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## Improving community based family planning services and the potential for increasing contraceptive prevalence in Bangladesh

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**Improving Community Based  
Family Planning Services  
and  
the Potential for Increasing  
Contraceptive Prevalence  
in Bangladesh**

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Peter C. Miller**

**The Population Council**

**Asia & Near East Operations Research and Technical  
Assistance Project**

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**Dhaka, Bangladesh  
1995**

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## ABSTRACT

A set of 13 varied special family planning (fp) projects recently implemented in Bangladesh is described, and their results in terms of the contraceptive prevalence rate (CPR) analyzed, in order to (1) investigate the degree to which improved fp service delivery in Bangladesh can increase contraceptive use in the present status of demand, (2) investigate the programmatic factors most associated with increased prevalence, and (3) make these projects more widely known. Criteria for inclusion included coverage of a defined geographic area where household distribution of contraceptive supplies was available, and at least one measurement of CPR has been made through credible survey efforts since July 1988. The projects varied substantially in design, intensity, programmatic focus, geographic area, implementing agency, and evaluating agency. All were rural or largely so.

Project effort was measured by an index created from 10 objective indicators available for all projects. In percentage terms, total effort scores ranged from 37 to 79, with a median of 60. Measures of CPR were compared with the best available comparison measures, and time series data are presented where available. The median CPR was 49.6%, with a range of 21.5% to 65.7%; nationally, CPR increased from 31.4% in 1989 to 44.6% in 1994. The median difference between project CPR and the most appropriate comparison was +11.4, with a range from -7.1 to +29.9. Where time series measurement was available, most project CPR increased substantially faster than the national average, especially in early years of implementation.

Pills were the most commonly used method in nearly all projects, as in the national program. Higher CPR differences were associated with lower proportions of traditional method users ( $r=-.70$ ) and (excluding Matlab, where home delivery of injectables is widely accepted) higher proportions of pill users ( $r=.70$ )

In nine projects for which the visitation rate is measured, it is highly correlated with both CPR (.81) and the CPR difference with comparison (.88). Specific inputs closely associated with high CPR differences in these data were basic training ( $r=.67$ ), eligible couples per provider ( $r=.62$ ) and whether the fieldworker was provided by an NGO rather than the government ( $r=.77$ ). In terms of project design, the highest effort scores and CPR differences were found with projects using only NGO systems; intermediate efforts and results were found in projects which supplemented the government systems; and the lowest effort scores and CPR differences, in general, were found in projects designed to support the government system.

The primary conclusions are:

1. Improvements in the national program can be expected to lead to substantial increases in contraceptive prevalence, up to a level of perhaps 55-60 percent,

given the present level of demand;

2. Increased visitation rates, and greater efforts in basic training, density of fieldworkers, and use of NGO fieldworkers may be particularly effective in meeting unmet demand.
3. Although the direct provision of services by NGOs seem most associated with high performance, the implication of this for the national program requires careful analysis.

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## I. INTRODUCTION

The Bangladesh National MCH and Family Planning Programme has achieved considerable success in its attempt to promote family planning, despite slow progress in macroeconomic indicators. The preliminary report from the 1993-94 Demographic and Health Survey indicates a contraceptive prevalence rate (CPR) of 45 percent of married women aged 15-49, with 37 percent using modern methods (Mitra et al, 1994). CPR has increased at about 2 percent per year for the last 15 years, which is especially remarkable considering that most scientists in the 1970s and early 1980s believed that demand for family planning would remain low in the context of a traditional rural economy, predominately uneducated population and conservative society (see the review in the Introduction of Cleland et al, 1994).

Still, challenges to the program remain. The Government of Bangladesh (GOB) has set a goal of reaching replacement fertility by the year 2005, which suggests a required CPR of between 70 and 75 percent. Substantial debate accompanies the issue of how these goals can be achieved. A fundamental aspect of the debate is disagreement over the extent to which improving family planning services will result in increased use of contraceptives, where major economic and social changes are absent. Evidence of unmet need from surveys suggests that much can be accomplished by improving services (Khuda and Howladar, 1988; Sabir and Ali, 1993). However, the practical utility of such survey data is open to debate. Alternatively, a recent, widely publicized article by Pritchett (1994) argues that present fertility is primarily determined by present desires for children, and that increases in demand for family planning must be based on fundamental economic and social progress. In this view, improvements in contraceptive availability are unlikely to have a major effect on contraceptive prevalence. The relative importance of socio-economic versus programmatic factors in the recent increases in contraceptive use in Bangladesh cannot be ascertained with certainty, although there is widespread belief, strengthened recently by the detailed analysis of Cleland et al (1994) that the family planning program was an important factor.

One of the most impressive demonstrations of the impact of family planning in the absence of social and economic changes comes from the experimental MCH-FP Matlab Project in Bangladesh, which achieved dramatic short-term and long-term increases in contraceptive use, compared with a control area (Phillips et al., 1988). Pritchett's assessment of this experiment is that success was due to "massive and expensive" efforts to improve availability, and that "Fertility reduction in the Matlab experiment came at a sufficiently high cost to make it not replicable at a national scale" (p. 37). Hence the question remains: can important increases in contraceptive prevalence be achieved through reasonable efforts to improve the family planning program, or are such efforts likely to remain futile in the absence of substantial social and economic change?

One way to address this question is to look at recent projects in which efforts have been made to increase the availability of family planning, or to improve the quality of services, and in which credible efforts have been made to assess the results. We have identified thirteen such activities over the past few years. A review of these projects could provide useful evidence regarding the

degree to which improving family planning services in Bangladesh can be expected to lead to increased levels of use. If several projects, independently conducted and credibly evaluated, have consistently led to substantial increases in contraceptive use, then one could reasonably conclude that such results might be possible at the national level. If, on the other hand, such efforts typically result in little change, it may be inferred that changes in the structure of demand for children may be a necessary precondition for further increases in contraceptive prevalence.

In this paper we will demonstrate that the latter is not so: that repeatedly, in a variety of settings and circumstances, efforts to improve family planning programs have been quickly accompanied by increased contraceptive use. The creative ferment that has led to these varied projects is a characteristic strength of the Bangladeshi program, and has in the past contributed greatly to improving the structure of the national effort. Still, national authorities continue to look for ways to improve the program, to address present weaknesses and to adjust to the changed circumstances expected in the future. Hence a second reason for this review: to examine the factors which seem to be associated with higher levels of success, as possible future directions for the national program. For example, one would like to know the associations between project success and such factors as motivation efforts, training, supervision, home visitation rates, method mix, types of service personnel, etc.

Finally, on their own terms these efforts deserve wider attention than they have received. Except for those associated with the International Centre for Diarrhoeal Disease Control, Bangladesh (ICDDR,B), these efforts are little known outside of the country. Some are not widely known even within Bangladesh.

We have located three previous reviews of special family planning efforts in Bangladesh. Alauddin and Muhuri (1984) reported CPR from 15 studies between 1979 and 1983, and concluded that "The contraceptive prevalence rates obtained in the small studies are, in most cases, consistently higher than the national estimates of CPR" (p. 121). This review, however, has little to tell us about the level of contraceptive demand more than a decade later, and in any case was primarily focussed on other issues. The East-West Center et al. (1990) completed an extensive evaluation on over 100 USAID funded projects. They assessed a number of performance indicators, but did not measure CPR. Cleland et al (1994) included in their study of the determinants of reproductive change a selective review of such studies to support its conclusion that "improved access to contraception brings about a response in terms of declining fertility" (p. 133), and conclude that projects which make active efforts to reach clients are more successful than more passive, clinic-based approaches. Their review, however, is partial, and limited in analyzing factors responsible for program success.

The purposes of this paper are therefore (1) to review those recent projects which have attempted to improve family planning services and for which credible efforts have been made to assess results, to obtain insights into the degree to which improvements in family planning service delivery in Bangladesh can be expected to lead to increases in family planning use within the

present structure of demand; (2) to investigate the programmatic factors most associated with increases in contraceptive prevalence in such projects; and (3) to describe these projects, as a group, for general information.

This review is not intended to compare the merits of the individual projects. Each project was uniquely designed and carried out under unique circumstances, and project evaluations differed in depth and quality. Any attempt to compare them would be a complex and ultimately futile undertaking.

