belonging to the Hindu religion are using contraceptives as against only 34 per cent of Muslim women. However, this difference is not very large in the case of the programme area. The comparable figures for the 1989 CPS are 30.3 per cent and 39.5 per cent, respectively.^{5/}

The association between number of children ever born and number of children surviving with contraceptive practice is curvilinear. Current use of contraception is considerably higher compared with those with either many or only a few children. As regards the ideal family size, it is observed that about 53 per cent of the women were current users, with two or three being the ideal number of children. This figure was only 47 per cent, with four or more children, for non-users.

Logistic regression analysis

Logistic regression analysis^{7/} was used to identify the variables which influence the current use of contraception. Two regressions were considered: one for the programme area, the other for the non-programme area. The dependent variable considered here was current contraceptive use status and the independent variables were those which were assumed to influence contraceptive use of currently married women.

The results of the multivariate regression analysis are presented in [table 7](#). The analysis shows that the likelihood of women using contraceptives was associated with variables such as age of the youngest living child, availability of electricity, desire for additional children and education of the respondents, all of which were statistically significant. In the programme area, women having children aged less than 1 year were nearly one and a quarter times as likely as women having children of age 1 year or more to have used contraceptives. The likelihood of women having electricity in their households to be contraceptive users was 1.19 times higher compared with those women without electricity in their households. Desire for additional children and the religion of the respondent were found to be impediments to the use of contraceptives. Similar findings with an even greater likelihood were observed for the non-programme area. However, desire for additional children in the non-programme area was strongly negatively associated with the current use status of the women.

Table 7: Likelihood of using family planning methods by socio-economic characteristics of currently married women (results of multivariate logistic regression analysis)

Variable	Programme area			Non-programme area		
	Beta coeff.	Odds ratio	P-value	Beta coeff.	Odds ratio	P-value
X ₁	.007 (-.06,.07)	1.01	.837 ^a	.015 (-.40,.37)	1.02	.941 ^a
X ₂	.037 (.01,.06)	1.04	.002*	.204 (.07,.33)	1.23	.002*
X ₃	.178 (.12,.24)	1.19	.000*	1.017 (.65,1.39)	2.76	.000*
X ₄	.043 (-.002,.09)	1.04	.062**	.286 (.37,.53)	1.33	.024*
X ₅	.208 (.17,.25)	1.23	.000*	1.253 (1.00,1.51)	3.50	.000*
X ₆	-.191 (-.32,-.07)	0.83	.003*	-2.977 (-5.00,-.95)	0.05	.004*
X ₇	-.118 (-.20,-.03)	0.89	.007*	-.611 (-1.07,-.15)	0.54	.010*
Constant	-.007 (-.16,.14)	0.99	.929 ^a	-2.962 (-3.87,-2.06)	0.05	.000*

Notes: The figures in the parentheses give the 95 per cent confidence interval; see footnote 7 at end of article for explanation of the variables.

* = Significant at the 1 per cent level.

** = Significant at the 5 per cent level.

a = No relationship.

Conclusions

This article examined the impact of the Swanirvar Programme on family planning activities in Bangladesh. The findings suggest that programme efforts to increase family planning and consequently to improve maternal and child health services have important effects. The programme inputs such as training for the Swanirvar workers, knowledge and awareness about the implications of having a large family, benefits of birth spacing and provision of credit facilities have important effects. Efforts to improve socio-economic conditions through various services will have important impacts on reproductive motives and contraceptive behaviour. The effect of the Swanirvar Programme is reflected in lower levels of fertility and mortality.

Levels of contraceptive use are substantially higher in the programme area. The percentage of women who were currently using contraception was about 53 in the programme area compared with only 36 in the non-programme area. Most of the current users were users of the pill followed by sterilization, condoms and IUDs. Desire for additional children is not common. This implies that there is an unmet need for contraception among non-users. Multivariate logistic analysis suggests that the age of the youngest living child, availability of electricity, education of the respondent and desire for more children are the most important determinants of contraceptive use. Besides, the religion and the sex preference of the couples are also influencing factors in the adoption of contraceptives.

One of the limitations of the study is that there is no baseline information on any of the areas under investigation. In addition, some parts of the programme areas were being supported by the Pathfinder Fund (PF) where PF workers supply contraceptives. Our field experience suggests that the clients often confused and failed to distinguish among the workers of the self-reliance programme, PF and the Government's Family Planning Programme. Owing to this, the comparison group and the experimental group may not be strictly comparable. Therefore, careful adjustment for the underlying causes is essential in the interpretation of the programme effects.

Our field observations suggest that procedural barriers within health care facilities are major constraints to the acceptance of contraceptive methods. In many situations, the husband's consent is required before a woman can accept a contraceptive method. Many women are afraid or unwilling to discuss limiting the size of their families with their husbands. Efforts should be made, therefore, to encourage wives to participate in all family decisions. Women should also be informed about their rights and

privileges as well as about family law. These aspects need to be incorporated in the training of Swanirvar workers to make the family planning programme more effective and successful.

References and footnotes

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7. The model can be written as:

$$\text{Log}_e (P) = b_0 + b_1x_1 + \dots + b_nx_n$$

1-P

where P is the probability of contraceptive use for the event occurring; b_0, b_1, \dots, b_n are the regression coefficients and x_1, x_2, \dots, x_n are the independent variables.

Seven independent variables were considered in each model. The variables are:

- X_1 = Age of the respondent
- X_2 = Education of the respondent
- X_3 = Availability of electricity
- X_4 = No. of male living children
- X_5 = Age of the youngest living child
- X_6 = Additional children desired
- X_7 = Religion of the respondent.