## II. PROJECT DESCRIPTIONS

This review was carried out in mid-1994. A complete review was attempted of all Bangladeshi projects which:

- attempted to promote or provide family planning;
- attempted to cover a defined geographic area(s) where household distribution of contraceptive supplies was available;
- made a credible attempt to measure CPR through methods other than service records;
- measured CPR using a probability sampling of currently married or ever-married women of reproductive age in the project area(s);
- have had one or more such measurements since July 1988.

Projects which did not cover all married women of reproductive age in a defined base population were excluded, e.g., Grameen Bank, BRAC, various clinical services projects, and the routine distribution activities of the Social Marketing Company. NGO and GOB activities evaluated only through service records were also excluded due to the potential for bias in reporting and the difficulty of ascertaining the quality of the service records.

The following are brief descriptions of the projects included in the analysis, the nature of the evaluation, CPRs for the project and plausible comparisons, and any special notes or concerns, presented in order of the year of the earliest project evaluation.

### 1. *Unity of Government and Non-Government Population Services (UGNPS) Project, The Asia Foundation (TAF), 1987-1988*

The UGNPS Project, supported by TAF, began in 1987 and ended in 1992. It covered four thanas<sup>1</sup> of Dhaka division and approximately 147,157 eligible couples (ELCOs). UGNPS was designed to establish greater understanding between GOB and NGO programs for the achievement of better family planning performance. Key features of the project were reduction of workload of the GOB fieldworkers (Family Welfare Assistants, or FWAs) to a maximum of 800 couples per worker through the recruitment of additional NGO fieldworkers; extensive training of newly recruited UGNPS fieldworkers; creation of a supervisory cadre (evaluators) between the thana<sup>2</sup> and union levels;

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<sup>1</sup> Bangladesh is divided into five divisions, which are further divided into districts. Previously known as upazilas, thanas are administrative units of districts.

<sup>2</sup> Until 1992, thanas were called upazilas. The two terms are used interchangeably in this paper, according to project context.

creation of a sense of competition between GOB and NGO fieldworkers; posting of one project officer to each upazila to provide counterpart support to the Thana Family Planning Officer (TFPO); and introduction of a simple and effective record keeping system for workers to record and report day-to-day work performance to their immediate supervisor.

Samples of currently married women of reproductive age (CMWRA) from the project area (N=1600) and a comparison area (N=800) were compared in a survey in July 1988. Two unions from each of the four program thanas were randomly selected, from which four high and four low performing units from both GOB and NGO areas were systematically sampled. Finally, 25 *baris* (compounds) from these units were systematically selected. Fieldwork was carried out in each *bari* sequentially, with all MWRA in a *bari* interviewed, until 100 MWRA had been interviewed in a unit. The comparison area was similar to the program area and sampling was done in a similar fashion (Kamal et al, 1988).

The survey found a CPR of 44.9% in the experimental areas compared with 34.0% in the comparison areas, with all of the difference accountable by supply methods<sup>3</sup> (28.9% vs. 15.9%). The national CPS of 1989 reported the CPR in Dhaka Division to be 34.5%. An inquiry during couple registration at the beginning of the Project in 1987 found a CPR of 21.0%.

## 2. *An Operations Research Project to Improve Performance of TAF Subprojects, The Asia Foundation (TAF), 1988-1989*

TAF implements its family planning program through 24 NGO subprojects. At the time of the survey, TAF subprojects were operating nationwide, in 83 rural and urban areas, covering approximately 1,018,000 ELCOs. Subprojects are fundamentally community based distribution projects, although TAF provides support to clinics in 21 of the subprojects. Prior to the intervention, each fieldworker was responsible for 1000 couples and provided contraceptives, motivation, or clinical referrals as necessary. Fieldworkers were supervised by field supervisors at a ratio of one to four or five workers, and an executive committee of volunteers were responsible for overseeing the program.

In order to improve performance of the Subprojects, an operations research project was carried out which was designed to ensure visits by TAF field workers to eligible couples once every two months, and to ensure that the topics discussed were appropriate to the couple's status. Key features of the intervention included the adjustment of worker areas to allow worker-couple ratios of 1:750, and demarcation of areas between GOB and NGO workers; adoption of a single reporting format used for daily, weekly, and monthly reporting as well as by different levels e.g. grass-root to headquarters; organization of dissemination meetings; improvement of discussions at weekly/

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<sup>3</sup> 'Supply methods' refers to contraceptive methods which require consistent resupply, e.g., oral pills and condoms.

monthly/special field level meetings to include performance review, worker motivation, and appropriate discussion topics for specific groups of MWRA; special training/retraining for field workers in couple registration, efficient visitation scheduling, worker motivation, and appropriate message development; and intensive supervisory skill development in terms of record keeping, training capacity, and establishment of accountability.

In a 1989 survey, 1650 MWRA in 12 experimental Subprojects were compared to 830 MWRA in two comparison Subprojects. Half of the experimental and comparison Subprojects were high performing and half were low performing. High and low performance Subprojects included two urban and four rural areas each<sup>4</sup>. Respondents were clustered in groups of 25, which in most cases was a single village and its immediate environs. All households having any eligible woman were listed within the cluster and a random sample of households was drawn for interviewing (Kamal et al., 1989).

Within the TAF areas, the CPR grew faster in the experimental sample over the 15-month period (40.4 to 50.1) than in the standard TAF program (43.8 to 48.4). Combining the experimental and control areas, CPR in the TAF sites increased from 41.6% at the end of 1987 to 49.6% by March, 1989. By comparison, the national CPR in May 1989 was 31.4%; the difference was primarily in the supply methods.

### 3. *Swanirvar, assisted by Pathfinder International in some areas, 1982-present*

The Swanirvar program, assisted by Pathfinder International in some areas, is a countrywide movement for self-reliance. It was launched in 1975 and was designed to improve the socio-economic conditions of the rural poor. A family planning project was incorporated into the strategy in 1979 and currently operates in 138 thanas nationwide. Key features of Swanirvar are organization of the rural poor into groups to obtain credit for various income generating projects; provision of information, education and motivation for family planning by project loan officers; literacy education; income generation activities; promotion of tree planting; and provision of training to religious leaders to increase social awareness. In Pathfinder supported areas, loan officers also supply contraceptives to acceptors.

In 1990 a sample was drawn of 2400 currently MWRA from program areas in 24 thanas scattered throughout the country and 1000 from non-program areas in 5 scattered thanas. Through multi-stage probability procedures, samples were drawn in turn from thanas, unions, villages, and households. All currently married women in the selected households were identified for interview

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<sup>4</sup> The two to one ratio of rural to urban projects roughly corresponded to the division among TAF subproject areas.

(Kabir et al., 1990).

The CPR in the Swanirvar sample was 52.8%, compared with 36.4% in the control area; there were substantial differences for both supply and clinical methods. The national CPR rose from 31.4% in 1989 to 39.9% in 1991. In a 1982 survey, Alauddin (1984) found a CPR for Swanirvar of 36.2%, compared with 11.5% in a comparison sample; in 1981, the national CPR was 18.6%.

4. *The MCH-FP Matlab Project, International Centre for Diarrhoeal Disease Research (ICDDR,B), 1975-present*

ICDDR,B introduced a family planning project in Matlab thana of Chittagong division in 1974 and has systematically improved services. Various Matlab family planning projects have evolved into what is currently known as the MCH-FP Matlab project. In 1990, the study area consisted of 142 villages with a population of approximately 200,000, 100,00 of which were in the treatment area. The project utilizes Community Health Workers (CHWs) who provide a variety of MCH and family planning services. Emphasis is on quality of services and accessibility. Most notable strategies are fortnightly visitation by CHWs to eligible couples (ELCOs), greater areal density of clinics, and delivery of both clinical and non-clinical contraceptive methods to the door-step, including injectables and home insertions of IUDs. CHWs receive extensive support through a supervisory system including female paramedical and medical staff, and administrative field supervisors. There is also a management information system for timely performance review and planning for better service delivery and a special effort for gathering vital statistics known as the Demographic and Health Surveillance System. Standard GOB services are provided in a comparison area (Phillips et al, 1984).

A knowledge, attitude and practice survey of 8,500 CMWRA was conducted in 1990 in both treatment and non-treatment areas, with about equal numbers of respondents from each area. Villages were randomly selected in both areas, with CMWRA selected from a sampling frame based on a census-type enumeration of all respondents in the selected villages (Koenig et al, 1992, Khan, 1993).

The 1990 survey found a CPR of 57.1% in the experimental area and 27.2% in the control area. A 1984 survey had found a CPR of 38.2% in the experimental area and 15.8% in the control area (Koenig et al, 1992). For Chittagong Division, the CPR in 1989 was 19.8%, in 1991 27.1%. In 1990, the difference between the experimental area and either the control area or Chittagong Division was predominantly in the use of injectables.

5. *Intensive Family Planning Service Project (IFPSP), Society for Project Implementation*

*Research Evaluation and Training (SOPIRET), Planned Parenthood Federation of America through its international division, Family Planning International Assistance, 1985 - present*

The IFPSP of SOPIRET began in 1985 in two thanas of underserved, low performing Chittagong Division. It covers a population of approximately 370,000 persons or 52,000 ELCOs and provides intensive home delivery services. Key features of this intervention include a high worker-couple ratio (1:153) where workers are local part-time volunteers, provision by volunteers of MCH and family planning services, and regular fortnightly visits to each couple. Volunteers work two to three hours daily and receive a token salary of Tk. 257 (about \$US 6.50) per month (Kamal and S. Rahman, 1992).

In 1992 a systematic random sample of 0.2% ever MWRA was drawn proportionate to the population in each thana covered. A list of eligible women was then used as the sampling frame and eligible women were selected with probability inversely proportional to the number of eligible women listed in working units. A total of 1122 ever married women of reproductive age were selected for interview.

The CPR in the SOPIRET areas was 50.0%; in Chittagong Division, the CPR was 27.1% in 1991, 29.3% in 1994. The higher prevalence in the SOPIRET areas was entirely in the supply methods. There was no baseline by which improvements could be measured, and no explicit comparison area.

6. *Jiggasha, The Johns Hopkins University/Center for Communication Programs (JHU/CCP), 1991-present*

Jiggasha began in 1991 as a collaboration between JHU/CCP and the Government, and operates in Trishal thana of Dhaka division. It was designed to extend fieldworker reach and to establish family planning as a community norm. Key features of the project are the identification and utilization of existing communication networks; training of GOB field workers known as family welfare assistants (FWAs) to locate and mobilize opinion leaders in each sub-village; meetings with *bari* heads and community influentials; and the establishment of rotating peer groups or jiggashas<sup>5</sup> by FWAs which are centered around the opinion leader, and involve discussion of health and family planning issues, peer group support and motivation, and counselling facilitated by variety of JHU/CCP supplied multimedia materials. There is also provision of family planning supplies at Jiggasha meetings and in home visits (JHU/CCP 1992).

Baseline and follow-up surveys were conducted in 1989 and 1992 which included 1988 and 1992 ever MWRA respectively. The same sample was utilized for both surveys. Six of the 12 unions of Trishal thana were purposively selected; within these, 24 sub-villages (paras) were randomly

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<sup>5</sup> *Jiggasha* comes from the Bangla word "to enquire"

selected with equal probability. All the eligible women resident in the selected paras were included in the sample up to a maximum of 110. The reported CPR includes both women resident in treatment areas and women resident in non-treatment areas. No comparison between treatment and non-treatment areas was made in the follow-up survey (Mitra et al., 1992). The evaluation thus tended to mask any effect which might be attributed to this project.

CPR in the Trishal samples rose from 26.8% in 1990 to 33.5% in 1992, with most of the increase due to supply methods. There was no explicit control area; in Dhaka Division, CPR rose from 34.5% in 1989 to 41.7% in 1991. Jiggasha remains a project under development, and further results are expected.

**7. *Community Based Sales (CBS) of Contraceptives and ORS, operations research phase, Social Marketing Company, 1990-1992***

This project operated in three thanas of underserved, low-performing Chittagong Division between 1990 and 1992. It covered approximately 19,000 married women of reproductive age (MWRA) and was intended to increase family planning and oral rehydration solution (ORS) contacts with MWRA.

One of the main research objectives was to examine the monetary costs of providing an alternative delivery system with a view for greater cost recovery. Part-time community sales workers (CSW) were recruited and trained to sell contraceptives and ORS in their communities, and to provide essential information and education to their clients. CSWs were paid a salary plus a commission from their sales. CSWs worked in the same areas as GOB family planning field workers, known as Family Welfare Assistants (FWAs), but an alternate supervisory and managerial structure was employed.

Both baseline and follow-up surveys were taken of MWRA to infer project impact. The baseline sample size was 1,857 and the follow up sample size was 1,648. A household and couple listing was conducted in each village of each ward and used for the sampling frame of the study. A total of 30 MWRA were randomly selected from each village for the baseline. For the follow up, the sample was stratified according to current, past and never use of SMC products and village listings were developed for each stratum. Respondents from each stratum were selected for interview (Richardson, 1993).

In the Project area, CPR rose from 15.3% in 1990 to 25.2% in 1992, with about half the increase due to supply methods. For Chittagong Division, CPR rose from 19.8% in 1989 to 27.1% in 1991 to 29.3% in 1994. There was no explicit comparison area.

**8 & 9. *MCH-FP Extension Projects (Rural) in Abhoynagar and Sirajgonj, ICDDR,B, 1983-present***

The MCH-FP Extension Project is a collaborative effort of ICDDR,B and the MOHFW. It began in

1982 in Abhoynagar thana of Khulna division and Sirajgonj thana of Rajshahi division and is designed to improve the delivery of maternal and child health and family planning services through the MOHFW system. The feasibility of proposed solutions to a variety of problems are tested in the actual conditions of the MOHFW system. Testing usually, but not exclusively, takes place in the two rural thanas where the project has field stations. Emphasis is placed on skill development of MOHFW staff. Service providers, managers and supervisors have been trained to improve both service quality and program management, and enhanced use of feedback from record-keeping systems, screening checklists, and supervisory checklists also contribute to improved problem-solving mechanisms. In addition, the project provides a greater number of static clinic facilities than the GOB system, increased focus on satellite clinics, and doorstep delivery of injectables by FWAs. A Sample Registration System (SRS), involving quarterly household surveys, also functions independently from the program MIS for a separate assessment of demographic dynamics (Simmons et al., 1984; Haaga et al., 1993; Mozumder, 1990).

The March 1993 data of the SRS were used to assess project impact. Sample sizes were 2721 MWRA in Abhoynagar, 3133 MWRA in Sirajgonj and 2936 MWRA in the comparison area. Women were randomly selected from a panel of women in the project field and comparison sites for interview (MCH-FP Extension Project Field Notes, 1993). Data from previous rounds of the SRS are taken from Hossain et al, 1994. The comparison areas for the two sites were changed in 1990, but the new areas did not have markedly different prevalence rates from the previous ones.

In 1993, CPR in the Abhoynagar was 48.7, compared with 40.3 in the present comparison area and 55.3% in Khulna as a whole. In June 1989 CPR in the project area was 42.7%, compared with 37.1% in the comparison area and 36.6% in Khulna as a whole. At the first measurement in 1983, the project and comparison areas were about the same (21.2 vs. 21.5). Within two years, CPR at the project site had risen to 33.0%, compared with 26.6% in the comparison area. Thereafter, CPR in the two areas increased at about the same rate.

In Sirajgonj, CPR in 1993 was 39.4, compared with 35.2 in the comparison area and, in 1994, 54.8% in Rajshahi as a whole. In June 1989 CPR in the project area was 27.1%, compared with 28.9% in the comparison area and 34.7% in Rajshahi as a whole. CPR had doubled from 18.5% in March 1988 to 38.1% a year later, surpassing the comparison area. Yet, before March 1988, CPR in the two sites increased at gradual and comparable rates. In 1983, the project site had a lower CPR than the comparison site (11.2% compared with 19.7%).

#### 10. *Utilization of Traditional Healers for Family Planning (UTHFP) Project, Family Planning Association of Bangladesh (FPAB), 1982-present*

The UTHFP project was launched in 1982. It operates nationwide in 30 thanas and covers approximately 575,000 ELCOs. UTHFP utilizes less-than-qualified "traditional" healers (TH) such as unqualified allopathic doctors, *kabiraj* and *hakims* to supplement the work of GOB FWAs. Key features of the project are training of THs in family planning methods, motivation, and health

related issues, and the provision of a nominal allowance to THs for their services. THs are expected to promote, motivate, and advise individuals about family planning and supply conventional contraceptive methods if requested, both at their clients' homes and in their dispensaries. Regular home visitation is not expected, but considered a part-time activity. Furthermore, THs are also expected to make referrals for permanent and semi-permanent methods to the nearest FPAB or government clinic if appropriate. Community motivational meetings that included film shows aimed at discussing/ disseminating various aspects of family planning were also included. THs are included in the FPAB supervisory system.

A 1993 evaluation involved a sample of 1200 clients (MWRAs registered with the UTHFP project) of the THs and 1200 non-clients (MWRAs not registered, who may have received services from any source). The sample was equally distributed among geographic areas using PPES. Areas were selected from both phased-out and on-going areas proportionate to their total number. MWRA were selected on the basis of simple random sampling using a random table for clients and an alternate household method for non-clients (Social and Marketing Research Associates, 1993). Overall CPR was estimated as a weighted average of clients and non-clients.

The 1993 study gave an estimated CPR of 62%, compared with national levels of 39.9% in 1991 and 44.6% in 1994. There was no baseline against which changes could be measured, nor a specific control area. Since UTHFP areas are scattered nationwide, the national CPR is used for comparison.

#### 11. *Child Health Initiatives for Lasting Development (CHILD), CARE, 1991- present*

Since 1991, the CHILD project has been operating in the underserved and low performing region of Chittagong division. It covers five thanas and a total population of about 1.2 million. CHILD works to strengthen the managerial and supervisory skills of both health and family planning staff of the MOHFW through intensive formal and on-the-job training of union-level supervisors and managers. A component to mobilize key community members is also included (CARE, 1992). CARE estimates that the FP activities in CHILD account for approximately one-fourth of the total project's child survival interventions and inputs.

A survey was conducted in 1993 in the project area which was not intended to assess project impact, but to serve as a baseline for future interventions through a new project, the NGO/FP Project. A sample of 685 currently married women of reproductive age (CMWRA) was drawn. Sample sites were chosen through the Probability Proportional to Estimated Size (PPES) method and clusters of 250-350 households were identified in these sites. A total of 75 households were selected from each site from a listing obtained earlier. One MWRA was interviewed from each sampled household (Mitra et al., 1993).

The 1993 survey gave an estimated CPR of 21.5%, compared with national survey rates for

Chittagong of 27.1% in 1991 and 29.3% in 1994. The CHILD areas were lower in use of both supply and clinical methods.

12. *Women's Development Project (WDP), CARE, 1979-present*

WDP began in 1979 to improve the health and economic security of 91,000 women and their families in Rajshahi and Dhaka Divisions. Efforts are concentrated on building self-reliance and increasing access of participants to existing facilities and services. WDP includes the formation of neighborhood groups of women, called "para committees", who are trained by WDP staff to provide health, nutrition, and family planning educational sessions. "Para committee" members are then expected to provide house to house follow-up to health education sessions, as appropriate. WDP also establishes two traditional birth attendants who have been trained in safer delivery practices, and a family planning supply holder, in addition to providing short-term loans to group members for small income-generating activities, and literacy and numeracy training for maintenance of group records and business accounts. After four years of assistance, CARE withdraws from a village and relocates its support to other areas (CARE, 1992).

A survey was conducted in 1993 in the project area as a baseline for future intervention (the NGO/FP Project) rather than to assess project impact or to be representative of the entire project area. A total of 688 CMWRA from 70 villages in Rajshahi division were selected for interview. Sample sites were chosen through PPES, size being measured as number of households in a site. A sample site was a cluster of 250-350 households. A total of 75 households were selected from each site from a listing performed earlier. One MWRA was interviewed from each sampled household (Mitra et al., 1993). Because of the WDP pattern of withdrawing from an area after four years, length of project activity in the sampled villages ranged from 0 to 4 years.

From the 1993 survey an estimated CPR of 61.2% was given. For Rajshahi, national surveys gave CPRs of 46.1% in 1991 and 54.8% in 1994. The differences are in both supply methods and traditional methods.

13. *Local Initiatives Project (LIP), Family Planning Management Development Project of Management Sciences for Health, 1987-present*

The LIP began in 1987 and currently operates in 71 Thanas nationwide. It covers a population of approximately 4.5 million people or 800,000 ELCOs. Key features of LIP are: (1) Local family planning teams are developed through in-country training programs (ITPs). ITPs are designed to improve managerial skills and increase effectiveness of team members. Teams, which include family planning program staff, local leaders, and administrators of government health and development programs, draft 'Action Plans' to improve services in their areas. LIP provides financial assistance for Action Plan implementation; (2) Community members are encouraged to

become actively involved by serving on family planning management committees that oversee the FP/MCH operations at the village and thana level; (3) Community based distribution (CBD) is restructured to involve recruitment of volunteers at the village level for CBD, and a change in function of the FWA from service provider to supervisor of volunteers. Volunteers receive reimbursement only for travel expenses to attend meetings and for some supplies; (4) to receive a grant to implement an Action Plan, the community must match LIP grants with at least 10% cash contribution from local resources.

A "micro-survey" was conducted in 1993 to validate the accuracy of observed LIP service statistics. The survey covered three of the 181 unions where LIP was operating; the thanas of those three unions were purposively selected for outstanding performance. All the villages of each union were clustered according to their contraceptive acceptance rate (CAR)<sup>6</sup>. Clusters included CAR 70% and above; CAR 69-60%; and CAR less than 60%. Fifty percent of the villages in each cluster were selected, and 50% of the households in those villages were selected at random from a household listing. All MWRA were then identified and 50% of them were randomly selected for interview. The sample size was 4,378 (Huq, 1993).

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<sup>6</sup> CAR is the proportion of eligible couples using contraception as reported in government service statistics. It is officially differentiated from CPR because of reported discrepancies between the two rates.

Since these three unions are selected for apparent high performance, CPRs reported by the microsurvey are probably higher than the overall levels of the project. Furthermore, there was no baseline by which improvements could be measured, which makes it difficult to associate changes in family planning outcome indicators with the project. The 1993 survey indicated a CPR of 65.7%, compared with national levels of 39.9% in 1991 and 44.6% in 1994; the differences were entirely due to supply methods.

## Comments

1. In most of these projects, the levels of input do not extend so far beyond the standard Government service that they could not be replicated nationally. Some, such as Jiggasha and LIP, are already in the process of national upscaling, and for others, implementation at the national level would certainly be possible. A few projects were done on a small scale -- i.e., total populations in the tens of thousands -- and perhaps the level of management intensity was too high to be easily replicable. But four of the projects cover total populations of over a million persons each, and thus have already demonstrated their feasibility on a large scale. Cumulatively, in fact, these projects already cover more than 10 percent of the population of Bangladesh.

2. Within the general structure of the national program -- notably including household distribution -- there is considerable variety of models, with differing content, implementation style, and vision. They are implemented by a number of different agencies, local and foreign. Most are funded, at least in part, by the United States Agency for International Development, reflecting the style and priorities of that donor.

3. The projects reflect broad geographic and socioeconomic coverage, although all are rural or primarily so. At least two projects focussed on each of the four<sup>7</sup> Divisions of Bangladesh, and initial prevalence levels varied from unusually high to unusually low.

4. The quality of the evaluations varied substantially in terms of design, implementation, and presentation. In some cases impact evaluation is fairly convincing, in others less so, and in some cases (e.g., the CARE projects and the Local Initiatives Project) the surveys were explicitly not done to evaluate impact, and the project directors make no claims in this regard. It is outside the scope of this paper to criticize evaluation technique, but it is our subjective impression that the quality of the evaluation is not related to the apparent level of project success.

5. The evaluations were carried out by eight different agencies. Except for the three projects of ICCDR,B, all these are professional research organizations unconnected with the projects being evaluated. ICDDR,B is itself an internationally respected research organization.

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<sup>7</sup> In 1993 a fifth Division, Barisal, was created out of Khulna.

### III. METHODS

#### Measuring Project Effort

In order to objectively assess project effort, we must attempt to measure it independently from outcomes. Most studies which have attempted to measure inputs/efforts independently of outputs have been large-scale, multinational studies. Lapham and Mauldin pioneered these assessments in 1972. They initially proposed 15 measures of inputs and applied them to national family planning programs in 20 countries. Later, they expanded input measures to include a set of 30 separate indicators grouped into four components -policy, service, record keeping, and availability of methods, and used them to review program effort in 100 countries. Scores ranged from zero to four and were calculated for each of the 30 items (Mauldin and Ross, 1991).

In this study, we were unable to obtain more than 10 separate comparable indicators for the 13 NGO projects<sup>8</sup>. Further, essential information was missing them to national family planning programs in 20 countries. Later, they expanded input measures to include a set of 30 separate indicators grouped into four components - policy, service, record keeping, and availability of methods, and used them to review program effort in 100 countries. Scores ranged from zero to four and were calculated for each of the 30 items (Mauldin and Ross, 1991).

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<sup>8</sup> Where information was not adequately explained in project evaluations, it was supplemented through interviews with the respective project managers.

In this study, we were unable to obtain more than 10 separate comparable indicators for the 13 NGO projects<sup>9</sup>. Further, essential information was missing from many projects which prevented attempts to credibly divide these indicators into comprehensive components. However, it is reasonable to consider the 10 proposed indicators as measures of major project activities by which to gauge project effort. An explanation of how project effort was measured follows.

For our purposes, we define NGO family planning project effort as any endeavor undertaken beyond the norm for family planning effort, i.e. the government family planning program. The premise is that NGOs endeavor to design and implement projects which are more effective/efficient than the norm, and that it requires more inputs from a project to go beyond the government system. Thus in this scoring system NGOs have by definition greater inputs to the extent that they introduce systems other than the standard Government ones. This is not logically necessary, but it fits with common observation.

Indicators of the degree of effort put forth are measured by non-monetary costs of extra staff required, extra time/work needed, and other special materials or monetary support. Indicators may include a single element of cost or a combination of two or more. The greater the cost implied, the greater the score. The scales used for scoring indicators are different from those used by Mauldin and Ross in order to suit the circumstances, include a higher proportion of factual items, and reduce subjectivity. Scores range from zero to three or four, with all but one -- community motivation -- being completely objective.

Only family planning efforts at the thana level and below which directly influence contraceptive distribution are considered. The size of project operation is not included in this assessment. Furthermore, no attempt is made to address the quality of efforts or the time period over which they operated, only that they exist. Though quality is recognized as a critical component of project efforts, information from most projects did not include enough detail to adequately measure it. Indicators used for all projects and the degrees of measurement are listed in Table 1.

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<sup>9</sup> Where information was not adequately explained in project evaluations, it was supplemented through interviews with the respective project managers.

**Table 1. Indicators of Project Effort and the Degrees of Measurement**

INDICATOR	DEGREE MEASUREMENT
<p><b>1. BASIC TRAINING</b></p> <p>Provider of basic training and recipients</p>	<p>a) GOB to CBD provider = 1</p> <p>b) NGO to CBD provider = 2</p> <p>c) NGO to CBD provider &amp; frontline supervisors = 3</p> <p>d) NGO to CBD provider, frontline supervisors &amp; any other = 4</p>
<p><b>2. INSERVICE TRAINING</b></p> <p>Provision of in-service/on-the-job training and recipients</p>	<p>a) GOB to CBD provider = 1</p> <p>b) NGO to CBD provider = 2</p> <p>c) NGO to CBD provider &amp; frontline supervisors = 3</p> <p>d) NGO to CBD provider, frontline supervisors &amp; any other = 4</p>
<p><b>3. SUPERVISION</b></p> <p>Extent of supervisory involvement at CBD level</p>	<p>a) complete reliance on GOB supervisory system = 1</p> <p>b) NGO supports GOB supervision = 2</p> <p>c) NGO provides supervision to all CBD providers at the approximate GOB ratio of workers to supervisors (~1:6) = 3</p> <p>d) NGO provides supervision to all CBD providers with fewer than 6 workers per supervisor = 4</p>
<p><b>4. LOGISTICS/SUPPLY SYSTEM</b></p> <p>Provision of supplies and related equipment to service points through logistics and transportation systems</p>	<p>a) complete reliance on GOB system = 1</p> <p>b) use of GOB system and alternative means = 2</p> <p>c) NGO contracts other agency to provide contraceptive supplies to service points = 3</p> <p>d) NGO utilizes its own system = 4</p>
<p><b>5. RECORDS</b></p> <p>Degree to which record keeping systems have been organized and implemented</p>	<p>a) use GOB record keeping system only = 1</p> <p>b) use GOB system and other NGO tools = 2</p> <p>c) NGO has developed and implemented its own record keeping system = 3</p> <p>d) NGO utilizes its own record keeping system and an independent surveillance system = 4</p>
<p><b>6. ELCOS</b></p> <p>Number of eligible couples per CBD provider</p>	<p>a) &gt;599 = 1</p> <p>b) 400-599 = 2</p> <p>c) 200-399 = 3</p> <p>d) 1-199 = 4</p>

INDICATOR	DEGREE MEASUREMENT
<b>7. PROVIDER TYPE</b>  Type of CBD service providers in project areas	a) GOB FWA = 1 b) GOB FWA and project family planning providers= 2 c) only project volunteers or full-time employees= 3
<b>8. OTHER SUPPORTS</b>  Other materials to support CBD service providers e.g. IEC materials, clinics, manuals, etc.	a) only GOB materials = 1 b) special NGO manual/field guide or IEC materials or greater density of clinics = 2 c) combination of any two in (b) = 3 d) combination of all three in (b) = 4
<b>9. COMMUNITY MOTIVATION</b>  Attempts to motivate or mobilize communities for family planning	a) motivational meetings = 1 b) motivational meetings with conscious involvement of local leaders = 2 c) community members involved in program management = 3 d) (c) plus financial assistance to community to implement activities = 4
<b>10. CONTRACEPTIVE METHODS</b>  Whether or not the following methods can be supplied to women in the privacy of their homes	a) pills and condoms = 1 b) pills, condoms, and injectables = 2 c) pills, condoms, injectables and IUDs = 3
<b>TOTAL SCORE</b>	<b>/38</b>

Visitation levels by field level workers are also useful measures to determine the extent that staff carry out their assigned tasks, but were not available for all projects. Hence, the available data are reviewed separately in the analysis.

With mandated inputs in place, the GOB family planning program would score 10. The only way a project could score less than the GOB system would be by not having a key element in place e.g. no community motivational efforts in the project area. Scores are calculated and then translated into percentages. Degrees of effort are then based on these percentages.

## Comparisons

Because of the nature of the data, there is no consistent indicator available which best measures the impact of the project on contraceptive prevalence. Some projects measured prevalence against explicit comparison areas; some used time series; some compared against national or regional levels; and some made no attempt at comparison at all. For general purposes of analysis in these data, we have used data from explicit comparison areas where available; where they are not available, we have used data from national surveys for the appropriate division, or if the project spans more than one division, for the country as a whole. Linear interpolations from the national surveys have been used to estimate prevalence rates at the time of the local project surveys<sup>10</sup>. The difference between the latest project prevalence measure and the appropriate comparison (by this procedure) is called the "CPR difference" for purposes of this analysis, and is the primary measure used for correlation with project inputs.

Time series data were not used as comparisons purpose partly because they are not consistently available, and partly because of differences in the length of time available. Where available, however, they are presented as an alternative measure of project accomplishment.

## Statistics

A stated purpose of this paper is to investigate what factors are associated with apparent project success. Given the nature of the data, it is only possible to search for associations, not causality. Correlation is measured by the Pearson product-moment correlation coefficient. Since the number of projects is small, coefficients substantially different from zero can frequently be expected by chance. Hence p-values (two-tailed) are computed, not to test hypotheses, but to give the reader an indication of how often correlations as high or higher than those observed could be expected by chance; p-values of .05 or more are not reported. The fact that a result is not due to chance, of course, does not mean that it is due to the factor under investigation. The contraceptive prevalence rate is assumed to be normally distributed; hence the p-values associated with correlation and regression coefficients should be fairly accurate. Data were analyzed using SPSS/PC+, version 4.0.

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<sup>10</sup> This may tend to understate project effect, since national and divisional CPRs reflect the whole nation or division, while the projects are nearly all completely rural.

## IV. RESULTS

### 1. Contraceptive Prevalence in Special Project Areas

#### *Levels of CPR*

Contraceptive prevalence has consistently increased in Bangladesh (Table 2). The most recent national survey, the Bangladesh Demographic and Health Survey reported a CPR of 45%, an increase of 5% since 1991. National and divisional CPRs from 1989 to 1993 are given in Table 2. Since 1982, prevalence has increased at an average of about 2.8% per year; that rate also applies for the period 1989-94.

**Table 2. Current contraceptive use among currently married women in Bangladesh according to National Surveys, 1989-1993**

Year	National CPR	Dhaka	Chittagong	Rajshahi	Khulna
1989	31.4	34.5	19.8	34.7	36.6
1991	39.9	41.7	27.1	46.1	45.7
1993	44.6	44.3	29.3	54.8	52.8 <sup>11</sup>

Table 3 shows CPRs for the special projects, appropriate comparisons (see methods section) and differences. The median project CPR was 49.6, with a range of 21.5 to 65.7. The median of the comparison CPRs was 36.4, with range of 27.2 to 44.3. The differences between project CPR and comparison had a median of 11.4, with a range of -7.1 to 29.9. Only three of the 13 projects did not report higher CPR than the most valid comparison. Most projects seem to be associated with substantially higher contraceptive use.

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<sup>11</sup> The BDHS reported separate CPRs for Khulna and Barisal. This figure is the combined CPR for these two divisions.

**Table 3. Project CPR, national survey CPRs, and differences by year**

Project (division)	Year	Project CPR	Most valid comparison of same year: National, Division, or comparison area (CA)	Diff.
UGNPS (Dhaka)	1989	44.9	34.0 (CA)	+10.9
TAF Subprojects (all)	1989	49.6	31.1 (National)	+18.5
Swanirvar (all)	1990	52.8	36.4 (CA)	+16.4
MCH-FP Matlab (Chittagong)	1990	57.1	27.2 (CA)	+29.9
SOPIRET (Chittagong)	1992	50.0	27.5 (Chittagong)	+22.5
Jiggasha (Dhaka)	1992	33.5	38.0 (CA)	-4.5
CBS (Chittagong)	1992	25.2	28.1 (Chittagong)	-2.9
MCH-FP, Ab. (Khulna)	1993	48.7	37.3 (CA)	+11.4
MCH-FP, Sj. (Rajshahi)	1993	39.0	37.3 (CA)	+1.7
UTHFP (all)	1993	62.0	43.0 (National)	+19.0

<b>Project (division)</b>	<b>Year</b>	<b>Project CPR</b>	<b>Most valid comparison of same year: National, Division, or comparison area (CA)</b>	<b>Diff.</b>
<b>CHILD (Chittagong)</b>	<b>1993</b>	<b>21.5</b>	<b>28.6 (Chittagong)</b>	<b>-7.1</b>
<b>WDP (Rajshahi)</b>	<b>1993</b>	<b>61.2</b>	<b>52.1 (Rajshahi)</b>	<b>+9.1</b>
<b>LIP (all)</b>	<b>1993</b>	<b>65.7</b>	<b>44.3 (National)</b>	<b>+21.4</b>

No relationship was found between difference in CPR and the comparison measure ( $r=.12$ ,  $p=.69$ ), suggesting that the prevalence rate in the surrounding area did not strongly affect what could be achieved. A strong correlation was found between CPR difference and CPR ( $r=.84$ ,  $p<.001$ ); in other words, projects with the greatest CPRs had the largest differences with the comparison measures.

### *Changes in CPR over time*

For eight projects, CPR was measured over time. Interpretation is complicated by lack of comparability. The length of time between measures differs markedly; some of the earlier measures are taken pre-project, some after the project was well underway. Nevertheless, change in CPR over time is an important indicator of effectiveness, and Table 4 presents such data as are available, including the earliest measures, the most recent measures, and the average increase in CPR per year.

The largest overall increases took place in the four projects which continued over a long period of time. During this time, however, there was also considerable increase in the national CPR. In the four long-running projects, average increases in CPR were not greatly different from the national average. However, in MCH-FP Matlab, Abhoynagar, and probably the Swanirvar projects, rapid initial increases in CPR were followed by a long period of steady growth. The more recent projects, observed over a shorter period of time, showed increases in CPR substantially above the national average.

**Table 4. Increases in CPR Over Time, and Average Increase per Year**

Project	Period (years)	First rate	Latest rate	Diff.	Avg./ year
MCH-FP Matlab (1975-90)	15.0	7.8	57.1	49.3	3.3
Swanirvar (1982-90)	7.5	36.2	52.8	16.6	2.2
Abhoynagar (1983-93)	10.0	21.2	48.7	27.5	2.8

Project	Period (years)	First rate	Latest rate	Diff.	Avg./ year
Sirajgonj (1983-93)	10.0	11.2	39.4	28.2	2.8
UGNPS (1987-88)	0.9	21.0	44.9	23.9	27.3
TAF Subprojects (1988-89)	1.3	41.6	49.6	8.0	6.4
Jiggasha (1990-92)	2.0	22.0	34.0	12.0	6.0
CBS (1990-92)	2.0	15.3	25.2	9.9	4.5
National (1981-94)	12.5	18.6	44.6	26.0	2.8

### ***CPR and method use***

Method use by women surveyed in project areas tended to reflect national data, pills being the most commonly used method in nearly all projects. There were correlations between levels of pill use and CPR ( $r=.79$ ,  $p<.01$ ) and CPR difference ( $r=.59$ ,  $p=.03$ ), and between levels of IUD use and CPR ( $r=.57$ ,  $p=.04$ ) and CPR difference ( $r=.71$ ,  $p<.01$ ). For pill use, the fit is consistently close (Figure 1), with the exception of the MCH-FP Matlab project, where injectable use has surpassed pill use in a high CPR area due to sustained home delivery. On the other hand, with one exception, associations between specific method use as a proportion of all users and CPR and CPR difference were non-significant. The exception was 'other' (primarily traditional methods), which was strongly and negatively correlated with CPR ( $r=-.70$ ,  $p<.01$ ) and CPR difference ( $r=-.77$ ,  $p<.01$ ). In other words, there was no consistent tendency for any particular method mix to be associated with higher CPR or CPR difference, except that projects with higher CPR and CPR difference effectively promoted modern as opposed to traditional methods. However, if Matlab is excluded from the analysis, pill use as a proportion of all use becomes more closely associated with both CPR ( $r=.68$ ,  $p=.02$ ) and CPR difference ( $r=.72$ ,

p=.01).

## 2. Project Effort

### Scores

Each project received a total project effort score for the 10 indicators. Scores had a median of 60 and ranged from 37 to 79. Project scores are displayed in Table 5 from lowest to highest (see Appendix A for project scores of each indicator).

Table 5. Project effort scores and remarks

Project	Score	Category and Remarks
CHILD	37%	Project efforts only exceed those of the GOB in terms of training and retraining, supervision, and community motivation.
Jiggasha	47%	This is due to its heavy reliance on the existing government system. Effort beyond the GOB system is only in special training, IEC materials for FWAs, and attempts to create community involvement.
WDP	47%	This project works in addition to the GOB system and establishes an informal and alternative information and supply service. Para committee members receive support from the CARE system mainly in terms of training and inservice training.
MCH-FP Extension Project, Abhoynagar	50%	Greater inputs are in inservice training, records and other supports, but support to supervision and a wider choice of methods are also provided.
MCH-FP Extension Project at Sirajganj	50%	Greatest inputs are in inservice training, records and other supports, but support to supervision and a wider choice of methods are also provided.
Swanirvar	58%	This project puts greater effort into training, inservice training, supervision, logistics, and records.

Project	Score	Category and Remarks
UGNPS	60%	This project used an alternative system combined with the GOB system. Effort was much higher in terms of training, inservice training, supervision, and record keeping.
UTHFP	60%	This alternative supply system works in addition to the GOB system and requires higher efforts in nearly all categories.
CBS	60%	The completely alternate system of service delivery requires greater effort in all areas, with the exception of the number of ELCOs per provider, motivational efforts and types of methods provided.
TAF Subprojects	66%	This separate system from the GOB requires increased efforts in all indicators but ELCOs and methods provided.
LIP	66%	This approach requires greater effort in all areas, with the exception of logistics, other supports and types of methods.
SOPIRET	68%	SOPIRET forgoes the GOB system completely and utilizes an entirely different system of service delivery, leading to high scores for nearly all indicators.
MCH-FP Matlab	79%	This system of services is completely separate from the GOB system. It requires the highest degree of effort among all projects reviewed due to extensive inputs in all areas scored.

### ***CPR and project effort***

Correlations between level of CPR and project effort score or specific effort indicators were not significant except for basic training ( $r=.62$ ,  $p=.02$ ), but an association was found between CPR difference and project effort score ( $r=.80$ ,  $p<.01$ ). Thus 64% of the variability in CPR difference can be explained by the total project effort scores, and a one percent increase in total project effort is associated with a 0.80% increase in CPR (Figure 2). Some individual project effort indicators were also found to be associated with CPR

difference: basic training ( $r=.67$ ,  $p=.01$ ), ELCOs per fieldworker ( $r=.62$ ,  $p=.02$ ), and type of CBD providers ( $r=.77$ ,  $p<.01$ ).

### *CPR and worker visitation*

The relationship between visitation frequency and CPR of projects was reviewed for nine projects which measured the visitation frequency of family planning promoters/providers specific to the project. The percentage of MWRA reporting a visit from a field worker in the past three months was found closely associated with CPR ( $r=.86$ ,  $p=.008$ ), and CPR difference ( $r=.88$ ,  $p=.002$ ) (Figures 3 and 4).

### *Project effort, CPR difference and project design*

Three distinctive groups emerged when project effort scores, CPR difference and general project designs were reviewed. The first group consisted of projects which used completely alternative systems from the GOB family planning program i.e. no GOB workers were in project areas. Overall, this group exhibited both the largest CPR differences and the greatest project effort. They include MCH-FP Matlab, SOPIRET, and TAF Subprojects. CPR differences ranged from 18.5 to 29.9 percentage points, with a median CPR increase of 22.5%. Total project effort scores ranged from 66 to 79, with a median of 68 (Table 6).

The second group of projects utilized alternative service delivery providers to work in addition to field workers of the GOB system; part-time or other development workers were recruited to promote and/or provide family planning services. These projects were designed to supplement the existing GOB system and consisted of Swanirvar, UTHFP, WDP, UGNPS, LIP and CBS. These projects had generally moderate CPR differences and effort scores. CPR differences ranged from -2.9% to 21.4%, with median 13.4%. Total project effort percentage scores ranged from 47 to 66, with median 60.

The third group included projects designed to support the existing GOB system, without recruiting alternative providers. They included Jiggasha, CHILD, and the MCH-FP Extension Projects at Abhoynagar and Sirajgonj. CPR differences ranged from -7.1 to 11.4, with median -1.4. Total project effort percentage scores ranged from 37 to 50, with median 48.5.

**Table 6. Project Categorization by Design, CPR difference, and Effort Scores**

Project	TOTAL PROJECT EFFORT (%)	CPR Difference
<b>Completely Alternative Systems:</b>		
TAF Subprojects	66	18.5
SOPIRET	68	22.5
MCH-FP Matlab	79	29.9
<b>Median</b>	<b>68</b>	<b>22.5</b>
<b>Range</b>	<b>66-79</b>	<b>18.5-29.9</b>
<b>Alternative provider systems:</b>		
WDP	47	9.1
Swanirvar	58	15.8
UGNPS	60	10.9
UTHFP	60	19.0
CBS	60	-2.9
LIP	66	21.4
<b>Median</b>	<b>60</b>	<b>13.4</b>
<b>Range</b>	<b>47-66</b>	<b>-2.9-21.4</b>
<b>Support to GOB:</b>		
CHILD	37	-7.1
Jiggasha	47	-4.5
MCH-FP, Ab.	50	11.4
MCH-FP, Sj.	50	1.7
<b>Median</b>	<b>48.5</b>	<b>-1.4</b>
<b>Range</b>	<b>37-50</b>	<b>-7.1-11.4</b>

## V. DISCUSSION

### *Levels of CPR in special project areas*

Most projects greatly surpassed national or divisional CPR levels reported at the time of the projects' evaluations. Moreover, most projects for which time series were available achieved faster initial increases than the national program. Furthermore, large CPR differences occurred regardless of the division projects were located in, or initial CPR levels. Under our methodology, only CHILD, Jiggasha, and CBS registered CPRs below those of the chosen comparison, and in these cases the problem appears to be with the chosen comparison. In all three cases project efforts were initiated in areas where the initial CPR was significantly lower than in the area we have used as the comparison. Moreover, each of these projects can make a plausible claim for success. Jiggasha, using a before/after, experiment/comparison approach, demonstrated a 7% greater increase in CPR in the project areas than the control over a service period of 12-18 months. The CBS project, working in a particularly difficult area in Chittagong division, measured an increase in CPR of 9.9% over two years. The CHILD project, concentrating primarily on health rather than family planning, has accomplished a great deal; determination of its impact on CPR cannot be made at present.

The "CPR differences" as used in this paper clearly cannot be used to infer causality in each project. For example, in the two CARE projects (CHILD and WDP), family planning has been a modest part of larger health and development efforts operating over a fairly short period in limited, purposively chosen geographic areas. As CARE would agree (Brahman, 1995, personal communication), there is little evidence that either the strongly positive CPR difference associated with WDP or the negative one associated with CHILD was caused solely, or even substantially, by CARE. In several other projects, there is greater reason to infer causality, but we do not do so here for individual projects. Rather, we document a different point: that in most cases, projects which have made serious attempts to improve family planning services and have credibly measured CPR, have found rates considerably higher than the best available comparison.

It could perhaps be argued that the comprehensive approach of some projects, such as WDP and Swanirvar, to improving the social and economic conditions of the rural poor leads to lower demand for children, and that these efforts, as opposed to contraceptive access or family planning effort, may have caused the relatively high levels of family planning practice in these project areas. However, most other projects, which do not include such efforts, have also demonstrated much success. Moreover, the increases in CPR generally seem too rapid to plausibly result from the slow pace of socioeconomic development.

These results are reinforced by those of previous special projects, and by other special

projects which have measured CPR by service statistics. Though this review categorically excluded projects evaluated only through service statistics, such projects require some discussion. In 1990, an independent assessment of the reliability of service statistics in USAID-funded NGO projects found a close overall correspondence between the levels of current contraceptive use reported in the records of field workers and those of the women surveyed, but there was considerable variation among NGOs (Allen and Khuda, 1992).

According to service statistics, The Asia Foundation has stated its June 1994 CPR in project areas as 59.9 (TAF, 1994). Concerned Women for Family Planning (CWFP) reported a CPR of 55.7% in 1993 for both its rural and urban areas (CWFP, 1993). Save the Children, USA reported a CPR of 44.7% in all rural project areas in 1993 (Save the Children, 1993), and Family Planning Services and Training Centre reported a CPR of 59.8% for the 49 national NGOs it supports in both rural and urban areas in 1993 (FPSTC, 1994). Additionally, in 1994, FPAB and The Pathfinder Fund reported CPRs of 62% (FPAB, June 1994) and 53% respectively (Pathfinder, November 1994) for the rural and urban areas they both support.

One can question any individual study, but it is hard to doubt the weight of all the studies together. National CPR has been improving rapidly during the last decade or so, but nearly all of the projects reviewed seem to be a step or two ahead of the national program. Further, the fact that no relationship was found between CPR change and comparison measures indicates that much may be achieved regardless of initial CPR.

Hence, the evidence from this review strongly indicates that family planning projects which focus on service delivery have had an impact on family planning behavior. The view that improving contraceptive availability in itself can have little effect on contraceptive prevalence is clearly contradicted by the experience of Bangladesh.

This is not contradictory to the view that CPR increases in response to declines in the demand for children. In a voluntary program, this must surely be the case. Desired family size has been falling in Bangladesh for many years (Cleland et al, 1994) and the national surveys of 1989, 1991 and 1994 consistently report high levels of unmet need, even as CPR rises (Mitra et al., 1990; Mitra et al., 1993; and NIPORT et al., 1994). Demand for children is strongly affected by social, economic, and cultural conditions; however, family planning professionals widely believe that motivational efforts and availability of services also contribute to reduced demand for children, at least in the short to medium term. Whether the projects reviewed here have merely met some existing unmet demand for family planning, or have also contributed to increasing the demand for family planning, is largely unaddressed in this paper. However, it is notable that in three of the four long-running projects, rapid initial increases in CPR were followed by continued gradual increases parallel to, but higher than, national levels, consistent with what might be

expected if family planning efforts had a medium-term effect on demand.

### *National implications*

Given existing levels of demand, what levels of contraceptive prevalence can be achieved nationally by reasonable improvements in the program? By "reasonable", we assume that large increases in staffing and facilities are not feasible, but that improvements in efficiency can be achieved through better utilization of existing resources coupled with modest additional inputs, as in most of the projects described here.

Nine of the 13 projects analyzed here achieved CPR differences of at least 10% over their appropriate comparison areas. Several of the projects reporting time series also achieved short-term increases in CPR of 10% or more. If such increases could be achieved in the national program, CPR could be raised to 55% or higher. Four projects actually achieved such levels, and three or four more, given CPR increases since the last measurement comparable to those of the national program, may have reached such levels by 1994.

Some of the more impressive performances may not be realistic in the national context. In some cases, high or low project CPRs represent activity in particularly promising or difficult areas. The quality and discipline achieved in the MCH-FP Matlab project over the years is probably not achievable nationally. The LIP results represent project areas selected for high performance. Nevertheless, impressive performances were achieved by enough different projects to lead the authors to conclude that, if such efforts could be replicated nationwide, a national CPR of 55-60 percent could be achieved in the present state of demand.

### *CPR and method use*

The convenience of pills through household distribution and their general acceptability probably explain why pill use was highest in nearly all of the projects, as in Bangladesh generally. However, injectable contraceptives also take on these characteristics when delivered at the doorstep. MCH-FP Matlab and both MCH-FP Extension Projects of ICDDR,B had much larger percentages of injectable users, and in the MCH-FP Matlab project injectable use greatly exceeded pill use. The results of field trials in Extension Project sites attributed much of the recent increases in CPR in these areas to the doorstep delivery of injectables (Rahman et al., 1992). Further, Matlab excluded, greater CPR and CPR difference were associated with higher pill use as a proportion of all use. Thus, the more effective CBD efforts found a higher proportion of their users among methods distributed directly by CBD workers. These findings support another recent qualitative study of family planning providers which found that field workers favor the

distribution of methods which are easily distributed, highly effective, and acceptable (Nessa et al., 1994).

The association of CPR and CPR difference with IUD use is also of interest. All projects had low levels of IUD use compared to other methods, but slight increases were associated with higher levels for both measures. Projects with the most effective CBD strategies seemed to obtain the most IUD acceptors.

### *CPR and Project Effort*

Findings indicate that higher levels of CPR and larger differences with comparison areas were strongly associated with greater levels of effort beyond the GOB system. This was true for the total project effort score as well as for three particular indicators. The very high association between visitation rates and CPR difference in the nine projects for which data were available confirms results obtained in the MCH/FP Extension Project areas, where it is associated both with higher acceptance and higher continuation (Hossain, Haaga, and Phillips, 1993). However, high visitation rates are themselves the end product of doing other things well. In these data, higher CPR differences were associated with improved basic training, low numbers of eligible couples per worker, and use of NGO-supported providers.

In the projects studied, those with the greatest efforts and CPR increases were mostly found among completely alternative systems. Middle range increases in CPR were achieved using alternative service delivery providers in GOB covered areas, with moderate levels of effort; smaller increases in CPR were achieved with low to moderate efforts to provide support within the GOB system. The policy implications of this are not completely clear. Whether NGO systems can be expanded to provide household distribution of contraceptives to all couples in Bangladesh is unclear, administratively and politically. Moreover, the overall cost-effectiveness of NGO-supported projects compared with those of the GOB is not yet known, although a major ongoing cost-effectiveness study under the Planning Commission may shed important light on this.

It should be remembered that for several indicators, NGO efforts are by definition associated with higher effort scores. Hence there is some circularity in saying that completely alternative systems are associated with higher levels of effort; we have not systematically investigated whether these efforts involve greater costs, or greater efficiency. In either case, however, they are associated in general with higher CPR differences.

A special note should be made on the Local Initiatives Project (LIP), since that project is large and expanding, uses Government personnel and is associated in these data with

unusually high CPR levels. It is possible that this approach is highly cost-effective compared with replacement of GOB efforts with NGO activities. However, it should be remembered that the LIP areas studied were selected for high apparent performance, and are thus not representative of all LIP areas. Additional studies are beginning which should clarify the overall levels of LIP achievement.

## **VI. CONCLUSION**

Given the nature of the data, the statistical analyses presented here must be taken with considerable caution. The evaluations cited were frequently not undertaken to demonstrate project impact, and in many cases there are difficulties in the interpretation of results. We have presented results of significance tests not to infer causality, but simply to indicate whether, given the small number of projects, relationships as strong as those observed might commonly occur by chance. The circumstances required for true hypothesis testing are far from present.

Nevertheless, the existence of 13 projects of reasonably comparable design and reasonably credible evaluation in the same country over a short time period is far more than usually can be expected, and provides important evidence for policy makers on some real issues of considerable importance.

1. Important increases in contraceptive prevalence -- of 10% or more -- have repeatedly been demonstrated in projects using levels of input which are replicable in the Bangladesh context. Hence, it is likely that effective demand for contraception, in the context of reasonably achievable distribution systems, may be about 55 to 60 percent of married women of reproductive age. Improvements in the national family planning program can be expected to lead to substantial increases in contraceptive prevalence.

2. Greater efforts to improve family planning systems lead to higher levels of contraceptive prevalence. Higher visitation rates, greater density of fieldworkers, improved basic training, and use of NGO fieldworkers are, in these studies, particularly associated with higher CPR. Increased program effort in these areas may more effectively utilize resources towards meeting the unmet demand in Bangladesh. 3. Direct provision of services by NGOs tends to be associated with higher levels of contraceptive use. Generally, the trend is that completely alternative NGO systems yield the greatest CPRs, alternative providers in GOB program areas yield mid range results, and support to the GOB system without alternative providers yields lower range increases in CPR. It may be that systems using alternative providers within the GOB system is the most reasonable and feasible approach in Bangladesh. However, this review has not dealt directly with the replicability of these projects; the implications of these findings for national policy in Bangladesh needs careful analysis.

**Finally, we remind the reader that no inference should be drawn about the relative merits of individual projects from this review; comparative analysis requires different methods and circumstances. Only broader generalities can be inferred.**

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Project Effort Scores

INDICATOR	PROJECT												
	LI	UT	WD	Ma	Sw	SO	TS	Ab	UG	Sj	Jg	CB	CH
1 BASIC TRAINING	4	3	2	3	3	3	3	1	3	1	1	3	1
2 INSERVICE TRAINING	4	3	2	3	3	3	3	3	3	3	4	3	3
3 SUPERVIS	2	3	1	3	3	3	4	2	4	2	2	3	2
4 LOGISTICS	1	3	1	2	3	3	3	1	2	1	2	4	1
5 RECORDS	2	3	1	4	3	3	3	4	3	4	2	3	1
6 ELCOs	4	1	1	3	1	4	1	1	2	1	1	1	1
7 PROVIDER	2	2	2	3	2	3	3	1	2	1	1	2	1
8 OTHER SUPPORTS	1	3	2	4	1	2	2	3	2	3	2	2	1
9 COMM. MOTIVATN	4	1	2	2	2	1	2	1	1	1	2	1	2
10 METHODS	1	1	1	3	1	1	1	2	1	2	1	1	1
TOTAL SCORE	25	23	18	30	22	26	25	19	23	19	18	23	14
TOTAL PERCENT	66	60	47	79	58	68	66	50	60	50	47	60	37



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